NOTICE OF FINDING OF NO SIGNFICANT IMPACT AND NOTICE OF INTENT TO REQUEST RELEASE OF FUNDS

February 9, 2024
San Diego Unified Port District (also known as, Port of San Diego)
3165 Pacific Highway
San Diego, CA 92101
(619) 686-6200

These notices shall satisfy two separate but related procedural requirements for activities to be undertaken by the *San Diego Unified Port District.*

REQUEST FOR RELEASE OF FUNDS

On or about *February 27, 2024* **the** *San Diego Unified Port District* **will submit a request to the** *Department of Housing and Urban Development (HUD)* **for the release of** *Economic Development Initiatives (EDIs) Community Project Funding/Congressionally Directed Spending* **funds under** *Division L, Title IV* **of the** *Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, [2023], as amended***, to undertake a project known as** *Freedom Park at Navy Pier* **for the purpose of** *constructing a public park on Navy Pier, at an estimated total project cost of $64,000,000, including $2,000,000 funded by the Economic Development Initiatives (EDIs) Community Project Funding/Congressionally Directed Spending funds. The project is located at Navy Pier, 960 North Harbor Drive, San Diego, CA, San Diego County (APN No. 760-013-41). The site is located over San Diego Bay, south of the Broadway Pier and north of the G Street Mole.*

FINDING OF NO SIGNIFICANT IMPACT

The *San Diego Unified Port District* **has determined that the project will have no significant impact on the human environment. Therefore, an Environmental Impact Statement under the National Environmental Policy Act of 1969 (NEPA) is not required. Additional project information is contained in the Environmental Review Record (ERR) on file at** *the San Diego Unified Port District Administrative Building (Planning Department), located at 3165 Pacific Highway San Diego, CA 92101, or online at www.portofsandiego.org (direct link: http://bit.ly/nepa-fpnp)* **and may be examined or copied weekdays 8A.M to 5P.M. Please note that the Administration Building is closed on alternate Fridays.**

PUBLIC COMMENTS

Any individual, group, or agency may submit written comments on the ERR to the *San Diego Unified Port District, Attention: Planning Department, 3165 Pacific Highway San Diego, CA 92101, or via email at lmadsen@portofsandiego.org.* **All comments received by** *February 26, 2024* **will be considered by the** *San Diego Unified Port District* **prior to authorizing submission of a request for release of funds. Comments should specify which Notice they are addressing.**

ENVIRONMENTAL CERTIFICATION

The *San Diego Unified Port District* **certifies to** *HUD* **that** *Randa Coniglio* **in** *her* **capacity as** *Acting President & Chief Executive Officer* **consents to accept the jurisdiction of the Federal**

Courts if an action is brought to enforce responsibilities in relation to the environmental review process and that these responsibilities have been satisfied. *HUD's* **approval of the certification satisfies its responsibilities under NEPA and related laws and authorities and allows the** *San Diego Unified Port District* **to use Program funds.**

OBJECTIONS TO RELEASE OF FUNDS

HUD will accept objections to its release of fund and the *San Diego Unified Port District's* **certification for a period of fifteen days following the anticipated submission date or its actual receipt of the request (whichever is later) only if they are on one of the following bases: (a) the certification was not executed by the Certifying Officer of the** *San Diego Unified Port District;* **(b) the** *San Diego Unified Port District* **has omitted a step or failed to make a decision or finding required by HUD regulations at 24 CFR part 58; (c) the grant recipient or other participants in the development process have committed funds, incurred costs or undertaken activities not authorized by 24 CFR Part 58 before approval of a release of funds by HUD; or (d) another Federal agency acting pursuant to 40 CFR Part 1504 has submitted a written finding that the project is unsatisfactory from the standpoint of environmental quality. Objections must be prepared and submitted in accordance with the required procedures (24 CFR Part 58, Sec. 58.76) and shall be addressed via email to the HUD Los Angeles Office of Community Planning and Development at CPDLA@hud.gov. Potential objectors should contact the HUD Los Angeles Office of Community Planning and Development via email at CPDLA@hud.gov to verify the actual last day of the objection period.**

Randa Coniglio, Acting President & Chief Executive Officer

U.S. Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410
www.hud.gov

espanol.hud.gov

Environmental Assessment
Determinations and Compliance Findings for HUD-assisted Projects
24 CFR Part 58

This is a suggested format that may be used by Responsible Entities to document completion of an Environmental Assessment.

Project Information

Project Name: Freedom Park at Navy Pier

Responsible Entity: San Diego Unified Port District (also known as, Port of San Diego)

Grant Recipient (if different than Responsible Entity): N/A

State/Local Identifier: California/City of San Diego

Preparer:

Lisa Madsen, Senior Planner
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101
(619) 821-9099

Anna Buzaitis, Program Director
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101
(619) 686-7263

Certifying Officer Name and Title: Randa Coniglio, Acting President & Chief Executive Officer, San Diego Unified Port District

Grant Recipient (if different than Responsible Entity): same as Responsible Entity

Consultant (if applicable): N/A

Direct Comments to:

Anna Buzaitis
Planning Department
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101
(619) 686-7263
abuzaiti@portofsandiego.org

Project Location:
Navy Pier, 960 North Harbor Drive, San Diego, CA, San Diego County (APN No. 760-013-41). The site is located over San Diego Bay, south of the Broadway Pier and north of the G Street Mole. This area is within Planning District 3, the Centre City Embarcadero Planning District, of the Port of San Diego's Port Master Plan. See Figure 1.

Figure 1 – Project Location

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**
The San Diego Unified Port District ("Port") and USS Midway Museum ("Midway") propose to construct a public park on Navy Pier ("project"). Navy Pier is a 5.7-acre pier located on the San Diego Bay immediately north of the USS Midway Museum and is currently used for parking primarily by Midway employees, volunteers, and visitors.

The project includes the following components:

(1) Demolish the Head House Building: The Head House is a two-story, 48,000 sq. ft. building formerly used by the Navy and located on the easternmost portion of the pier adjacent to the public promenade.

The building is currently vacant. The proposed demolition would include abatement of hazardous materials; removal of the interior, roof, walls and foundation system; capping and abandonment of existing utilities; installation of structural infills in pier deck openings; and paving of the pier in the demolition footprint.

(2) Reinforce Pier: The pier would be repaired and rehabilitated to support loading requirements of the proposed park and above-deck improvements. Work would occur on the pier and under the pier deck. For the work under the deck, scaffolding would be used and work would occur at low tide. Work on the pier would include concrete and asphalt removal, drilling, installation of reinforcement, and patching with epoxy or grout. Construction activities will occur following demolition of the Head House building and overlap with construction of the park. Staging and storage would be on the pier deck, within the footprint of the Head House.

(3) Improve Pier Entry and Exit: The pier entry and exit driveways would be modified to improve traffic and pedestrian flow and coordinate with the future North Harbor Drive development.

(4) Construct Public Park: The proposed 3.6 acre park includes a 32 ft. wide promenade along the northern perimeter of the existing pier to connect the Embarcadero Promenade to the west end of the pier, several pedestrian walkways, 10 benches, five swings, three shade structures, interactive play structures, lighting, landscaping, bicycle racks, coastal access and interpretive signage, a public restroom, several monuments, a memorial, and a 1,000 square foot pavilion for a low-cost snack concessionaire. The park will include 100 parking spaces. A site plan of the proposed park is included on the following page as Figure 2.

Figure 2 – Site Plan of Proposed Park

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:
The purpose of the proposed project is to provide additional public park space on the San Diego Bay waterfront.

Existing Conditions and Trends [24 CFR 58.40(a)]:
The project site is Navy Pier, which is located in northeastern San Diego Bay, directly west of Downtown San Diego. The areas directly east, northeast, and southeast are developed and urbanized. The Midway leases 31,436 square feet of the southern portion of Navy Pier from the Port District, which is used for support facilities, including ticket sales, an elevator, stairs, emergency backup generator, vending machines, ATMs, and parking for employees and volunteers. The remainder of the pier consists of a former Navy Pier Head House (now vacant), and a parking lot, which has been primarily used by visitors and employees of the Midway since 2004, when the museum first opened. No changes are proposed to the portion of the pier on the Midway leasehold. The project site is bordered by the following uses:

North: San Diego Bay, then Broadway Pier
South: USS Midway Museum, which is the former USS Midway Navy vessel
East: North Harbor Drive, then the former Naval Base San Diego Headquarters, which is now being redeveloped into a life sciences offices campus
West: San Diego Bay

Funding Information

Grant Number	HUD Program	Funding Amount
B-23-CP-CA-0195	Community Development Fund	$2,000,000

Estimated Total HUD Funded Amount:
$2,000,000

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**:**
$64,000,000

Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities
Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	The project site is not located within 2,500 feet of the end of a civil airport runway. The project site is within 15,000 feet of a military airport.

		San Diego International Airport (SDIA) is approximately 1 mile from the project site. Naval Air Station North Island (NASNI) is approximately 3,600 feet from the project site. However, the project site is not located within the Runway Potential Zone/Clear Zone (RPZ/CZ) or Accident Potential Zone (APZ) of either airport and is in conformance with the DOD guidelines for APZ as defined in both the SDIA and NASNI Airport Land Use Compatibility Plans (ALUCP). The project is the construction and operation of a 3.6-acre park on an existing pier. The only structures proposed to be in the park are shade structures (approximately 15 feet tall), an approximately 12 foot tall, 1,000 sf pavilion for snack concessions, and a flagpole (approximately 45 feet tall). All structures will be lower than the adjacent USS Midway Museum structure. The project would not pose any threat to airport navigation. Source List: [a]
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	No coastal barrier resources under the protection of the Coastal Barrier Resource Act occur in California. The Coastal Barrier Resources Act does not apply. Source List: [b]
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	The site is designated as a "Special Flood Hazard Area (SFHA), with Base Flood Elevation or Depth", zoned AE (EL 8) in Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 06073C1883H, prepared December 20, 2019. The Flood Disaster Protection Act of 1973 (42 U.S.C. 4012a) requires that projects receiving federal assistance and located in an area identified by FEMA as being within a SFHA be covered by flood insurance under the National Flood Insurance Program (NFIP). Per Cid Tesoro, Vice President of Facilities and Engineering for the Port, the Port is a participant

		in the NFIP, covered through its member cities (i.e., San Diego, Imperial Beach, Chula Vista, National City, and Coronado) and the County of San Diego. Each member city maintains records of floodplain development and assists in the revisions to floodplain maps. The San Diego County Flood Control District coordinates with the cities and the California Department of Water Resources at the State level. Most Port of San Diego buildings are grandfathered or considered pre-FIRM (Flood Insurance Rate Maps). In the case of Navy Pier, which is the location of the proposed project, there is no impact to FIRM because the project is on an existing pier which is above elevation 10. Source List: [c]
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☐ No ☒	The project site is located within the San Diego Air Basin (SDAB), which is under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). The San Diego Air Basin is designated by state air quality standards as nonattainment for ozone (8-Hour) and particulate matter (PM) less than 10 microns (PM10) and less than 2.5 microns (PM2.5) in equivalent diameter. The SDAB is a federal non-attainment area for 8-hour ozone and unclassifiable for PM10. Per guidelines set forth by the United States Department of Housing and Urban Development (HUD), because the proposed project is in a non-attainment area for ozone and PM10, conformity with the State Implementation Plan (SIP) must be demonstrated. A project would comply with the SIP if it is deemed consistent with the local air quality management plan and its criteria pollutant emissions remain below the local air district's significance thresholds. SDAPCD developed a Regional Air Quality Strategy (RAQS) to achieve the state air quality standards for ozone, which include the criteria pollutants volatile organic compounds (VOCs) and oxides of nitrogen (NOx). Despite continued growth in population and motor vehicle use, San Diego's air quality has substantially improved over the last two decades as a result of emission

control efforts and smart growth planning efforts.

The project would replace an existing parking lot and vacant building with 3.6-acre park and 100 parking spaces on Navy Pier. Converting this parking lot to a park would minimize long-term air emissions associated with motor vehicle travel within the San Diego area. The project would, therefore, be consistent with the RAQS and the SIP.

The CalEEMod 2022.1 air quality model was used to estimate project-related air pollutant concentrations during construction and operation. Construction-related activities associated with the proposed project would include demolition of the Navy Pier Head House, removal of demolition debris, construction of the park, and worker transportation to and from the site during the construction-related activities. Construction is assumed to occur over a 10-month period beginning in the second quarter of 2024. These emissions would be incremental and temporary and not result in a conflict with, or obstruct the implementation of, applicable air quality plans, nor would they exceed SDAPCD trigger levels for new sources of emissions. The emissions reported are for the highest day that would occur over the 10-month construction period. As shown below, air emissions would be below the significance thresholds during construction.

Project Construction Emissions Compared to Air Pollutant Thresholds

Pollutant	Threshold (lbs/day)	Construction Emissions (lbs/day)
ROG/VOC	75	1.71
NOx	250	16.2
Carbon Monoxide	550	12.1
SOx	250	0.03
PM10	100	1.66
PM2.5	55	0.73
Lead and Lead Compounds	3.2	N/A

<table>
<tr>
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<td>Emission sources associated with existing uses are minimal, as the building is vacant and the existing parking lot provides parking for Midway employees, volunteers, and visitors. The proposed new uses would provide new recreational opportunities along the Embarcadero Promenade while still providing parking for waterfront visitors. Emissions would be minimal and associated with park maintenance worker trips and utilities, such as irrigation for landscaping and electricity for lighting. Visitation to the park would primarily be associated with pass-by trips associated with visitors that are already recreating along the Embarcadero. For the sake of disclosure, operational emissions for the park and parking uses were modeled in CalEEMod based on model defaults. Model results are shown in the table below. These emissions would be incremental and not result in a conflict with, or obstruct the implementation of, applicable air quality plans, nor would they exceed significance thresholds during operations.

Project Operational Emissions Compared to Air Pollutant Thresholds
<table>
<tr><th>Pollutant</th><th>Threshold (lbs/day)</th><th>Operational Emissions (lbs/day)</th></tr>
<tr><td>ROG/VOC</td><td>137</td><td>0.04</td></tr>
<tr><td>NOx</td><td>250</td><td>0.03</td></tr>
<tr><td>Carbon Monoxide</td><td>550</td><td>0.24</td></tr>
<tr><td>SOx</td><td>250</td><td><0.01</td></tr>
<tr><td>PM10</td><td>100</td><td>0.05</td></tr>
<tr><td>PM2.5</td><td>55</td><td>0.01</td></tr>
<tr><td>Lead and Lead Compounds</td><td>3.2</td><td>N/A</td></tr>
</table>
Source List: [d]</td>
</tr>
<tr>
<td>Coastal Zone Management

Coastal Zone Management Act, sections 307(c) & (d)</td>
<td>Yes ☒ No ☐</td>
<td>The project is for the construction of a park on an existing pier over San Diego Bay. This project was issued a Coastal Development</td>
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		Permit by the California Coastal Commission on February 9, 2023. Source List: [e]
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☒ No ☐	This project is for the construction of a public park. The project does not include the construction of any hazardous materials facilities, nor does it include the development, construction, rehabilitation, or conversion of any structures that will increase residential densities, as the project is not a residential project (residential uses are not permitted within San Diego Unified Port District property). Per the Geotracker and EnviroStor databases, the site is not included on any list of hazardous materials sites and the project will not introduce hazardous materials to the site or otherwise have any adverse impacts related to toxic substances, explosives or flammable operations. Geotracker noted that a case was opened at the Navy Broadway Complex Project (across Harbor Drive from the project site) in 1990; however, that case was closed on 5/11/2016. A search of the EnviroStor database did not identify any cases at the project site. Further, the project site has been evaluated by RICK Engineering Company for hazardous building materials, with findings documented in the "Hazardous Building Materials Survey Update" report, dated July 18, 2023. The report identified that there are asbestos-containing materials and lead-containing surfaces within the headhouse building, which is proposed to be demolished as part of the project. As such, the following requirements will be included in the construction contract for the project: A. Contractor must possess the following certifications: 1. ASB - Asbestos Certification 2. HAZ - Hazardous Substance Removal Certification 3. Hazardous Waste Hauler License and EPA Transporter's Number

		B. Workers and supervisors assigned to the lead abatement work for this project shall have been trained in accordance with California Construction Safety Orders, Title 8 CCR 1532.1 Lead-Related Construction, and Title 17 CCR Division 1, Chapter 8. The workers should be currently certified as a "Lead-Related Construction Worker," granted by California Department of Public Health (CDPH). The onsite supervisor shall be currently certified as a "Lead-Related Construction Supervisor," granted by CDPH. C. Contractor shall have a minimum of five (5) years of experience in structure demolition and hazard materials abatement in similar sized projects. The details [related to the handling of hazardous building materials] from the technical specifications for the procurement of a headhouse demolition contractor are included as Appendix F. Source: [f]
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☐ No ☒	A desktop review of available databases and reconnaissance survey was conducted on April 19, 2017 and found that one Federally- and State- endangered avian species, the California Least Tern, was observed in the vicinity of Navy Pier. The California Least Tern was observed at Embarcadero Marina Park North, approximately 3,000 feet south of the project site. The project site is currently paved and unvegetated. However, impacts to sensitive avian species would only occur with noise generating activities within 300 feet of non-raptor and 500 feet of raptor nests. All special-status plant species are limited to Chula Vista Bayfront and South Bay Salt Lands areas of the Port of San Diego. These areas are more than 5 miles south of the project site. Additionally, the United States Fish & Wildlife Service's (USFWS) Information for Planning

		and Consulting (IPaC) online software tool was consulted for the project. The report provided by the USFWS IPaC tool provides a list of species and other resources such as critical habitats under USFWS jurisdiction that are known or expected to be on or near a project area. The report generated by the IPaC tool is included in Appendix G for informational purposes, however, as noted above, no endangered mammal, avian, insect, or plant species have been observed at the project site, and the nearest observation was approximately 3,000 feet south of the project site. Therefore, no sensitive or protected species would be adversely affected by the project. Source: [g]
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	This project is for the construction of a public park. The project site is currently being used as a parking lot. Operation of the park will not require or result in the ongoing use, storage or routine transport of hazardous, explosive or flammable materials. Aside from common cleaning chemicals (e.g., those used to clean restrooms), no hazardous materials would be used on-site or otherwise accessible to the public. The project would not emit or release hazardous waste or emissions, nor would it add explosive or flammable hazards to the site. Therefore, there is no known potential for exposure to significant hazards from the site or surrounding properties, and no mitigation measures are required. Source: [f]
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes ☐ No ☒	The project site is currently developed and categorized as Urban and Built-Up Land, as indicated on the State Farmland Mapping and Monitoring Program maps for the County of San Diego. The site does not include prime or unique farmland, or other farmland of statewide or local importance. No impact to farmland resources defined under the Farmland Protection Policy Act per 7 CFR 658 would occur. Source: [h]

Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes ☐ No ☒	The site is located within a Special Flood Hazard Area With Base Flood Elevation (BFE) or Depth in Federal Emergency Management Agency (FEMA) Zone VE. However, as the project is located on Navy Pier, there is no impact to FIRM because the project is on an existing pier which is above elevation 10. A FIRMette map of the project site was prepared July 17, 2023. Additionally, the project is for the new construction of a park, which is not a functionally dependent use. No critical actions (such as a hospital, nursing home, fire station, or police station) will be sited at the project site. Furthermore, The 8-step Process is inapplicable per 55.12(b)(1-5) because the project is for the construction of a recreational park. The 8-step process only applies to residential properties, properties that were financed with loans or mortgages, or leases on existing structures. Since none of these categories apply, the agency is exempt from the process. Lastly, on September 1, 2023, Venkat Gummadi, Registered Civil Engineer with Rick Engineering Company, provided the Port with a letter with the subject, *Drainage Design Letter for Navy Pier Freedom Park, Phase IIB Project #76-2022JLR, DWG# EM-2022-07 (Rick Engineering Company Job Number 1710-A).* The letter documents that once construction is completed, the project site will consist of best management practices (BMP's), including "surface drainage improvements that collect and convey runoff from the surface parking and proposed park on-site to the structural treatment BMPs and ultimately to the San Diego Bay. The proposed project does not substantially alter the existing drainage patterns and areas and no flooding will result on or off-site." Source: [i]
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	Yes ☐ No ☒	This project is for the construction of a park on top of an existing pier which is currently being used as a parking lot. The project includes the demolition of a building formerly used by the Navy, known as the Head House. On June 20, 2003, Dr. Knox Mellon, State Historic Preservation Officer (SHPO) with the State of

		California's Office of Historic Preservation, stated that he concurred with "…the Navy's finding that there are no historic properties that will be affected by conveyance of Pier 11 to the [San Diego Aircraft Carrier Museum] for berthing of the ex-Midway" and that "Section 106 consultation [was brought] to a successful resolution…" Further, as reiterated in the 2014 Cultural Resources Assessment of 1050 North Harbor Drive, San Diego, City of San Diego, California, which was located approximately 500 feet north of Navy Pier, "no historical resources are present in the vicinity of the [former] Navy Broadway Complex or Navy Pier." The Area of Potential Effect (APE) for the project is the Navy Pier, and does not extend into the San Diego Bay or off of the pier landward. The APE is fully developed. According to Appendix A of HUD Notice CPD-12-006 (Process for Tribal Consultation in Projects that are Reviewed Under 24 CFR Part 58), consultation with Native American tribes is required if a project includes any of the following activities: significant ground disturbance (i.e., digging); new construction in undeveloped natural areas; incongruent visual changes; incongruent audible changes; incongruent atmospheric changes; and transfer, lease or sale of a historic property of religious and cultural significance. The project, including the demolition of the Navy Head House, and the construction of the park on the pier, will not involve any of the activities identified in Appendix A of HUD Notice CPD-12-006. Further no historic properties will be affected by the construction of the project. Therefore, Native American Tribal outreach is not required. Source: [j]
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	This project consists of the demolition of a building and the construction of a public park on an existing pier. No housing construction or rehabilitation of any existing residential properties will be conducted at the project site, as residential uses are not allowed on San Diego Unified Port District property. The closest residential (noise sensitive use) is over 1,000 feet east of the project site, on the east side of Pacific

Highway. Noise generating activities for the purpose of park construction and operations are detailed below.

Construction

The proposed project would generate short-term temporary noise during project construction. However, project construction would be consistent with the City of San Diego's Noise Abatement and Control Ordinance (Municipal Code Section 59.5.01), which limits construction noise from 7am to 7pm, Monday through Saturday; construction is not permitted on Sundays and holidays. Per the construction documents, construction work will be limited to the normal business working hours of 7am to 3:30pm, Monday through Friday. In this case, there are no sensitive properties located in proximity to the site. The project area is bounded on the north, south, and west by San Diego Bay, and an active construction zone to the east (for the construction of the Research and Development District (RaDD) located within the 900 block of Harbor Drive).

Construction noise would be audible at the property boundary; however, construction activities would occur consistent with the noise allowances in the City of San Diego's Noise Ordinance, which noise levels are not anticipated to exceed the exterior 75 dBA.

In addition, the technical specifications for the proposed demolition require that construction equipment must not exceed the following noise emission limits at 50 feet:

Equipment Category	**L_{max} Noise Limit at 50 feet**
Backhoe	80
Compressor (air)	80
Dozer	85
Dump/Haul Truck	85
Excavator	85
Flat Bed Truck	85
Front End Loader	80

		<table><tr><td>Generator</td><td>80</td></tr><tr><td>Pumps</td><td>75</td></tr><tr><td>All other equipment</td><td>85</td></tr></table> *Operations* Once construction of the park is completed, it is estimated, based on similar noise level analysis conducted at Pepper Park as part of the National City Bayfront Projects EIR, that the combined operational noise level will range between 58-59 dBA, depending on the time of day. The project site, once operational, will not exceed noise standards. Source [k]
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	The project site is not located within an area supported by a sole source aquifer. Sole source aquifers are defined and designated under the provisions of Section 1424(e) of the federal Safe Drinking Water Act. There are no such designated aquifers within the City of San Diego. According to the sole source aquifer maps maintained by the Environmental Protection Agency, the nearest aquifer is in the Campo area of San Diego County, approximately 50 miles east of the project site. Therefore, no adverse impacts related to sole source aquifers are anticipated. Source: [l]
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☐ No ☒	This site is developed and within a heavily urbanized area. According to the U.S. Fish and Wildlife Service's Wetlands Online Mapper, and confirmed by a field inspection, no wetlands are located on the project site. The project site is an existing pier, and does not contain hydrology, soils, or vegetation (the three environmental parameters of a wetland). However, the pier does extend out over San Diego Bay, which is a Wetland designated as Estuarine and Marine Deepwater. No adverse impacts related to wetlands protection are anticipated. Source: [m]

Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes ☐ No ☒	There are no wild and scenic river segments in San Diego County. Therefore the project would have no adverse impacts on wild or scenic rivers. Source: [n]
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes ☐ No ☒	The Coastal Development Permit for the project requires the project to include a "Mitigation Program Management Plan" (see Special Condition 4 of the Coastal Development Permit), which expands opportunities to bring people to the coast who have experienced greater burdens in accessing the coast, helping to expand equitable public access and its benefits. The Mitigation Program Management Plan includes initiatives to target underserved communities that have historically received fewer coastal education and stewardship opportunities with a goal to increase access to the proposed park and USS Midway Museum (located immediately adjacent to the proposed park). The project would not violate Executive Order 12898. Specific Environmental Justice initiatives for the park include: 1.) A mobile phone microsite to provide park history and information to mobile phone users; 2.) Park Docent/Ambassador program with goal of having docents present in the park daily; 3.) A 'Snooze Cruise' Scholarship Program consisting of a minimum of 300 scholarships per year for overnight educational programs with expanded awareness campaigns to advertise the program to children in communities of color; 4.) Free Daily Pass and Event Programs; 5.) Continuing the No Child Left Ashore Program which provides free admission to select groups for day visits to the Museum, and during nine free events throughout the year; a reduced cost lunch; supplies, and transportation; 6.) USS Midway Institute for Teachers, which provides training and classroom

		materials, would be expanded to include 25 additional teachers per year; 7.) Virtual Field Trips/Distance Learning components; 8.) Comped Ticket Distribution, including 25,000 additional tickets to the USS Midway Museum per year; 9.) Funding and coordinating the annual Veterans Day Parade; and 10.) Grant Funding opportunities Additionally, the Port will provide and facilitate access for people with limited means, visitors from under-resourced communities, and speakers of languages other than English to the park and USS Midway Museum. This will include a low-cost snack concessionaire that shall stock relatively inexpensive food and drink that can be easily carried out, public education materials printed in multiple languages, when written, and as feasible, spoken by docents and available in video/audio recordings. Lastly, a program for free parking for low-income persons, including members of the public with a State of California Golden Bear Pass. This program will include an outreach plan, with information provided both online and via permanent signage. Source: [e]

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.
(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation

(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	The guiding land use document for the San Diego Unified Port District is the Port Master Plan. A Port Master Plan is a requirement of both the San Diego Unified Port District Act and the California Coastal Act. The San Diego Unified Port District does not have zoning. City of San Diego zoning does not apply to San Diego Unified Port District lands. Navy Pier was formerly owned by the U.S. Navy, which transferred ownership of Navy Pier to the Port of San Diego in 2003. However, the Port of San Diego has yet to incorporate Navy Pier into the San Diego Unified Port District's certified Port Master Plan. Thus, the site does not have any zoning or a land use designation. In the Port of San Diego's Draft Port Master Plan Update (PMPU), the Navy Pier is proposed to be designated with a Recreation Open Space land use, which is the land use proposed to be applied to parks. However, the PMPU is not yet certified by the Coastal Commission, and therefore, the pier will remain unzoned/without a land use designation until the PMPU is certified by the Coastal Commission. Because the Navy Pier does not have any existing zoning or land use designation, the California Coastal Commission has the permit jurisdiction for the site, and Chapter 3 of the Coastal Act remains the legal standard of review with the Port Master Plan used as guidance. Construction of the proposed project in compliance with the Coastal Development Permit ensures consistency with applicable land use regulation – Chapter 3 of the Coastal Act. Source: [e, o]
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	2	**Soils.** The project site is on a pier over San Diego Bay. The pier is categorized as Urban Land, and the soil around it is categorized as Water. **Slope Erosion.** The project site is flat and paved. **Stormwater Runoff.** A Construction and Pollution Prevention Plan for the project was completed in April 2023. That Plan documents efforts to protect public access, minimize erosion, sediment discharge, and construction pollutants, consistent with applicable stormwater regulations. Additionally, the project will

		implement additional Best Management Practices (BMP's) to protect coastal waters and habitat. On September 1, 2023, Venkat Gummadi, Registered Civil Engineer with Rick Engineering Company, provided the Port with a letter with the subject, *Drainage Design Letter for Navy Pier Freedom Park, Phase IIB Project #76-2022JLR, DWG# EM-2022-07 (Rick Engineering Company Job Number 1710-A).* The letter documents that the existing condition of the project "consists of surface drainage improvements that collect and convey runoff from the surface parking and one existing building on-site to the San Diego Bay". The letter goes on to document best management practices (BMP's), including that, once construction is completed, the project site will consist of "surface drainage improvements that collect and convey runoff from the surface parking and proposed park on-site to the structural treatment BMPs and ultimately to the San Diego Bay. The proposed project does not substantially alter the existing drainage patterns and areas and no flooding will result on or off-site." Source: [i, p]
Hazards and Nuisances including Site Safety and Noise	2	The proposed project would construct a park on top of an existing pier over San Diego Bay. It would not require the ongoing use, storage or routine transport of hazardous materials. Aside from chemicals used for common cleaning, no hazardous materials would be used on-site. The project would not emit or release hazardous waste or emissions. Based on a review of available databases listing known hazard sites (Geotracker, Envirostar) the site is not included on a list of hazardous material sites nor will the project introduce hazardous materials to the site or otherwise have any adverse impacts related to toxic substances, explosive or flammable operations. Geotracker noted that a case was opened at the Navy Broadway Complex Project in 1990; however, that case was closed on 5/11/2016. A search of the EnviroStor database did not identify any cases at the project site. The project site would be constructed consistent with current requirements for site safety, including the safe demolition of the Navy Pier Head House. No impacts related to hazards, nuisance or site safety would occur. Further, as discussed above in Contamination and Toxic Substances, the project site has been evaluated by RICK Engineering Company for hazardous building materials, with findings documented in the "Hazardous Building Materials Survey Update" report, dated July 18, 2023. The report

		identified that there are asbestos-containing materials and lead-containing surfaces within the headhouse building, which is proposed to be demolished as part of the project. As such, the technical specifications for the procurement of a headhouse demolition contractor require specific safety measures for the method of demolition and the handling of demolition materials. Details from the technical specifications for the procurement of a headhouse demolition contractor are included in Appendix Q. Regarding noise, implementation of design features discussed in the Noise Abatement and Control section above would ensure noise levels would be consistent with applicable noise standards. Source [f, k, q]

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	1	During construction, the project would generate temporary employment opportunities. These jobs would not substantially affect overall employment patterns on Port property. Once construction is complete, the park will need to be maintained by operations and maintenance staff. The number of jobs would not substantively increase employment opportunities; however, new jobs would be a minor benefit associated with the proposed project. Source: [e]
Demographic Character Changes, Displacement	1	The proposed project is for the construction of a public park on a pier that is currently being used as a parking lot. The project would not remove housing nor adversely affect community character or displace any nearby residents. The character of the project site would change from a parking lot and former Navy head house building, to a park, which would be a beneficial impact. Source: [o]
Environmental Justice	1	This project is for the construction of a park, as noted in the Environmental Justice section above, Special Condition 4 of the Coastal Development Permit (CDP) will ensure robust environmental justice initiatives for the park. Per Special Condition 4 of the CDP, the project will include four new programs, including an annual scholarship program for 300-450 students to attend the overnight educational Snooze Cruise program, with an expanded awareness campaign to target certain groups (Black, Indigenous, and children of color); expanding the museum's volunteer program to place docents in the new park to

		engage with visitors; a collection of targeted webpages designed to be used with a mobile phone dedicated to educating park visitors on the history of the pier, USS Midway Museum, and San Diego Bay; and funding and coordinating the annual Veterans Day Parade. Additionally, the USS Midway Institute for Teachers, which provides training and classroom materials, would be expanded to include an additional 25 teachers (for 500 total teachers), and 25,000 new free USS Midway Museum tickets would be provided to targeted groups using the expanded awareness campaign identified above. Finally, the applicants have proposed to continue several existing programs, including free admission to select groups for day visits to the USS Midway Museum and during nine free events throughout the year; providing a reduced cost lunch, supplies, and transportation for Title 1 schools as part of the "No Child Left Ashore" program; and awarding $500,000 in grants to local non-profits annually. Source [e]

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	1	The project site is currently being used as a parking lot. As noted above, several mitigation measures are required as part of the Coastal Development Permit that was issued by the California Coastal Commission. These mitigation measures include the inclusion of the following Educational and Cultural Facilities: a Park Docent Program (Park Ambassadors), a Scholarship Program (Overnight Adventure, with a minimum of 300 scholarships per year), No Child Left Ashore Program, the Midway Institute for Teachers, and a Virtual Field Trip/Distance Learning program. Source [e]
Commercial Facilities	1	The proposed project is for the construction of a public park, which will provide limited commercial opportunities in the form of a low-cost concession stand with relatively inexpensive food and drink items that can be easily carried out. As the project site is adjacent to Downtown San Diego, there are many additional commercial spaces nearby, including many restaurants, museums, hotels, and business offices. The project site is also close to many public transit facilities, with the Coronado Ferry terminal adjacent to the project site, and the Santa Fe Depot down the street, with connections to Amtrak and COASTER train, MTS Trolley Blue and Green lines, and MTS Bus Routes 83, 215, 225, 235, 280, 290, 923, and 992 which connects to the San Diego International

		Airport. The project site is currently being used as a parking lot, and the final project plans for the construction of the park include 45 parking spaces to be used for Midway parking, and 100 spaces to be used for public parking, including electric vehicle charging, ADA, motorcycle, standard, and limited two-hour parking. The designated two-hour parking will be specifically for parkgoers, as museum patrons would need to park for longer periods of time. No adverse impact to commercial facilities would occur as a result of this project. Source: [e]
Health Care and Social Services	2	This project is for the construction of a public park. It is assumed that the majority of the park's patrons will be persons currently residing in the San Diego area. Multiple health care services are located near the project site. Major nearby hospitals include Scripps Mercy Hospital San Diego and Sharp Memorial Hospital, which are 3.7 miles and 8.1 miles, respectively from the project site. Several health care clinics are also located near the project site, including UC San Diego Health Express Care-Downtown San Diego and Downtown Family Health Center at Connections, which are both less than 1.5 miles from the project site. Family Health Center provides social services in addition to vital services to clients. As this project will not increase the residential population density of the area, no increased impacts on healthcare or social services is anticipated.
Solid Waste Disposal / Recycling	2	This project is construction of a public park on a pier that is currently being used as a parking lot. Demolition and construction activities will temporarily generate solid waste in the form of construction debris (e.g., drywall, asphalt, lumber, and concrete) and operational activities general solid waste from use as a public park. Once construction of the park is completed, there will be two (2) 8-yard bins for trash, and one (1) 8-yard bin for recycling. Additionally, there will be two pairs of 50-gallon capacity trash/recycling sets. The Miramar Landfill is the only operational landfill in the City of San Diego and the most likely repository of solid waste generated by the project. The project is projected to generate approximately 0.31 tons of solid waste annually (less than 2 pounds daily) that would be landfilled assuming 75 percent is recycled as required per AB 939. The landfill receives

		approximately 870,000 tons of trash per year, and, as of June 2022, has a remaining capacity of 7,424,124 tons. The addition of 2 pounds daily would be a negligible increase in daily volumes landfilled. Source: [e, q, r]
Waste Water / Sanitary Sewers	2	This project is for the construction of a park. The proposed project would utilize existing sewer connections. The project site is a developed pier with public utilities already present, and thus, sufficient capacity should be available in the sewer conveyance and treatment system. The project would connect all new wastewater lines to the existing sewer system. The proposed project is anticipated to generate less wastewater than the existing facility (i.e., head house and parking lot). No adverse impacts would occur and no sanitary sewers are proposed.
Water Supply	2	This project is for the construction of a public park. The project would utilize existing water connections servicing the park and neighboring facilities. The existing water supply pipes will not be upsized for this project. The proposed park does not meet the definition of a project in Section 10912 of the Water Code, and thus, it does not require preparation of a water supply assessment per Senate Bill 610 and water supply verification is not required. The project is subject to water fees that would be paid to the City of San Diego by the applicant prior to receipt of a building permit per SDMC §142.0640. No new or expanded water supply connections would be required for the project. Additionally, when constructed, the park is anticipated to utilize a graywater system for irrigation; however, if potable water is ultimately used for irrigation, only drip or microspray irrigation systems will be used. Other water conservation measures will be considered, such as weather-based irrigation controllers. The proposed project will feature vegetated landscape areas consisting of native plants or non-native drought tolerant plants that are non-invasive. No plant species listed as problematic or invasive by the California Native Plant Society, the California Invasive Plant Council (formerly the California Exotic Pest Plant Council), or as may be identified from time to time by the State of California, shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the State of California or the U.S. Federal Government shall be utilized within the property. All plants shall be low water use plants as identified by California Department of Water Resources. Source: [e]
Public Safety - Police, Fire and Emergency Medical	2	The Port of San Diego has its own police department, known as the Harbor Police, which is headquartered at 3380 N. Harbor Drive, approximately 2.3 miles north of the project site. The San

		Diego Harbor Police Department (HPD) cross-trains all officers as marine firefighters so it can respond to any fire-related call in San Diego Bay, including marinas, anchorages, moorings, shipyards, and cargo and cruise ship terminals, and are equipped to conduct firefighting from the water. The City of San Diego Fire Department provides fire protection, paramedic, and emergency medical technician services within the City of San Diego. San Diego Fire-Rescue Department Fire Stations 1, 2, and 4 are all within 1 mile of the project site. The City of San Diego Police Department headquarters are located at 1401 Broadway, approximately 1.3 miles east of the project site. Both the City of San Diego's Police and Fire Departments are able to assist the Harbor Police in the event of an emergency. The proposed project may have a minor increase in demand for fire, emergency medical services or police protection services; however, not to the extent that new facilities would be required. Staffing needs are evaluated based on changing demographics within each service area and adjustments made within each department; the project does not include any residential uses. No adverse impacts related to fire, emergency medical, or police services would occur.
Parks, Open Space and Recreation	1	The project would convert an existing parking lot and empty building to a public park, which is a beneficial impact. The project site is adjacent to the USS Midway Museum, in an urban area in San Diego's Downtown. This park will give San Diego residents and visitors alike the opportunity to access the waterfront. As the project itself is a park, no adverse impacts to parks and recreation facilities associated with the project would occur as the result of the project. The park will provide a 32-foot wide view corridor/public promenade along the northern perimeter of Navy Pier. As required by the project's Coastal Development Permit, the park will feature vegetated landscaped areas consisting of native plants or non-native drought tolerant plants that are non-invasive. No plant species listed as problematic or invasive by the California Native Plant Society, the California Invasive Plant Council (formerly the California Exotic Pest Plant Council), or as may be identified from time to time by the State of California, shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the State of California or the U.S. Federal Government shall be utilized within the property. All plants shall be low water use plants as identified by California Department of Water Resources. Source: [e]

Transportation and Accessibility		*Construction* Project construction and material staging would occur on the project site. Traffic control measures will be implemented through and around the construction areas to assure safety and convenience for motorists, pedestrians, construction equipment, machinery, and construction workers. As such, the following requirements will be included in the construction contract for the project: • Preparation of Traffic Control Plans by a licensed Engineer registered in the State of California. • The Traffic Control Plans shall show all the necessary traffic control measures such as detours, road closures, lights, signs, barricades, temporary pavement delineations, temporary pavement markings, fences, flares, flagmen and other items and services as necessary to adequately safeguard the public from hazard and unnecessary inconvenience through and around the work area during construction. • Public access shall be maintained around the project site to provide a continuous connection to the public promenade north and south of Navy Pier, through project demolition and construction. • The construction area where actual construction operations are in progress shall be barricaded with temporary orange rubber cones but shall use construction fencing around the perimeter of the building to prevent access to the site by the public. The cones shall have a minimum height of 28" and placed at 10' on center for safety. • All traffic controls shall be removed after construction. The details [related to traffic control during construction] from the technical specifications for the procurement of a headhouse demolition contractor are included as Appendix S. In addition, the traffic control plan for the demolition of the headhouse is included as Appendix E. There is ample parking in the vicinity that can be used for construction parking. In addition, multiple transit connections are available at the nearby Santa Fe Depot Transit Station, as well as nearby local bus stops. Pedestrian and bicycle access is also provided throughout the area. Wide pedestrian pathways are provided along Harbor Drive. *Operations* Once park construction is completed, 45 parking spaces will be reserved for the use of the Midway museum. An additional 100 parking spaces (consisting of a combination of standard, ADA, motorcycle, and electric vehicle charging) spaces, will be used for paid public parking with a two-hour parking limit. The public and

		active transportation connections identified in the preceding paragraph will be similarly accessible to park patrons. To evaluate the potential for traffic impacts associated with the project operation, data from CalEEMod, was analyzed. CalEEMod is a California Emissions Estimator Model, and is based on the ITE Trip Generation Manual, 10th Generation. Visitation to the park would primarily be associated with pass-by trips associated with visitors that are already recreating along the Embarcadero. In addition to existing trips to the project site, the park project is estimated to generate an additional approximately 3 daily trips on weekdays, 7 daily trips on Saturday, and 8 trips on Sundays. Because transit is readily accessible and project trips would not adversely impact traffic operation, the project would not adversely affect transportation or accessibility. Source: [e, s]

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	The proposed project site is located within a heavily urbanized area within the Downtown neighborhood of San Diego. The project site is unique in that it is a pier overlooking San Diego Bay. The site is currently paved for use as a parking lot, with an existing building (slated for demolition). Converting this parking lot to a public park will allow residents and visitors alike to access San Diego Bay. Among other features, the park will include a 32-foot-wide view corridor/promenade along the northern perimeter of the pier, preserving the views from Harbor Drive to San Diego Bay Source: [e]
Vegetation, Wildlife	2	The project site is developed. It currently consists of a pier over San Diego Bay, and is currently being used as a parking lot. There is currently no vegetation or wildlife present at the project site. The project area is heavily urbanized. There are no sensitive plants or animal species, habitats, or wildlife migration corridors in the area, or on-site. The project site is not within the Multi-Habitat Planning Area (MHPA). Source: [o, t]

Environmental Assessment Factor	Impact Code	Impact Evaluation
CLIMATE AND ENERGY		
Climate Change Impacts		**Climate Change**. The project site is located within the San Diego Air Basin, which is under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). Neither the Port District nor the SDAPCD have formally adopted thresholds for Greenhouse Gas (GHG) emissions. Thus, GHG emissions are discussed qualitatively with respects to federal, state, and local GHG reduction planning efforts. Air impact modeling was conducted using CalEEMod.2022.1, which estimates the project will generate approximately 208 metric tons of carbon dioxide equivalent over the construction period and 14 metric tons of carbon dioxide equivalent during operations. This level of emissions is minor. Thus, impacts related to GHG emissions would be less than significant. The project site is located on a pier over San Diego Bay, a coastal area that may be subject to sea level rise. The site is located within a non-very high fire hazard severity zone as designated by the California Department of Forestry and Fire Protection (CalFire). The project includes shade trees and other amenities intended to minimize the urban heat island effect. Source: [u]
Energy Efficiency		Neither construction nor operation of the project would require significant amounts of energy. During construction, the proposed project will likely require the use of diesel fuel, gasoline and electricity to power the construction equipment. However, this energy consumption would be short-term and temporary and would not have adverse impacts on long-term energy consumption for the public park. The project would be compliant with the California Energy Code and the California Building Energy Efficiency Standards as well as other applicable regulations that pertain to the use of energy efficient design methods and materials. Therefore, no adverse energy consumption impacts would occur.

Additional Studies Performed:

- Air Emission Calculations, Ascent Environmental, dated November 30, 2023 (included in Appendix D)
- Hazardous Building Materials Survey Update, dated July 18, 2023 (included in Appendix F)

Field Inspection (Date and completed by)**:** On August 10, 2023, Port of San Diego staff (Noemi Aquino, Capital Project Manager; and Lesley Nishihira, Planning Director) met at the project site with USS

Midway staff (Len Santiago, Chief Engineer; and Laura White, President of the Midway Foundation) to document existing conditions at the project site.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]**:**

a. Airport Hazards
1. San Diego International Airport (SAIA) Airport Land Use Compatibility Plan
2. North Island Naval Air Station (NASNI) Airport Land Use Compatibility Plan

b. Coastal Barrier Resources
1. Coastal Barrier Resources System Mapper
2. Coastal Barrier Resources System Mapper Documentation

c. Flood Insurance
1. https://msc.fema.gov/portal/home
2. Navy Pier FEMA Flood Map

d. Clean Air
1. Ascent Environmental. Air Quality Modeling. November 2023
2. SDAPCD. Rule 20.2: New Source Review. Non-Major Stationary Sources. Available: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-20.2.pdf.
3. Sacramento Metropolitan Air Quality Management District. 2022. CalEEMod 2022. Available. https://www.caleemod.com/

e. Coastal Zone Management
1. California Coastal Commission staff report for Coastal Development Permit 6-22-1069, Item 16c, dated 2/9/23. https://www.coastal.ca.gov/meetings/agenda/#/2023/2/
2. Coastal Development Permit 6-22-1069

f. Contamination and Toxic Substances
1. Geotracker
    i. Navy Broadway Complex Project
2. EnviroStor
3. Hazardous Building Materials Survey Update, dated July 18, 2023.

g. Endangered Species
1. USFWS IPaC Resource List

h. Farmlands Protection
1. California Important Farmlands Finder
2. Navy Pier Farmlands Map

i. Floodplain Management
1. FEMA Flood Map Service Center
2. National Flood Hazard Layer FIRMette
3. Letter from Rick Engineering Company, dated September 1, 2023

j. Historic Preservation
1. Letter from State Historic Preservation Officer
2. Cultural Resources Assessment of 1050 North Harbor Drive, San Diego, City of San Diego, California, 2014
3. When to Consult with Tribes Under Section 106 Checklist

k. Noise Abatement and Control
1. National City Bayfront Projects & Plan Amendments Final Environmental Impact Report, Volume 4 of 6, dated September 2022.

l. Sole Source Aquifers
1. EPA Map of Sole Source Aquifers
2. Sole Source Aquifer Map

m. **Wetlands Protection**
    1. USFWS National Wetlands Inventory Navy Pier
    2. USFWS National Wetlands Inventory Navy Pier
n. **Wild and Scenic Rivers**
    1. Nationwide Rivers Inventory
    2. Nationwide Rivers Inventory - Navy Pier
o. **Conformance with Plans/Compatible Land Use and Zoning/Scale and Urban Design**
    1. Land Use: Draft Port Master Plan Update
        i. Draft PMPU Land Use Map
p. **Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff**
    1. Soils: https://casoilresource.lawr.ucdavis.edu/gmap/
        i. Navy Pier Soil Type
    2. Stormwater Runoff:
        i. Construction and Pollution Prevention Plan for the Navy Pier Freedom Park Phase IIA Headhouse Demolition, April 2023
q. **Hazards and Nuisances Including Site Safety and Noise**
    1. Excerpt from Technical Specifications for the Procurement of a Headhouse Demolition Contractor
r. **Solid Waste Disposal and Recycling**
    1. Five-Year Review Report for the Countywide Integrated Waste Management Plan for the County of San Diego, September 2022.
s. **Traffic Control**
    1. Traffic Control – From Technical Specifications
    2. Traffic Control Plan
t. **Vegetation and Wildlife**
    1. Multi-Habitat Planning Areas Interactive Map
u. **Climate Change Impacts**
    1. CalFire Map of San Diego County, Very High Fire Severity Zones in LRA

List of Permits Obtained:

- Coastal Development Permit 6-22-1069, Item 16c, California Coastal Commission, 2/9/23. https://www.coastal.ca.gov/meetings/agenda/#/2023/2/

Public Outreach [24 CFR 50.23 & 58.43]**:**

Public notice ("Notice of Finding of No Significant Impact and Notice of Intent to Request Release of Funds") published in The Daily Transcript on February 9, 2024. Information about where the public may find the Environmental Review Record pertinent the Project will be included in the Finding of No Significant Impact Notice.

Cumulative Impact Analysis [24 CFR 58.32]**:** The project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts. The project is the construction of a public park on Navy Pier, and is located in an urbanized area. The project site is currently developed with a surface parking lot and former Navy head

house building that is now vacant. Navy Pier is located west of North Harbor Drive; on the east side of North Harbor Drive is construction of the IQHQ Research and Development District at the former Navy Broadway Complex. The IQHQ site is approximately 10 acres and occupies six city blocks, and when construction is complete will consist of a mixed-use life science district with laboratory, office, retail, restaurants, public art, and a public park. The total floor area of the IQHQ project is approximately 1,700,000 square feet. Construction of the IQHQ project is anticipated to be complete by early 2024. Construction of the proposed project is anticipated to begin in early 2024; thus, construction of the proposed project and the nearby IQHQ project may overlap. However, even if the two projects overlap in construction, they will be at different phases of construction (i.e., the proposed project would be at construction mobilization and head house demolition, while the IQHQ project would be nearing completion) and would not result in any cumulative impacts, especially those related to air quality, noise, and traffic.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

Offsite Alternative: Consideration of an offsite alternative is not warranted because no significant impacts that cannot be avoided were identified.

Reduced Project: Reducing the size of the proposed project would incrementally reduce impacts across a range of issue areas such as air quality. However, the project would not have any adverse effects that could be minimized or avoided by reducing the size of the proposed park. Further, reducing the project scope is not a desirable alternative because this project will provide a benefit to the public by providing additional public recreation space.

No Action Alternative [24 CFR 58.40(e)]: If the proposed project was not implemented, the existing use of the site (i.e., a parking lot and former Navy Pier head house building) would remain. Therefore, the benefits associated with the provision of additional public recreation space from the project would not occur.

Summary of Findings and Conclusions: The San Diego Unified Port District ("Port") and USS Midway Museum ("Midway") propose to construct a public park on Navy Pier ("project"). Navy Pier is a 5.7-acre pier located on the San Diego Bay immediately north of the USS Midway Museum and is currently used for parking primarily by Midway employees, volunteers, and visitors. The project site is developed and located in an urbanized area. The project site consists of a former Navy Pier Head House (now vacant), and a parking lot, which has been primarily used by visitors and employees of the Midway since 2004, when the museum first opened.

The project site is designated as a "Special Flood Hazard Area, with Base Flood Elevation or Depth", zoned AE (EL 8) by FEMA FIRM maps. However, no impact to FIRM would occur because the project is on an existing pier that is above EL 10. No significant air quality impacts would occur. The site is located within a non-very high fire hazard zone. The project does not include construction of any hazardous materials facilities, but does include demolition of a structure that contains asbestos materials and lead surfaces; however, demolition would be completed in accordance with applicable safety regulations. The closest sensitive or protected species was observed to be over 3,000 feet south of the project site, thus, no sensitive or protected species would be adversely affected by the project.

No historic or archaeological resources are known to be present onsite. The structure proposed for demolition as part of the project has been determined to not be of historic, cultural, or tribal significance. The project would not change the existing noise environment.

The project would not adversely affect public services. The proposed project would not result in adverse effects on water or energy or generate the need for new or expanded water, wastewater, or solid waste facilities. The project is located in an urbanized areas and is developed. The project will not increase traffic above the existing traffic levels at the site. Landscaping at the project site will consist of native plants or non-native drought tolerant plants that are non-invasive. As noted above, the project includes robust environmental justice initiatives for the park.

The project would confirm to applicable Federal, State, and local regulations affecting air quality emissions, water quality, cultural resources, geologic hazards and related environmental resources addressed herein.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: Lisa Jennifer Madsen _____ Date: 01/25/2024

Name/Title/Organization: *Lisa Madsen, Senior Planner, San Diego Unified Port District*

Certifying Officer Signature: Randa Coniglio _____ Date: 01/25/2024

Name/Title: *Randa J. Coniglio, Acting President & Chief Executive Officer*

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

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SignNow SSO	Viewed the Document	rconiglio@portofsandiego.org	01/25/2024 23:41:05 pm UTC	01/25/2024 23:41:05 pm UTC	74.87.59.141
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Appendix A

a. Airport Hazards

1. San Diego International Airport (SAIA) Airport Land Use Compatibility Plan
2. North Island Naval Air Station (NASNI) Airport Land Use Compatibility Plan

Appendix B

b. Coastal Barrier Resources

1. Coastal Barrier Resources System Mapper
2. Coastal Barrier Resources System Mapper Documentation

U.S. Fish and Wildlife Service

Coastal Barrier Resources System Mapper Documentation

CBRS Units

Otherwise Protected Area
System Unit
CBRS Buffer Zone
-117.174906, 32.714473

0 65 130 260 390 ft

1:4,514

The pin location displayed on the map is a point selected by the user. Failure of the user to ensure that the pin location displayed on this map correctly corresponds with the user supplied address/location description below may result in an invalid federal flood insurance policy. **The U.S. Fish and Wildlife Service (Service) has not validated the pin location with respect to the user supplied address/location description below. The Service recommends that all pin locations be verified by federal agencies prior to use of this map for the provision or denial of federal funding or financial assistance** . Please note that a structure bisected by the Coastal Barrier Resources System (CBRS) boundary (i.e., both "partially in" and "partially out") is within the CBRS and therefore affected by CBRA's restrictions on federal flood insurance. A pin placed on a bisected structure must be placed on the portion of the structure within the unit (including any attached features such as a deck or stairs).

User Name: Lisa Madsen
User Organization: Port of San Diego
User Supplied Address/Location Description: Navy Pier San Diego, CA
Pin Location: Outside CBRS
Pin Flood Insurance Prohibition Date: N/A
Pin System Unit Establishment Date: N/A

The user placed pin location is not within the CBRS. The official CBRS maps are accessible at https://www.fws.gov/library/collections/official-coastal-barrier-resources-system-maps .

The CBRS information is derived directly from the CBRS web service provided by the Service. This map was exported on 8/17/2023 and does not reflect changes or amendments subsequent to this date. The CBRS boundaries on this map may become superseded by new boundaries over time.

This map image may be void if one or more of the following map elements do not appear: basemap imagery, CBRS unit labels, prohibition date labels, legend, scale bar, map creation date. For additional information about flood insurance and the CBRS, visit: https://www.fws.gov/node/263838 .

Appendix C

c. Flood Insurance

1. FEMA Flood Map Service Center
2. Navy Pier FEMA Flood Map

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from digital orthophotography collected by the U.S. Department of Agriculture Farm Service Agency. Department of Agriculture imagery was flown in 2016 and was produced with a 1-meter ground sample distance.

Coastal Base Flood Elevations shown on the map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Coastal flood elevations are also provided in the Coastal Transect Parameters table in the FIS Report for this jurisdiction. Elevations shown in the Coastal Transect Parameters table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on the FIRM.

SCALE

N

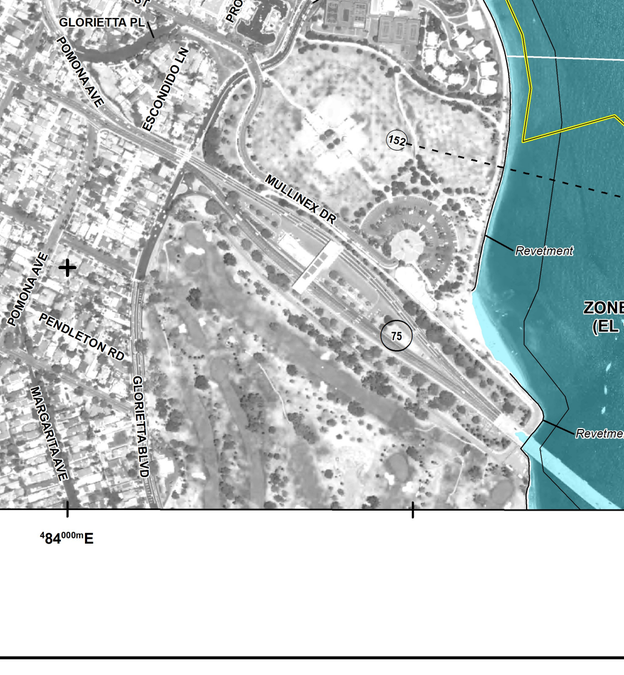
Map Projection:
Universal Transverse Mercator Zone 11N; North American Datum 1983; Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 250 500 750 1,000 2,000 feet

0 125 250 500 meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

SAN DIEGO COUNTY, CALIFORNIA

and Incorporated Areas

PANEL 1883 OF 2375

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CORONADO, CITY OF	060287	1883	H
SAN DIEGO, CITY OF	060295	1883	H

VERSION NUMBER
2.3.3.3

MAP NUMBER
06073C1883H

MAP REVISED
DECEMBER 20, 2019

Appendix D

d. Clean Air

1. Ascent Environmental. Air Quality Modeling. November 2023
2. San Diego Air Pollution Control District (APCD). 2019. Rule 20.2: New Source Review. Non-Major Stationary Sources. Available: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-20.2.pdf
3. Sacramento Metropolitan Air Quality Management District. 2022. CalEEMod 2022. Available: https://www.caleemod.com/

Navy Pier EA Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Navy Pier EA
Construction Start Date	4/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	20.0
Location	32.714562357562386, -117.17516723611313
County	San Diego
City	San Diego
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6414
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

City Park	3.60	Acre	3.60	0.00	0.00	0.00	—	—
Parking Lot	100	Space	0.90	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.05	1.71	16.2	12.1	0.03	0.62	1.04	1.66	0.57	0.16	0.73	—	3,304	3,304	0.14	0.09	1.85	3,338
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.96	0.80	6.81	6.97	0.01	0.26	0.44	0.70	0.24	0.09	0.33	—	1,472	1,472	0.06	0.06	0.03	1,492
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.65	5.99	5.00	0.01	0.23	0.38	0.61	0.21	0.06	0.28	—	1,242	1,242	0.05	0.04	0.36	1,256
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.12	1.09	0.91	< 0.005	0.04	0.07	0.11	0.04	0.01	0.05	—	206	206	0.01	0.01	0.06	208

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.05	1.71	16.2	12.1	0.03	0.62	1.04	1.66	0.57	0.16	0.73	—	3,304	3,304	0.14	0.09	1.85	3,338
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.96	0.80	6.81	6.97	0.01	0.26	0.44	0.70	0.24	0.09	0.33	—	1,472	1,472	0.06	0.06	0.03	1,492
2025	0.90	0.74	6.29	6.66	0.01	0.23	0.44	0.67	0.21	0.09	0.30	—	1,463	1,463	0.06	0.06	0.03	1,483
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.78	0.65	5.99	5.00	0.01	0.23	0.38	0.61	0.21	0.06	0.28	—	1,242	1,242	0.05	0.04	0.36	1,256
2025	0.03	0.02	0.21	0.22	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	48.7	48.7	< 0.005	< 0.005	0.02	49.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.14	0.12	1.09	0.91	< 0.005	0.04	0.07	0.11	0.04	0.01	0.05	—	206	206	0.01	0.01	0.06	208
2025	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.06	8.06	< 0.005	< 0.005	< 0.005	8.18

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.04	0.02	0.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.17	112	112	0.02	< 0.005	0.21	114
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.04	0.03	0.23	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.17	110	110	0.02	< 0.005	0.01	111
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.02	0.02	0.01	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	0.17	84.1	84.3	0.02	< 0.005	0.05	85.3
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	13.9	13.9	< 0.005	< 0.005	0.01	14.1

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.03	0.02	0.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	56.7	56.7	< 0.005	< 0.005	0.21	57.7
Area	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	55.4	55.4	< 0.005	< 0.005	—	55.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.04	0.04	0.02	0.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.17	112	112	0.02	< 0.005	0.21	114
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.03	0.03	0.23	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	54.2	54.2	< 0.005	< 0.005	0.01	55.0
Area	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	55.4	55.4	< 0.005	< 0.005	—	55.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.04	0.04	0.03	0.23	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.17	110	110	0.02	< 0.005	0.01	111

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.01	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	28.7	28.7	< 0.005	< 0.005	0.05	29.1
Area	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	55.4	55.4	< 0.005	< 0.005	—	55.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.02	0.02	0.01	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	0.17	84.1	84.3	0.02	< 0.005	0.05	85.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.82
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	9.17	9.17	< 0.005	< 0.005	—	9.21
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	13.9	13.9	< 0.005	< 0.005	0.01	14.1

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.73	6.30	6.14	0.01	0.26	—	0.26	0.24	—	0.24	—	1,015	1,015	0.04	0.01	—	1,018

Demolitio	—	—	—	—	—	—	0.23	0.23	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.73	6.30	6.14	0.01	0.26	—	0.26	0.24	—	0.24	—	1,015	1,015	0.04	0.01	—	1,018
Demolitio n	—	—	—	—	—	—	0.23	0.23	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.39	3.39	3.30	0.01	0.14	—	0.14	0.13	—	0.13	—	546	546	0.02	< 0.005	—	548
Demolitio n	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.62	0.60	< 0.005	0.03	—	0.03	0.02	—	0.02	—	90.4	90.4	< 0.005	< 0.005	—	90.7
Demolitio n	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.74	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.58	147
Vendor	0.01	0.01	0.18	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	127	127	0.01	0.02	0.33	133

Hauling	0.01	< 0.005	0.26	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	193	193	0.01	0.03	0.41	203
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	137	137	0.01	0.01	0.02	139
Vendor	0.01	< 0.005	0.18	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	127	127	0.01	0.02	0.01	133
Hauling	0.01	< 0.005	0.27	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	193	193	0.01	0.03	0.01	202
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.35	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	74.4	74.4	< 0.005	< 0.005	0.13	75.5
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	68.6	68.6	< 0.005	0.01	0.08	71.5
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	104	104	0.01	0.02	0.10	109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.02	12.5
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.01	11.8
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.2	17.2	< 0.005	< 0.005	0.02	18.0

3.3. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.67	5.81	5.88	0.01	0.22	—	0.22	0.21	—	0.21	—	1,015	1,015	0.04	0.01	—	1,018

Demolition	—	—	—	—	—	—	0.23	0.23	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.8	33.8	< 0.005	< 0.005	—	33.9
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.59	5.59	< 0.005	< 0.005	—	5.61
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.01	< 0.005	0.17	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	131
Hauling	0.01	< 0.005	0.26	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	189	189	0.01	0.03	0.01	198
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.51	4.51	< 0.005	< 0.005	0.01	4.58
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.16	4.16	< 0.005	< 0.005	< 0.005	4.35

Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.28	6.28	< 0.005	< 0.005	0.01	6.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.75	0.75	< 0.005	< 0.005	< 0.005	0.76
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.72
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09

3.5. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05	0.88	9.24	4.76	0.02	0.35	—	0.35	0.32	—	0.32	—	1,649	1,649	0.07	0.01	—	1,654
Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	2.28	1.17	< 0.005	0.09	—	0.09	0.08	—	0.08	—	407	407	0.02	< 0.005	—	408
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.42	0.21	< 0.005	0.02	—	0.02	0.01	—	0.01	—	67.3	67.3	< 0.005	< 0.005	—	67.5
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	48.4	48.4	< 0.005	< 0.005	0.19	49.2
Vendor	0.01	0.01	0.18	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	127	127	0.01	0.02	0.33	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.02	11.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.4	31.4	< 0.005	< 0.005	0.03	32.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.91
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.20	5.20	< 0.005	< 0.005	0.01	5.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.04	0.03	0.02	0.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	56.7	56.7	< 0.005	< 0.005	0.21	57.7
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.04	0.03	0.02	0.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	56.7	56.7	< 0.005	< 0.005	0.21	57.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.04	0.03	0.03	0.23	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	54.2	54.2	< 0.005	< 0.005	0.01	55.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.04	0.03	0.03	0.23	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	54.2	54.2	< 0.005	< 0.005	0.01	55.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.82
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.82

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	55.4	55.4	< 0.005	< 0.005	—	55.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	55.4	55.4	< 0.005	< 0.005	—	55.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	55.4	55.4	< 0.005	< 0.005	—	55.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	55.4	55.4	< 0.005	< 0.005	—	55.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	9.17	9.17	< 0.005	< 0.005	—	9.21
Total	—	—	—	—	—	—	—	—	—	—	—	—	9.17	9.17	< 0.005	< 0.005	—	9.21

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.10

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	4/1/2024	1/17/2025	5.00	210	—
Site Preparation	Site Preparation	4/1/2024	8/2/2024	5.00	90.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	2.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	4.00	36.0	0.38
Demolition	Cranes	Diesel	Average	1.00	2.00	367	0.29
Demolition	Forklifts	Diesel	Average	1.00	2.00	82.0	0.20
Site Preparation	Graders	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	5.00	7.63	HHDT,MHDT
Demolition	Hauling	2.63	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	5.00	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	48,000	—

Site Preparation	—	—	45.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
City Park	0.00	0%
Parking Lot	0.90	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	589	0.03	< 0.005
2025	0.00	589	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	2.81	7.06	7.88	1,511	23.9	60.0	67.0	12,847
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	2,352

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
City Park	0.00	589	0.0330	0.0040	0.00
Parking Lot	34,343	589	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.31	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	6.59	annual days of extreme heat
Extreme Precipitation	2.55	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.66	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	29.9
AQ-PM	51.8
AQ-DPM	100.0

Drinking Water	29.0
Lead Risk Housing	0.59
Pesticides	0.00
Toxic Releases	47.0
Traffic	14.0
Effect Indicators	—
CleanUp Sites	81.5
Groundwater	98.9
Haz Waste Facilities/Generators	97.7
Impaired Water Bodies	90.1
Solid Waste	72.4
Sensitive Population	—
Asthma	80.0
Cardio-vascular	33.9
Low Birth Weights	74.9
Socioeconomic Factor Indicators	—
Education	4.21
Housing	38.8
Linguistic	23.8
Poverty	28.2
Unemployment	83.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	79.63557038

Employed	99.47388682
Median HI	76.18375465
Education	—
Bachelor's or higher	96.79199281
High school enrollment	100
Preschool enrollment	61.70922623
Transportation	—
Auto Access	19.90247658
Active commuting	93.80213012
Social	—
2-parent households	3.836776594
Voting	77.69793404
Neighborhood	—
Alcohol availability	4.516874118
Park access	81.35506224
Retail density	98.80662133
Supermarket access	77.56961376
Tree canopy	10.50943154
Housing	—
Homeownership	30.71987681
Housing habitability	28.14063904
Low-inc homeowner severe housing cost burden	33.96638008
Low-inc renter severe housing cost burden	88.10470935
Uncrowded housing	61.41408957
Health Outcomes	—
Insured adults	84.28076479
Arthritis	64.8

Asthma ER Admissions	16.3
High Blood Pressure	61.0
Cancer (excluding skin)	27.6
Asthma	88.8
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	86.1
Diagnosed Diabetes	86.4
Life Expectancy at Birth	89.3
Cognitively Disabled	78.9
Physically Disabled	71.5
Heart Attack ER Admissions	32.2
Mental Health Not Good	90.9
Chronic Kidney Disease	79.8
Obesity	79.9
Pedestrian Injuries	90.7
Physical Health Not Good	93.9
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	4.8
Current Smoker	90.9
No Leisure Time for Physical Activity	95.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	91.8
Children	96.1
Elderly	12.9
English Speaking	47.8

Foreign-born	56.1
Outdoor Workers	95.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	2.8
Traffic Density	12.2
Traffic Access	87.4
Other Indices	—
Hardship	2.8
Other Decision Support	—
2016 Voting	86.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	63.0
Healthy Places Index Score for Project Location (b)	85.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Off-Road Equipment	Equipment based on information provided by Port engineer
Construction: Construction Phases	Schedule based on information provided by Port engineer
Operations: Water and Waste Water	water use unkown

Appendix E

e. Coastal Zone Management

1. California Coastal Commission staff report for Coastal Development Permit 6-22-1069, Item 16c, dated 2/9/23. https://www.coastal.ca.gov/meetings/agenda/#/2023/2/
2. Coastal Development Permit 6-22-1069

CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST DISTRICT OFFICE
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San Diego Unified Port District
Document No. 74984
Filed 03/10/2023
Office of the District Clerk

February 17, 2023
Permit Application Number: **6-22-1069**

COASTAL DEVELOPMENT PERMIT

On February 09, 2023, the California Coastal Commission granted to the **San Diego Unified Port District and USS Midway Museum** this permit subject to the attached Standard and Special conditions, for development consisting of **Demolish existing Head House structure; reinforce pier; construct a 3.6-acre public park, including a 32 ft. wide promenade on the north side of pier, public restrooms, 1,000 sq.ft. low-cost snack concessionaire, coastal access and interpretive signage, memorials and monuments, play structures, bicycle racks, benches, and ingress/egress improvements; retain a portion of the pier for parking, increase parking rates, and implement public programming,** more specifically described in the application filed in the Commission offices.

The development is within the coastal zone at **Navy Pier, 960 North Harbor Drive, San Diego, CA, San Diego County (APN No. 760-013-41).**

Issued on behalf of the California Coastal Commission by

Sincerely,

Kate Huckelbridge, PhD
Executive Director

DocuSigned by:
Melody Lasiter
D5DBC5ECBB2D41B...

Melody Lasiter
Coastal Program Analyst

cc: Commissioners/File

ACKNOWLEDGMENT:
The undersigned permittee acknowledges receipt of this permit and agrees to abide by all terms and conditions thereof.

The undersigned permittee acknowledges that Government Code Section 818.4 which states in pertinent part of that: “A Public entity is not liable for injury caused by the issuance… of any permit…” applies to the issuance of this permit.

Coastal Development Permit

6-22-1069

IMPORTANT: THIS PERMIT IS NOT VALID UNLESS AND UNTIL A COPY OF THE PERMIT WITH THE SIGNED ACKNOWLEDGEMENT HAS BEEN RETURNED TO THE COMMISSION OFFICE. 14 Cal. Admin. Code Section 13158(a).

Date: 03/08/2023 Signature DocuSigned by: Joe Stuyvesant _____

Date: 03/09/2023 Signature DocuSigned by: Mac McLaughlin ED6862ED195746D... _____

STANDARD CONDITIONS:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Interpretation**. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

3. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

4. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

SPECIAL CONDITIONS:

1. Permit Expiration, Condition Compliance & Timing of Construction.

(a) Because there is existing unpermitted development on the site that is approved after-the-fact, this coastal development permit shall be deemed issued upon the Commission's approval and will not expire.

(b) WITHIN FIVE YEARS OF COMMISSION ACTION ON THE COASTAL DEVELOPMENT PERMIT, or within such additional time as the Executive Director may grant for good cause, the applicant shall have completed construction of the public park. The Executive Director may grant an extension of up to one year, in writing, upon demonstration by the applicant of good cause for

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delays in project completion resulting from circumstances that are beyond the control of the applicant. Any further extension to the deadline must be sought from the Commission through the coastal development permit amendment process.

2. **Final Plans.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the applicant shall submit, for the review and written approval of the Executive Director, a full-size set of Final Plans, including a Parking Plan, Lighting Plan, Structural Repair Plan, and Head House Demolition Plan, that substantially conform with the preliminary plans submitted to the Commission on December 16, 2022, titled Freedom Park and the Midway Navy Pier, except that:

   (c) Parking Plan. The final project plans shall identify the 45 parking spaces to be used for Midway parking and 100 parking spaces to be used for public parking, including electric vehicle charging, ADA, motorcycle, standard, and those spaces limited to two-hour parking as required by Special Condition No. 5.

   (d) Lighting Plan. The final project plans shall include a lighting plan for the pier that limits lighting to the minimum necessary and to lighting that is directed downward and away from the water, shielded, and does not exceed a correlated color temperature of 2,700 kelvins.

   (e) View Corridor. The final project plans shall include a 32 ft. wide view corridor along the northern perimeter of the pier along the public promenade. Shade structures and other park amenities that are located in the view corridor shall be sited and designed to avoid public view obstructions.

   The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

3. **Final Landscape Plans.** PRIOR TO COMMENCMENT OF CONSTRUCTION, the applicant shall submit, a full-size set of final landscaping plans, which shall include and be consistent with the following:

   (a) A view corridor, 32 foot wide, shall be preserved in the northern perimeter of the pier along the public promenade. All proposed landscaping in the view corridor shall be maintained at a height of three feet or lower (including raised planters) to preserve the views from Harbor Drive towards San Diego Bay.

   (b) Vegetated landscaped areas shall consist of native plants or non-native drought tolerant plants that are non-invasive. No plant species listed as problematic or invasive by the California Native Plant Society (http://www.CNPS.org/), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (http://www.cal-ipc.org/), or as may be identified from time to time by the

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State of California, shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the State of California or the U.S. Federal Government shall be utilized within the property. All plants shall be low water use plants as identified by California Department of Water Resources (See: http://www.water.ca.gov/wateruseefficiency/docs/wucols00.pdf).

(c) Use of reclaimed water for irrigation is encouraged. If using potable water for irrigation, only drip or microspray irrigation systems may be used. Other water conservation measures shall be considered, such as weather-based irrigation controllers.

The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

4. **Mitigation Program Management Plan.** WITHIN 90 DAYS OF COMMISSION ACTION, the applicant shall submit, for the review and written approval of the Executive Director, a final Mitigation Program Management Plan in substantial conformance with the framework in the plan submitted on January 13, 2023 updated on January 26, 2023 titled "Attachment C" and included as Exhibit 5, except the program/plan shall be developed and expanded as required by the following requirements:

(a) The plan shall be implemented for a minimum period of 20 years, commencing within one year of the date of Commission action of this CDP, except for the Park Docent Program (aka Park Ambassadors), restrooms, and concessionaire, which shall be implemented upon completion of the park.

(b) Provide a detailed description and baseline data for each program including (1) the mobile phone microsite; (2) Park Docent Program (aka Park Ambassadors), including number of docents in the park daily; (3) Snooze Cruise Scholarship Program (aka Overnight Adventure), including a minimum of 300 scholarships per year; (4) Free Daily Pass and Event Programs; (5) No Child Left Ashore Program; (6) Midway Institute for Teachers, including 25 additional teachers per year; (7) Virtual Field Trip component (aka Distance Learning); (8) Comped Ticket Distribution, including 25,000 additional tickets per year; (9) the Veterans Day Parade; and (10) Grant Funding. For each program, indicate the year of inception; the initial funding source and allocated budget, if available; the allocated budget from 2017 to 2022, except for 2020; the number of participants from 2017 to 2022, except for 2020; and a list of schools/grantees that have participated in the program.

(c) Provide and facilitate access for people with limited means, visitors from under-resourced communities, and speakers of languages other than English to the park and Midway, and to the programs identified in Special Condition No. 4(b).

i. The low-cost snack concession stand shall stock relatively inexpensive food and drink items that can be easily carried out.

ii. Public education materials shall be available in multiple languages, including English, Spanish, and other locally spoken languages, when written, and as feasible, spoken by docents (aka Park Ambassadors) and available in video and audio recordings.

iii. A program for free parking for low-income persons shall be developed and implemented in the public parking lot. The program shall include, at a minimum, the following:

a. Members of the public with a State of California Golden Bear Pass displayed shall be eligible to park for free;

b. Outreach Plan. Information on how to obtain the pass shall be made easily available to the public both online at the Port and Midway websites and in the form of permanent signage at the Navy Pier parking lot. At least one permanent sign shall be posted at each pay machine identifying the pass program and information on obtaining the passes, where each sign shall be in both English and Spanish. The Plan shall provide sign details, including all text and graphics, and each sign shall include the California Coastal Commission emblem, and recognition of the Coastal Commission's role in providing more inclusive public access at this location. The Port shall share information on how to obtain the pass with any social service providers and local non-profits working with low-income visitors.

c. Parking Violation Appeals. Individuals who receive a parking violation or ticket shall have an opportunity to appeal the ticket and have the fee waived if they provide documentation of the Golden Bear pass during the ticket appeal. This information will be available in any signage and outreach materials.

(d) Access to all park facilities, including the public park, public parking lot, and public restroom shall be available to the public at all times during normal park hours (i.e., 6 am to 10:30 pm) and no personnel shall interfere with public access, except as allowed under Special Condition No. 6 for Special Events.

(e) Develop an Outreach Program that targets communities for increased access to the Midway and programs included in the plan that have historically received fewer coastal education and stewardship opportunities, or are disproportionately impacted by environmental burdens, such as communities with low incomes; Black communities; Indigenous communities; communities of color; speakers of languages other than English; people with disabilities; foster and transition-age youth; LGBTQIA+ youth; and residents of rural and/or inland areas. Identify the target audience(s) and indicate how outreach will be targeted to these audiences;

for example, through Environmental Justice organizations, individual school demographics (e.g., percentage of English Language Learners, race/ethnicity, low-income) through www.ed-data.org, and community demographics through CalEnviroscreen.

(f) By January 30 of every year for three years, and every two years thereafter, the permittee shall submit an annual monitoring report that demonstrates the permittee has complied with the approved Mitigation Program Management Plan in the previous year. The report shall include the following:

i. The level of participation and funding of the subject year and a comparison with prior years under the program.

ii. A narrative and data to demonstrate that the permittee has complied with the access provisions in Special Condition No. 4 by increasing access for targeted groups. Identify any programs that are not in compliance and solutions to resolve.

iii. Outreach data and use data, where available, for the free parking pass program.

The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

5. Parking Management. By acceptance of this permit, the applicant agrees that the paid parking program shall operate under the following parameters:

(a) At least 100 parking spaces shall be available to the public at all times.

(b) Parking rates on Navy Pier shall be clearly posted and shall be no higher than the following:

i. Transient rate:

a. $5 per hour for up to two hours;

b. $20 for up to 6 hours;

c. $25 for 6 to 24 hours;

ii. Special event rate: $30;

iii. USS Midway educational overnight rate: $10;

(c) The maximum rates shall be in effect regardless of holidays or weekends; and

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(d) The applicant shall reduce transient and special event rates by at least 25% below the maximum parking rates identified in Special Condition 5(b)i. during the off-season, specifically October 1 – March 31 annually, and during other low demand periods as determined by the Port.

(e) Designated motorcycle spaces shall pay 50% of the posted rate.

(f) There shall be a two-hour limit on 20% of public parking spaces.

(g) Midway employee and volunteer parking shall be prohibited in the public parking area.

(h) Parking rates may be adjusted annually consistent with the Consumer Price Index.

The applicant shall undertake the parking program in accordance with the approved parking provisions. Any proposed changes to the approved paid parking program shall be reported to the Executive Director. No changes to the approved parking program, including an increase in parking rates beyond the maximum rates identified in subsection (a) and annual adjustments identified in subsection (h) of this special condition, shall occur without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required for any proposed minor deviations.

6. **Special Event Provisions.** By acceptance of this permit, the applicant agrees that special events shall operate under the following parameters:

   (a) Special events are those events that (1) charge for admission or (2) exclude members of the general public.

   (b) Unrestricted public access through and within the park shall be maintained no less than 85 percent of each year. Special events shall not exceed 15 percent per year, equivalent to 110 half days events or 55 full day events based on normal park hours (i.e., 6 am to 10:30 pm), including event set-up/take-down. Special events shall be spread throughout the year.

   (c) Only one side of the park (east or west areas on Exhibit 8) shall be used for special events on a single day. If one side of the park is used for a special event, the other side of the park shall remain open to the public.

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(d) The 32 ft. northern promenade, north park area, restrooms, low-cost concessioner, and parking lot shall remain open to the public at all times, as depicted on Exhibit 8.

(e) Prior to January 30 of each year for three years beginning the year following the year the park is completed, and every two years thereafter, the permittee shall submit an annual Special Event programming report that demonstrates the permittee has complied with the Special Event provisions in the previous year. The report shall include a complete list of all events held in the preceding and projected year. The report shall include but is not limited to the following: dates and times for each event; setup/takedown for each event; summary of events held; tabulation of events held in compliance with these provisions (i.e., 15 percent of the year and programming types permitted); names of event promoters and event groups (e.g., musical group, performer, etc.), and number of tickets issued/sold for each event (or estimated number of attendees, if quantity of tickets issued/sold for each event is not available).

The applicant shall undertake special events in accordance with the approved special event provisions unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

7. **Public Access Signage Plan.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the applicant shall submit, for the review and written approval of the Executive Director, a comprehensive Public Access Signage Plan. The plan shall include, but not be limited to, the following:

(a) Plans, dimensions, content, font size, and locations of public access signage in and around the public site informing the public of their right to access the park. Each sign shall include the California Coastal Commission emblem and recognition of the Coastal Commission's role in providing public access at this location. Signage shall be large enough to be easily seen by the public and be located, at minimum, on the public promenade at the pedestrian entrances to Navy Pier and along the pedestrian walkways prior to reaching the western park space. All signs should provide information in English and Spanish.

(b) All signs under the approved Public Access Signage Plan shall contain information approved by the Executive Director informing the public of their right of access, and applicable hours of the access according to the subsections of this Special Condition.

(c) The public promenade shall be open to the public 24 hours a day year-round. Signage located on the promenade shall identify that the promenade is open to the public at all times.

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(d) Temporary signs shall be placed during special events to alert the public to the areas of the park that remain open to the public per Special Condition No. 6(c).

(e) No sign under the approved Public Access Plan shall measure less than two feet by three feet and all signs shall be made of material capable of withstanding long exposure to the elements. If any of the signs are damaged or missing for any reason, they shall be replaced by the permittee within thirty (30) days.

The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

8. **Construction and Pollution Prevention Plan.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the applicant shall submit, for the review and written approval of the Executive Director, a Construction and Pollution Prevention Plan. The Plan shall demonstrate that all construction, including, but not limited to, clearing, grading, staging, storage of equipment and materials, or other activities that involve ground disturbance; building, reconstructing, or demolishing a structure; and creation or replacement of impervious surfaces, complies with the following requirements:

(a) **Protect Public Access**. Construction shall protect and maximize public access, including by:

i. Public access shall be maintained around the project site to provide a continuous connection to the public promenade north and south of Navy Pier, throughout project demolition and construction.

ii. Staging and storage of construction equipment and materials (including debris) may not take place on the public promenade outside the project area. Staging and storage of construction equipment and materials shall occur at least 25 feet from coastal waters, drainage courses, and storm drain inlets, as feasible. Construction is prohibited outside of the defined construction, staging, and storage areas.

iii. All construction methods to be used, including all methods to keep the construction areas separated from public recreational use areas (e.g., using unobtrusive fencing or equivalent measures to delineate construction areas), shall be clearly identified on the final plans.

iv. All bay access points and other recreational use areas impacted by construction activities, other than those approved as part of this project, shall be restored to their pre-construction condition or better within three days of completion of construction.

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(b) **Minimize Erosion and Sediment Discharge.** During construction, erosion and the discharge of sediment off-site or to coastal waters shall be minimized through the use of appropriate Best Management Practices (BMPs), including:

i. Land disturbance during construction (e.g., clearing, grading, and cut-and-fill) shall be minimized, and grading activities shall be phased, to avoid increased erosion and sedimentation.

ii. Erosion control BMPs (such as mulch, soil binders, geotextile blankets or mats, or temporary seeding) shall be installed as needed to prevent soil from being transported by water or wind. Temporary BMPs shall be implemented to stabilize soil on graded or disturbed areas as soon as feasible during construction, where there is a potential for soil erosion to lead to discharge of sediment off-site or to coastal waters.

iii. Sediment control BMPs (such as silt fences, fiber rolls, sediment basins, inlet protection, sand bag barriers, or straw bale barriers) shall be installed as needed to trap and remove eroded sediment from runoff, to prevent sedimentation of coastal waters.

iv. Tracking control BMPs (such as a stabilized construction entrance/exit, and street sweeping) shall be installed or implemented as needed to prevent tracking sediment off-site by vehicles leaving the construction area.

v. Runoff control BMPs (such as a concrete washout facility, dewatering tank, or dedicated vehicle wash area) that will be implemented during construction to retain, infiltrate, or treat stormwater and non-stormwater runoff.

(c) **Minimize Discharge of Construction Pollutants.** The discharge of other pollutants resulting from construction activities (such as chemicals, paints, vehicle fluids, petroleum products, asphalt and cement compounds, debris, and trash) into runoff or coastal waters shall be minimized through the use of appropriate BMPs, including:

i. Materials management and waste management BMPs (such as stockpile management, spill prevention, and good housekeeping practices) shall be installed or implemented as needed to minimize pollutant discharge and polluted runoff resulting from staging, storage, and disposal of construction chemicals and materials. BMPs shall include, at a minimum:

A. Covering stockpiled construction materials, soil, and other excavated materials to prevent contact with rain, and protecting all stockpiles from stormwater runoff using temporary perimeter barriers.

B. Cleaning up all leaks, drips, and spills immediately; having a written plan for the clean-up of spills and leaks; and maintaining an inventory of products and chemicals used on site.

C. Proper disposal of all wastes; providing trash receptacles on site; and covering open trash receptacles during wet weather.

D. Prompt removal of all construction debris.

E. Detaining, infiltrating, or treating runoff, if needed, prior to conveyance off-site during construction.

ii. Fueling and maintenance of construction equipment and vehicles shall be conducted off site if feasible. Any fueling and maintenance of mobile equipment conducted on site shall take place at a designated area located at least 50 feet from coastal waters, drainage courses, and storm drain inlets, if feasible (unless those inlets are blocked to protect against fuel spills). The fueling and maintenance area shall be designed to fully contain any spills of fuel, oil, or other contaminants. Equipment that cannot be feasibly relocated to a designated fueling and maintenance area (such as cranes) may be fueled and maintained in other areas of the site, provided that procedures are implemented to fully contain any potential spills.

(d) **Minimize Other Impacts of Construction Activities.** Other impacts of construction activities shall be minimized through the use of appropriate BMPs, including:

i. The damage or removal of non-invasive vegetation (including trees, native vegetation, and root structures) during construction shall be minimized, to achieve water quality benefits such as transpiration, vegetative interception, pollutant uptake, shading of waterways, and erosion control.

ii. Soil compaction due to construction activities shall be minimized, to retain the natural stormwater infiltration capacity of the soil.

iii. The use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers) shall be avoided, to minimize wildlife entanglement and plastic debris pollution.

(e) **Construction In, Over, or Adjacent to Coastal Waters and Habitat.** Construction taking place in, over, or adjacent to coastal waters and habitat shall protect the coastal waters and habitat by implementing additional BMPs, including:

i. No construction equipment or materials (including debris) shall be allowed at any time in the intertidal zone or in coastal waters.

ii. Construction activity shall not be conducted in the intertidal zone or in coastal waters.

iii. To the extent feasible, work shall take place during daylight hours. Lighting of the bay area, beyond project area lighting needed for any nighttime work, is prohibited. Any lighting needed for nighttime work shall be shielded and directed away from the bay. Lighting directed at the bay is prohibited.

iv. All construction equipment and materials shall be stored beyond the reach of tidal waters.

v. Tarps or other devices shall be used to capture debris, dust, oil, grease, rust, dirt, fine particles, and spills to protect the quality of coastal waters.

vi. All erosion and sediment controls shall be in place prior to the commencement of construction, as well as at the end of each workday. At a minimum, if grading is taking place, sediment control BMPs shall be installed at the perimeter of the construction site to prevent construction-related sediment and debris from entering the bay, ocean, waterways, natural drainage swales, and the storm drain system.

vii. All debris resulting from construction activities shall be removed from the project site within 24 hours of completion of the project.

viii. If preservative-treated wood is used, appropriate BMPs shall be implemented that meet industry standards for the selection, storage, and construction practices for use of preservative-treated wood in aquatic environments; at a minimum, those standards identified by the Western Wood Preservers Institute, et al. in *Treated Wood in Aquatic Environments: A Specification and Environmental Guide to Selecting, Installing and Managing Wood Preservation Systems in Aquatic and Wetland Environments* (2012) or the latest revision. The preservative-treated wood shall be certified by a third party inspection program, as indicated by the presence of a BMP Quality Mark or Certificate of Compliance, to have been produced in accordance with industry BMP standards designed to minimize adverse impacts in aquatic environments.

(f) **Manage Construction-Phase BMPs.** Appropriate protocols shall be implemented to manage all construction-phase BMPs (including installation and removal, ongoing operation, inspection, maintenance, and training), to protect coastal water quality.

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(g) **Construction Site Map and Narrative Description.** The Construction and Pollution Prevention Plan shall include a construction site map and a narrative description addressing, at a minimum, the following required components:

i. A map delineating the construction site, construction phasing boundaries, staging site, temporary public access route, and the location of all temporary construction-phase BMPs (such as silt fences, inlet protection, and sediment basins).

ii. A description of the BMPs that will be implemented to minimize land disturbance activities, minimize the project footprint, minimize soil compaction, and minimize damage or removal of non-invasive vegetation. Include a construction phasing schedule, if applicable to the project, with a description and timeline of significant land disturbance activities.

iii. A description of the BMPs that will be implemented to minimize erosion and sedimentation, control runoff and minimize the discharge of other pollutants resulting from construction activities. Include calculations that demonstrate proper sizing of BMPs.

iv. A description and schedule for the management of all construction-phase BMPs (including installation and removal, ongoing operation, inspection, maintenance, and training). Identify any temporary BMPs that will be converted to permanent post-development BMPs.

(h) **Construction Site Documents.** The Construction and Pollution Prevention Plan shall specify that copies of the signed CDP and the approved Construction and Pollution Prevention Plan be maintained in a conspicuous location at the construction job site at all times and be available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the CDP and the approved Construction and Pollution Prevention Plan, and the public review requirements applicable to them, prior to commencement of construction.

(i) **Construction Coordinator.** The Construction and Pollution Prevention Plan shall specify that a construction coordinator be designated who may be contacted during construction should questions or emergencies arise regarding the construction. The coordinator's contact information (including, at a minimum, a telephone number available 24 hours a day for the duration of construction) shall be conspicuously posted at the job site and readily visible from public viewing areas, indicating that the coordinator should be contacted in the case of questions or emergencies. The coordinator shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

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(j) **Notification.** The permittee shall notify planning staff of the Coastal Commission's San Diego Coast District Office at least three working days in advance of commencement of construction or maintenance activities, and immediately upon completion of construction or maintenance activities.

The permittee shall undertake development in accordance with the approved Construction-Phase Pollution Prevention Plan, unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

9. **Post-Development Runoff Plan**. PRIOR TO COMMENCEMENT OF CONSTRUCTION, the applicant shall submit, for the review and written approval of the Executive Director, a Post-Development Runoff Plan. The final Post-Development Runoff Plan shall demonstrate that the project complies with the following requirements:

(a) **Use a Low Impact Development Approach to Stormwater Management.** Use a Low Impact Development (LID) approach to stormwater management to replicate the site's pre-development hydrologic balance, by implementing site design strategies that reduce runoff, integrated with small-scale, distributed Best Management Practices (BMPs) to retain stormwater runoff close to the source. The project shall comply with the following LID Site Design strategies and BMPs:

i. Minimize disturbance of coastal waters and natural drainage features such as stream corridors, rivers, wetlands, natural drainage patterns, drainage swales, groundwater recharge areas, floodplains, and topographical depressions.

ii. Minimize removal of native vegetation, and plant additional non-invasive vegetation, particularly native plants that provide water quality benefits such as transpiration, interception of rainfall, pollutant uptake, shading of waterways to maintain water temperature, and erosion control.

iii. Maintain or enhance on-site infiltration of runoff to the greatest extent appropriate and feasible. Use strategies such as avoiding building impervious surfaces on highly permeable soils; avoiding unnecessary soil compaction; amending soil if needed to enhance infiltration; directing runoff to permeable landscaped areas; and installing an infiltration BMP (e.g., rain garden or bioretention system).

iv. Minimize the addition of impervious surfaces, and where feasible increase the area of pervious surfaces in redevelopment. Use strategies such as minimizing the footprint of buildings; minimizing the footprint of impervious

pavement; and installing a permeable pavement system where pavement is required.

v. Disconnect impervious surface areas from the storm drain system, by interposing permeable areas between impervious surfaces and the storm drain system. Design curbs, berms, and similar structures to avoid isolation of vegetative landscaping and other permeable areas and allow runoff to flow from impervious pavement to permeable areas for infiltration. Use strategies such as directing roof-top runoff into permeable landscaped areas; directing runoff from impervious pavement into distributed permeable areas (e.g., turf, medians, or parking islands); installing a vegetated swale or filter strip to intercept runoff sheet flow from impervious pavement; and installing a rain barrel or cistern to capture and store roof-top runoff for later use in on-site irrigation or plumbing. Convey runoff from impervious surfaces into permeable areas in a non-erosive manner.

vi. Where appropriate and feasible, direct stormwater runoff from all impervious surfaces (e.g., parking areas and driveways, roofs, walkways, and patios) to, in order of priority, a) landscaped areas or open spaces capable of infiltration; b) earthen-based infiltration BMPs (such as a bioretention basin) c) manufactured infiltration BMPs (such as a permeable pavement system) or rainwater harvesting BMPs (such as a cistern); d); flow-through biofiltration BMPs (such as a vegetated swale or green roof); and if infiltration is not feasible, e) proprietary filtration systems (such as an inlet filter) or runoff flow control systems (such as a stormwater detention vault).

vii. Implement Runoff Control BMPs that are sized and designed to retain runoff on-site (by means of infiltration, evaporation, uptake by plants, or harvesting for later on-site use), to the extent appropriate and feasible. Examples include a bioretention basin, rain garden, permeable landscaped area, permeable pavement system, and cistern.

viii. If the proposed development will not retain on-site the runoff using an LID approach, an alternatives analysis shall be conducted. The alternatives analysis shall demonstrate that on-site runoff retention is maximized to the extent appropriate and feasible, and there are no appropriate and feasible alternative project designs (such as a reduction in impervious surface area) that would enable on-site retention of the design storm runoff volume.

ix. Where on-site infiltration is not appropriate or feasible, use alternative BMPs to minimize post-development changes in runoff flows. Alternative BMPs shall also be used where infiltration BMPs are not adequate to treat a specific pollutant of concern attributed to the development, or where

infiltration practices would conflict with regulations protecting groundwater. Examples include an evapotranspiration BMP that does not infiltrate into the ground but uses evaporation and uptake by plants to reduce and attenuate runoff flows (e.g., a vegetated "green roof," flow-through planter, biofiltration basin, or retention pond); a rainwater harvesting BMP to capture and store runoff for later use in landscape irrigation (e.g., a rain barrel or cistern); directing runoff to an off-site infiltration facility; or a BMP to reduce runoff flow rate (e.g., a manufactured stormwater detention vault) prior to directing runoff to the storm drain system.

(b) **Implement Treatment Control BMPs if Necessary.** Treatment Control BMPs are structural systems designed to remove pollutants from runoff by processes such as gravity settling of particulate pollutants, filtration, biological uptake, media adsorption, or other physical, biological, or chemical process. Examples include vegetated swales, bioretention basins, and storm drain inlet filters. Runoff Control BMPs that promote infiltration or evapotranspiration may also provide Treatment Control.

i. Implement a Treatment Control BMP (or suite of BMPs) that is sized and designed to remove pollutants of concern from that will not be retained on-site.

ii. Where infiltration BMPs are not adequate to remove a specific pollutant of concern attributed to the development, an effective Treatment Control BMP (or suite of BMPs) shall be required prior to infiltration of runoff, or else an alternative BMP that does not involve infiltration shall be substituted for the infiltration BMP.

(c) **Implement Source Control BMPs.** Appropriate and feasible long-term Source Control BMPs, which may be structural features or operational practices, shall be implemented to minimize the transport of pollutants in runoff from the development by controlling pollutant sources and keeping pollutants segregated from runoff. Use strategies such as covering outdoor storage areas; using efficient irrigation; proper application and clean-up of potentially harmful chemicals and fertilizers; and proper disposal of waste. Waste disposal receptable within the leasehold shall be of a scavenger-proof design to prevent access by animals.

(d) **Avoid Adverse Impacts from Stormwater and Dry Weather Discharges.** The adverse impacts of discharging stormwater or dry weather runoff flows to coastal waters, intertidal areas, beaches, bluffs, or stream banks shall be avoided, to the extent feasible. The project shall comply with the following requirements:

i. New outfalls discharging stormwater or dry weather runoff to coastal waters shall be prohibited, and runoff shall be directed inland to the storm drain system or to an existing outfall. If no storm drain system or existing outfall is present, runoff shall be directed to an existing drainage channel. Runoff shall not be allowed to sheet flow to the beach or the bay.

ii. Runoff shall be conveyed off-site or to drainage systems in a non-erosive manner. If runoff flows to a natural stream channel or drainage course, determine whether the added volume of runoff is large enough to cause erosion.

iii. Protective measures shall be used to prevent erosion from concentrated runoff flows at stormwater outlets (including outlets of pipes, drains, culverts, ditches, swales, or channels), if the discharge velocity will be sufficient to potentially cause erosion. The type of measures selected for outlet erosion prevention shall be prioritized in the following order, depending on the characteristics of the site and the discharge velocity: (1) vegetative bioengineered measures (such as plant wattles); (2) a hardened structure consisting of loose materials (such as a rip-rap apron or rock slope protection); or (3) a fixed energy dissipation structure (such as a concrete apron, grouted rip-rap, or baffles).

iv. Design and manage the development to minimize discharge of dry weather runoff to coastal waters, to the maximum extent feasible. For example, use efficient landscape irrigation techniques, and design vehicle washing areas to convey wash water to vegetated areas, infiltration system, or the sanitary sewer system to minimize off-site runoff.

(e) **Manage BMPs for the Life of the Development.** Appropriate protocols shall be implemented to manage BMPs (including ongoing operation, maintenance, inspection, and staff training) to keep the water quality provisions effective for the life of the development.

(f) **Site Plan and Narrative Description.** The Post-Development Runoff Plan shall include a site plan and a narrative description addressing, at a minimum, the following required components:

i. A California-licensed professional (e.g., Registered Professional Civil Engineer, Geotechnical Engineer, Geologist, Engineering Geologist, Hydrogeologist, or Landscape Architect) qualified to complete this work shall be in responsible charge of preparing the Post-Development Runoff Plan.

ii. A site plan, drawn to scale, showing the property boundaries, building footprint, runoff flow directions, relevant drainage features, structural BMPs, impervious surfaces, permeable pavements, and landscaped areas.

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iii. An estimate of the proposed changes in (1) impervious surface areas on the site, including pre-project and post-project impervious coverage area and the percentage of the property covered by impervious surfaces; (2) the amount of impervious areas that drain directly into the storm drain system without first flowing across permeable areas; and (3) site coverage with permeable or semi-permeable pavements.

iv. A polluted runoff and hydrologic characterization of the existing site (e.g., potential pollutants in runoff, soil properties, infiltration rate, depth to groundwater, and the location and extent of confining layers such as bedrock), as necessary to design the proposed BMPs.

v. A description of the BMPs that will be implemented, and the Low Impact Development approach to stormwater management that will be used. Specify the number, location, size, design, and stormwater management function of all BMPs. Include a schedule for installation or implementation of all post-development BMPs.

vi. Supporting calculations demonstrating that all required Runoff Control and Treatment Control BMPs shall be sized, designed, and managed to infiltrate, retain, or treat, at a minimum, the runoff produced by the 85th percentile 24-hour storm event for volume-based BMPs, or the 85th percentile 1-hour storm event (multiplied by a safety factor of two) for flow-based BMPs, to the extent appropriate and feasible, for the portions of the project site that are determined to not already be able to infiltrate the volume produced by an 85th percentile 24-hour storm event. Indicate the values used in the calculations, and the source of data for each variable.

vii. For the portions of the project site where the 85th percentile 24-hour design storm runoff volume cannot be retained on site using an LID approach, an alternatives analysis shall demonstrate that no feasible alternative project design would substantially improve runoff retention.

viii. Runoff from all new and replaced impervious and semi-pervious surfaces shall be addressed in the plan. For sites where the area of new and replaced impervious and semi-pervious surfaces is greater than or equal to 50% of the pre-existing impervious and semi-pervious surfaces, runoff from the entire developed area, including the pre-existing surfaces, shall be addressed in the plan.

ix. A description and schedule for the ongoing management of all post-development BMPs, including operation, maintenance, inspection, and staff training, that will be performed for the life of the development, if required for the BMPs to function properly.

The permittee shall undertake development in accordance with the approved Post-Development Runoff Plan, unless the Commission amends this permit or

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the Executive Director determines issues a written determination that no amendment is legally required for any proposed minor deviations.

10. Assumption of Risk, Waiver of Liability, and Indemnity.

By acceptance of this permit, the permittee acknowledges and agrees (i) that the site may be subject to hazards, including but not limited to waves, storms, and flooding, many of which will worsen with future sea level rise; (ii) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury of damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

11. Other Permits

PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittee shall provide to the Executive Director a copy of all other necessary State, Federal, and local permits that may be necessary for all aspects of the proposed project, including from the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, California State Lands Commission, Regional Water Quality Control Board, and the U.S. Army Corps of Engineers. The permittee shall inform the Executive Director of any changes to the project required by the agency. Such changes may not be incorporated into the project until the permittee obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required for any proposed minor deviations.

Reference Copy
74984

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Signing Complete	Security Checked	3/8/2023 2:16:39 PM
Completed	Security Checked	3/9/2023 12:00:35 PM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

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From time to time, Coastal Commission, California (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through the DocuSign system. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to this Electronic Record and Signature Disclosure (ERSD), please confirm your agreement by selecting the check-box next to 'I agree to use electronic records and signatures' before clicking 'CONTINUE' within the DocuSign system.

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At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. You will have the ability to download and print documents we send to you through the DocuSign system during and immediately after the signing session and, if you elect to create a DocuSign account, you may access the documents for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a $0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

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If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

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If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. Further, you will no longer be able to use the DocuSign system to receive required notices and consents electronically from us or to sign electronically documents from us.

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Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

How to contact Coastal Commission, California:

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:
To contact us by email send messages to: don.davis@water.ca.gov

To advise Coastal Commission, California of your new email address

To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at don.davis@water.ca.gov and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

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To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an email to don.davis@water.ca.gov and in the body of such request you must state your email address, full name, mailing address, and telephone number. We will bill you for any fees at that time, if any.

To withdraw your consent with Coastal Commission, California

To inform us that you no longer wish to receive future notices and disclosures in electronic format you may:

i. decline to sign a document from within your signing session, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;

ii. send us an email to don.davis@water.ca.gov and in the body of such request you must state your email, full name, mailing address, and telephone number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

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The minimum system requirements for using the DocuSign system may change over time. The current system requirements are found here: https://support.docusign.com/guides/signer-guide-signing-system-requirements.

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To confirm to us that you can access this information electronically, which will be similar to other electronic notices and disclosures that we will provide to you, please confirm that you have read this ERSD, and (i) that you are able to print on paper or electronically save this ERSD for your future reference and access; or (ii) that you are able to email this ERSD to an email address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format as described herein, then select the check-box next to 'I agree to use electronic records and signatures' before clicking 'CONTINUE' within the DocuSign system.

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- You can access and read this Electronic Record and Signature Disclosure; and
- You can print on paper this Electronic Record and Signature Disclosure, or save or send this Electronic Record and Disclosure to a location where you can print it, for future reference and access; and
- Until or unless you notify Coastal Commission, California as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by Coastal Commission, California during the course of your relationship with Coastal Commission, California.

Appendix F

f. Contamination and Toxic Substances

1. Geotracker
    i. Navy Broadway Complex Project
2. EnviroStor
3. Hazardous Building Materials Survey Update, dated July 18, 2023.

Hazardous Building Materials Survey Update

Former Navy Pier Head House
960 North Harbor Drive
San Diego, California

RICK Engineering Company

5620 Friars Road | San Diego, California 92110

December 7, 2022 | Project No. 108410002

Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

December 7, 2022
Project No. 108410002

Mr. Nick Dorner, PE
RICK Engineering Company
Public Works – Transportation Division
Associate
5620 Friars Road
San Diego, California 92110

Subject: Hazardous Building Materials Survey Update
Former Navy Pier Head House
960 North Harbor Drive
San Diego, California

References: Ninyo & Moore, 2017, Hazardous Building Materials Survey Update, Former Navy Pier Head House, 960 North Harbor Drive, San Diego, California: dated October 27.

Andersen Environmental, 2012, Asbestos, Lead & Hazardous Materials Update Assessment Report, Former Navy Pier Head House (Building 11), 960 N. Harbor Drive, San Diego, California: dated January 6.

TRC Solutions, Inc., 2007, Hazardous Materials Survey Report, Navy Pier Building 11A, Port of San Diego, California: dated August 30.

Dear Mr. Dorner:

In accordance with your request, Ninyo & Moore has performed a hazardous building materials (HBM) survey update for the former Navy Pier Head House Building (subject building) located in San Diego, California. It is our understanding that the subject building is slated for demolition. The attached report presents our methodology, findings, and recommendations regarding the HBM at the subject building.

Sincerely,

NINYO & MOORE

Nicolas J. Carpenter, CAC# 12-4867/LRC-00005078
Senior Environmental Scientist
NJC

Distribution: (1) Addressee (via e-mail)

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1 INTRODUCTION

Ninyo & Moore has conducted an HBM survey update for the subject building addressed 960 N. Harbor Drive, within the City and County of San Diego, California (Figure 1). Our services included review of the prior hazardous building materials survey reports, a supplemental asbestos-containing materials (ACM) survey, a supplemental lead-containing surfaces (LCS) survey, and visual identification and quantification of building materials potentially falling under the California Department of Toxic Substances Control (DTSC) Universal Waste Rule (UWR) and other potential hazardous building materials.

The purpose of this survey update is to assess changes in site conditions, quantities, and/or locations of the materials and/or surfaces in the subject building previously sampled and/or tested in the 2007 TRC Solutions, 2012 Andersen Environmental, and 2017 Ninyo & Moore survey reports referenced in our opening letter, and to identify any other hazardous building materials that may be impacted by proposed demolition activities. For the purposes of this assessment, LCS refers to both lead-based paint, as defined by the California Department of Public Health (CDPH) and U.S. Department of Housing and Urban Development (HUD), and other potential lead-containing materials, including, but not limited to, ceramic tile and porcelain bathroom fixtures.

The survey update was performed in accordance with established guidelines for the assessment of ACM and LCS, and is based upon conditions of the subject building at the time of the surveying/assessment update activities.

2 OBJECTIVE AND SCOPE OF SERVICES

The purpose of this report is to provide information regarding the current site conditions to assist RICK in implementing future demolition of the subject building. Our scope of work performed for the study is identified below.

- Reviewed previously prepared survey reports for the subject building in order to incorporate prior survey data into this report.
- Conducted a visual reconnaissance of the subject building to document homogeneous areas and locate suspect ACM, LCS, building materials potentially falling under the UWR, and other potential hazardous building materials.
- Inspected the subject building for the presence or absence of previously identified asbestos-containing materials.

- Re-assessed condition of previously identified LCS.
- Visually assessed building materials potentially falling under the UWR, including, but not limited to non-incandescent light bulbs, mercury-containing thermostat triggers, batteries, and electronic devices. Other potentially hazardous building materials, including, but not limited to, potential polychlorinated biphenyl-containing light ballasts, potential tritium-containing exit signs, potential americium-containing smoke detectors, and potential Freon™-containing air conditioning units and refrigerators, were noted, if observed.
- Prepared this report presenting our data and summarizing our findings and recommendations regarding ACM, LCS, and other potential hazardous building materials for the subject building.

3 SITE DESCRIPTION

The survey encompassed the Head House Building at the Former Navy Pier. The building is located at 960 N. Harbor Drive, in the City of San Diego, California (Figures 2-6). The building construction consists of concrete slab foundation on an inner mole pier/pile cup support system on wharf sections, poured in place concrete columns and floors supported by steel framing and girder system. The following table describes the building assessed during our assessment.

Bldg. ID No.	Bldg. No.	Building Use	Year Built	Approx. SF	Roof Const.	Ext. Wall Finishes	Int. Ceiling Finishes	Int. Wall Finishes	Int. Floor Finishes
Navy Pier Head House	11	Offices	1941	1,000,000	BURM	C, S, TP	ACP, ACT, C, DW, P	C, CB, CT, DW, P, T	C, CT, CPT, L, T, VFT

NOTES:
ACT = Acoustic ceiling tile
BURM = Built-up roofing membrane
C = Concrete
CB = Covebase (vinyl)
CPT = Carpet
CT = Ceramic tile
DW = Drywall
L = Linoleum
P = Plaster
RM = Remnant mastic
S = Stucco
T = Terrazzo
TP = Transite panel
VFT = Vinyl floor tile
L = Linoleum
W = Wood

4 PHYSICAL LIMITATIONS

Survey activities were limited to the locations identified in the design scope documents and the materials likely to be affected by the demolition activities. Underground utilities, such as suspect cementitious water lines or suspect insulated/coated gas or electrical lines were not assessed during survey activities.

Physical limitations, such as inaccessible rooms or spaces, were generally not encountered during survey activities. However, since non-destructive sampling techniques were used, there is a possibility that additional suspect materials and/or surfaces may be encountered in inaccessible areas (e.g., interstitial wall spaces) during building renovation and/or demolition activities. For instance, untested thermal system insulation may be present within wall cavities and/or behind plumbing and heating fixtures (e.g., sinks, boilers, and radiators). Suspect

materials and/or surfaces encountered during building renovation and/or demolition activities that have not been assessed either may be assumed to be asbestos- and/or lead-containing and handled accordingly, or may be sampled and analyzed to assess whether they are asbestos- and/or lead-containing.

5 FINDINGS AND RECOMMENDATIONS

In October 2022, the subject building was re-assessed for the presence of ACM, LCS, and other potential hazardous building materials. The ACM and LCS investigation findings are based on our visual observations and analysis of suspect building materials/surfaces. Our findings are presented below.

5.1 Asbestos-Containing Materials

Ninyo & Moore reviewed the 2007 TRC Solutions, 2012 Andersen Environmental, 2017 Ninyo & Moore survey reports for the subject building. The purpose of the review was to obtain information on the materials sampled in the subject building to date. Copies of the prior survey reports are included in Appendix F. Ninyo & Moore's objective was to re-assess the condition of surfaces found to be asbestos-containing in the prior investigations to determine if surface conditions had changed or worsened.

Based on the analytical results from the previous surveys, ACM are located in the subject building and are summarized in Table 2. Currently, the EPA and the State of California stipulate that materials containing greater than 1% asbestos constitute ACM. Materials that were not sampled and analyzed as part of this assessment and that are uniform in color, texture, construction or application date, and/or general appearance to materials found to be asbestos-containing, should also be assumed to be asbestos-containing.

The identified ACM should not be disturbed by unauthorized personnel. Prior to building demolition activities, a licensed asbestos abatement contractor should remove the ACM in accordance with federal, state, and local regulations**. It is the contractor's responsibility to confirm ACM locations and quantities prior to bid submittals and prior to initiating demolition activities for the subject building.**

Should additional suspect materials, not sampled or assessed in this report, be uncovered during building demolition: (a) samples of suspect materials should be collected for laboratory analysis, and all activities that may impact the materials should cease until laboratory analytical results are reviewed; or (b) the materials should be assumed to be asbestos-containing and handled as such. Note that any work involving the disturbance of materials containing asbestos

should be performed using appropriate work practices and be conducted by, and under the supervision of, properly trained, experienced, and certified personnel.

5.2 Lead-Containing Surfaces

Ninyo & Moore reviewed the 2007 TRC Solutions, 2012 Andersen Environmental, and 2017 Ninyo & Moore survey reports, to obtain information on the surfaces tested for the presence of lead in the subject buildings (Appendix E). Ninyo & Moore's objective was to re-assess the condition of surfaces found to be lead-containing in the prior investigations to determine if surface conditions had changed or worsened. For the purposes of this assessment, LCS refers to both lead-based paint, as defined by CDPH and HUD, and other potential lead-containing materials, including, but not limited to, ceramic tile and porcelain bathroom fixtures.

Based on the results of the XRF assays collected during the previous surveys, surfaces containing concentrations of lead greater than or equal to 1.0 mg/cm^2, or 0.5% by weight, were identified in the subject building. In addition, surfaces containing concentrations of lead between 0.5 and 1.0 mg/cm^2 were also identified in the subject building, which are depicted in italicized text in Table 3. To comply with City of San Diego Ordinance 19732, "lead-safe work practices," as described in the ordinance, should be used when these surfaces are disturbed during abatement activities. Surfaces with a lead content exceeding the regulatory standards for lead in surface coatings are summarized in Table 4.

Please note that disturbing surfaces containing lead concentrations below the LCS criteria, as defined by HUD and CDPH, (e.g., lead concentrations less than 1.0 mg/cm^2, or 0.5% by weight) may still trigger the California Occupational Safety and Health Administration (Cal-OSHA) lead in construction standard (Title 8 California Code of Regulations Section 1532.1).

The identified LCS should not be disturbed by unauthorized personnel. Prior to building demolition activities, a licensed abatement contractor should remove the LCS in accordance with federal, state, and local regulations**. It is the contractor's responsibility to confirm LCS locations and quantities prior to bid submittals and prior to initiating demolition activities for the subject building**. In addition, please note that LCS condition was based upon Ninyo & Moore's visual observations during assessment activities and that LCS conditions may further deteriorate prior to demolition activities.

Should suspect surfaces, not tested or assessed in this report, be uncovered during building renovation and/or demolition: (a) XRF testing of the surfaces should occur and all activities that impact the suspect surfaces should cease until XRF testing results become available; (b) paint chip or bulk samples of suspect surfaces should be collected for laboratory analysis and all activities that impact the suspect surfaces should cease until laboratory analytical results are

reviewed; or (c) the surfaces should be assumed to contain concentrations of lead greater than or equal to 1.0 mg/cm^2, or 0.5% by weight, and handled as such. Note that any work involving the disturbance of surfaces containing lead should be performed using appropriate work practices and be conducted by, and under the supervision of, properly trained, experienced, and certified personnel.

5.3 Other Potential Hazardous Building Materials

Ninyo & Moore performed a visual assessment of building materials potentially falling under the UWR, including, but not limited to non-incandescent light bulbs, mercury-containing thermostat triggers, batteries, and electronic devices. Other potentially hazardous building materials, including, but not limited to, potential polychlorinated biphenyl-containing light ballasts, potential tritium-containing exit signs, potential americium-containing smoke detectors, and potential Freon-containing air conditioning units and refrigerators, were noted, if observed. For the purposes of this assessment, “Freon” refers to both Freon^{TM}, the brand-name refrigerants and aerosols produced by The Chemours Company, and other halocarbon/fluorocarbon refrigerants. **In accordance with the scope of work, positive identification of these suspect hazardous materials, via analytical testing, was not performed.** Other potentially hazardous building materials are summarized in Table 5.

Prior to demolition activities that could potentially disturb these materials, building materials falling under the UWR and other potential hazardous building materials should be removed and properly recycled or disposed of by a licensed contractor in accordance with federal, state, and local regulations. **It is the contractor’s responsibility to confirm miscellaneous hazardous building materials quantities and locations present prior to bid submittals and initiating demolition activities for the subject building.** The Contractor is also responsible for waste characterization for all materials removed from the subject building.

5.4 Microbial and Biological Hazards

A large water leak from an undetermined source has caused extensive damage to ceiling materials on all floors and has resulted in a severe microbial hazard with black mold observed in many areas. In addition, visible biological contamination including bird and rodent feces were observed in the subject building. Further characterization of this condition is recommended prior to hazardous materials abatement. An assessment should be conducted to identify the types and scope of biological contamination and to identify the special conditions and controls that may be required for cleanup and verification of adequate removal of these materials. This may require a specification describing the biological contamination evaluation and methodology intended to clean the premises and a post-abatement assessment to document post-abatement

conditions relative to mold and other biological contaminants and water-impacted building materials that could harbor mold growth.

5.5 Condition Assessment

During our site assessment in October 2022, Ninyo & Moore observed continued deterioration of building materials throughout the subject building, both hazardous and non-hazardous. The water leak does not appear to have been fixed and is likely coming from the roof. Although significant rain events are infrequent in San Diego County, water intrusion is the primary cause of the deterioration of the interior of the subject building and also the continuation of microbial growth. As the subject building has fallen into disrepair, bird and rodent habitation and intrusion has also increased causing further biological contamination. Ceiling, wall, and flooring materials identified as ACM and/or LCS have collapsed, fallen, or become detached from substrate materials throughout the building causing asbestos and/or lead contamination of otherwise non-hazardous building materials. Due to the conditions mentioned above, Ninyo & Moore highly recommends the use of respiratory protection and protective clothing for any personnel entering the building, in accordance with a written Respiratory Protection Plan. A photograph log of the current site conditions has been included in Attachment G.

6 LIMITATIONS

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited sampling and chemical analysis. Further assessment of potential adverse environmental impacts may be accomplished by conducting a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area evaluated. However, if additional suspect building materials are encountered during renovation and/or demolition activities, these materials should be sampled by qualified personnel, and analyzed for content prior to further disturbance. In addition, please note that quantities of impacted building materials are approximate. It is the contractor’s responsibility to confirm quantities present.

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard of care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

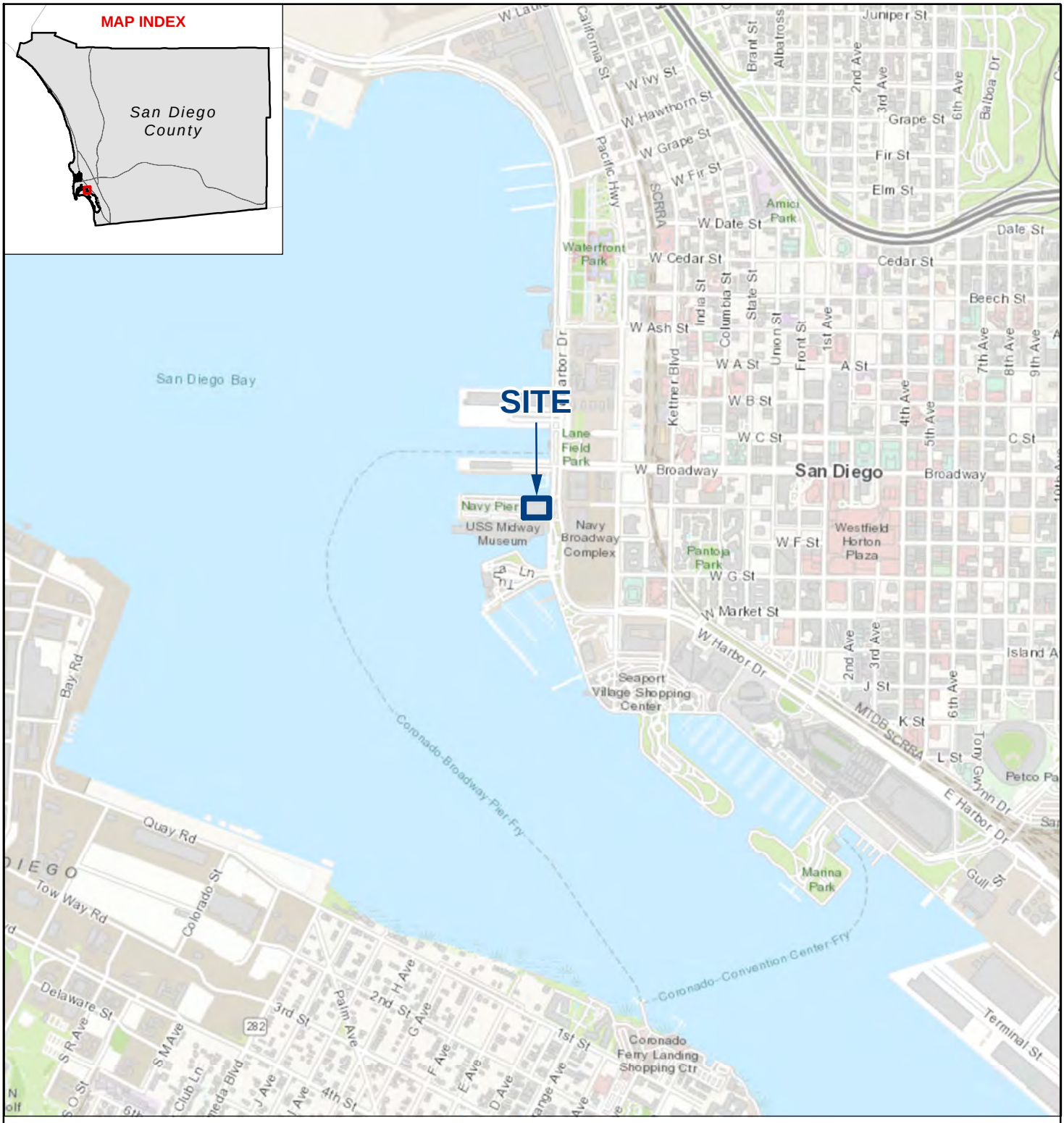
This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should

be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory that is certified by the State of California to conduct such tests. Ninyo & Moore is not involved in, nor has control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results. Please note the laboratory analytical report states “Due to the magnification limitations inherent in PLM, asbestos fibers below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testings by transmission electron microscopy to confirm asbestos quantities.”

Our findings, opinions, and recommendations are based on an analysis of the observed site conditions. It should be understood that the conditions of the site can change with time as a result of natural processes or the activities of humans at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

FIGURES



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCE: ESRI WORLD TOPO, 2017

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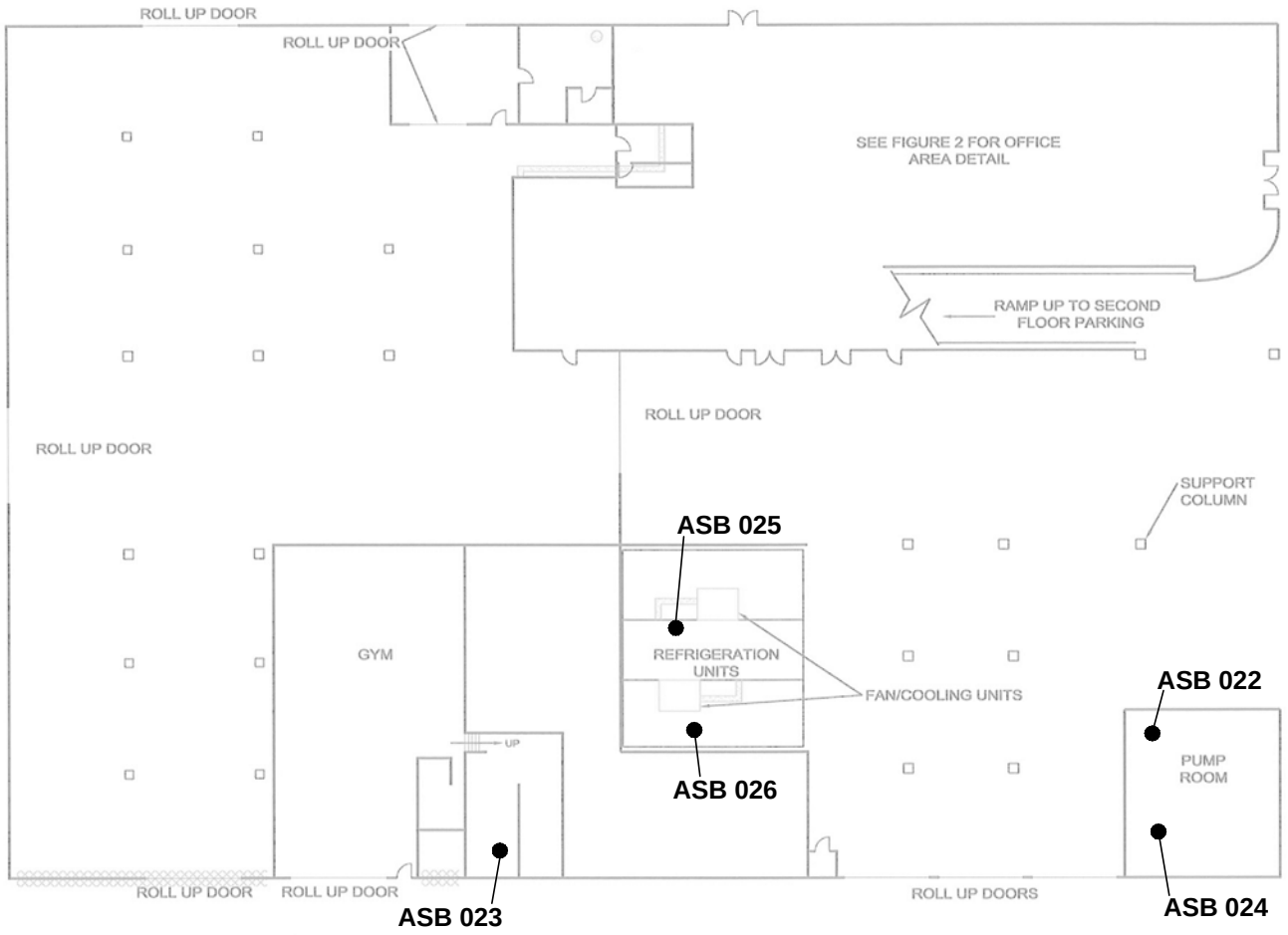
FIGURE 1

SITE LOCATION

NAVY PIER HEAD HOUSE
960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 | 12/22

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants



LEGEND

● **ASB 026** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

N

FEET

0 40 80

2 108410001 SPL 1ST.DWG

FIGURE 2

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 1ST FLOOR

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

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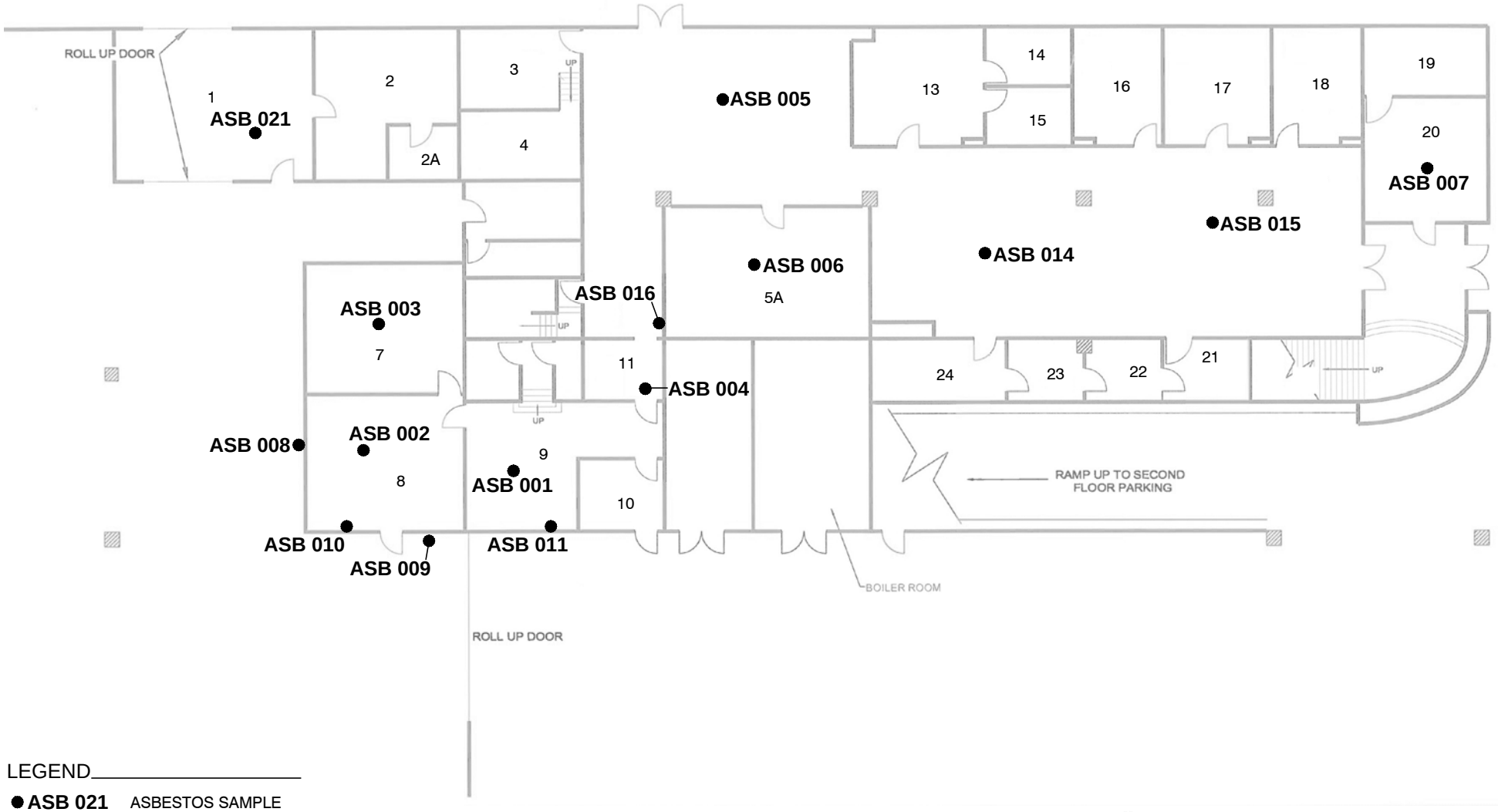

LEGEND

● **ASB 021** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

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3 108410001 SPL 1ST OFFICES.DWG

FIGURE 3

Ninyo & Moore

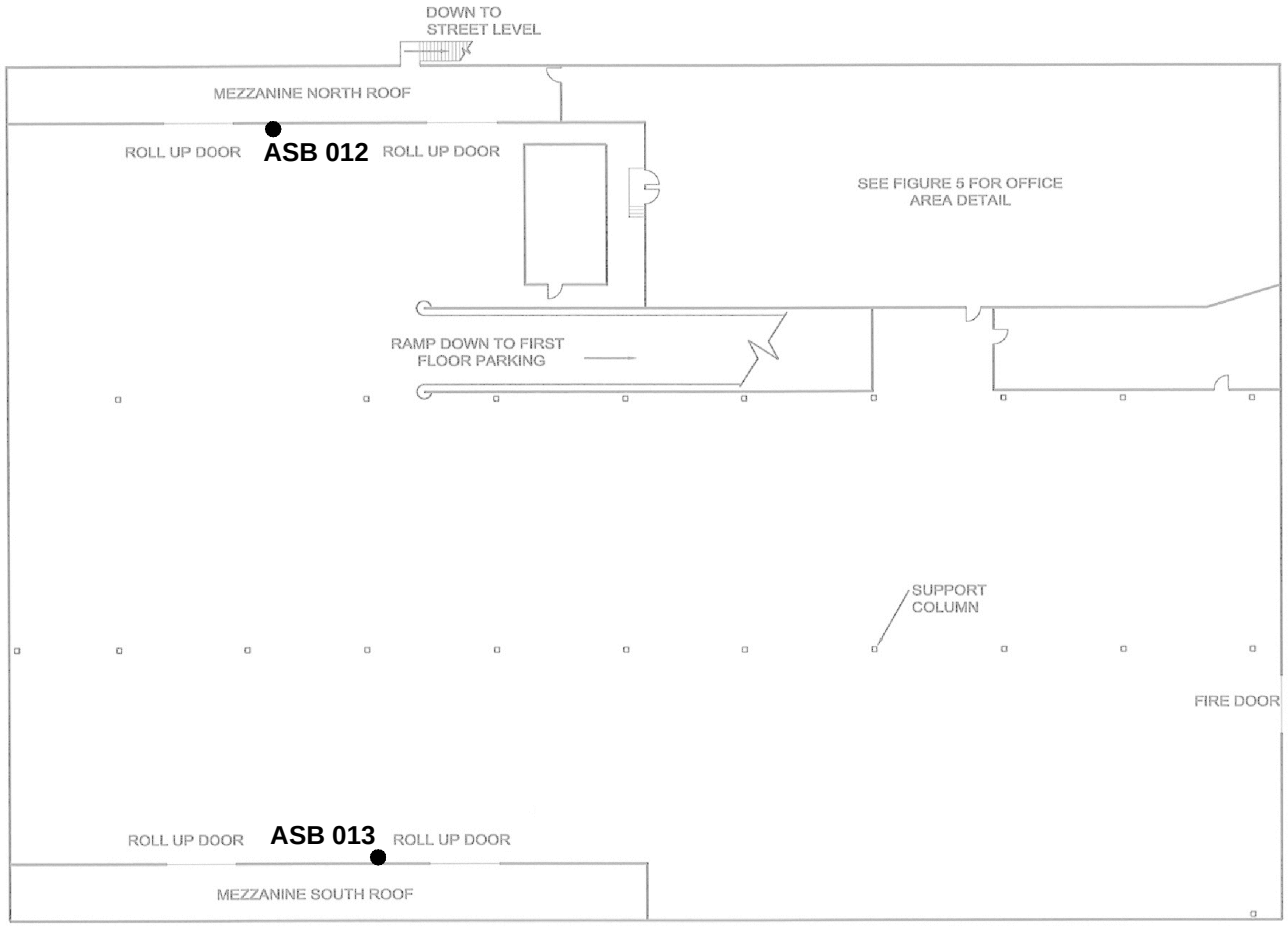
Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 1ST FLOOR OFFICES

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 12/22



LEGEND

● **ASB 013** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

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FIGURE 4

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 2ND FLOOR

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

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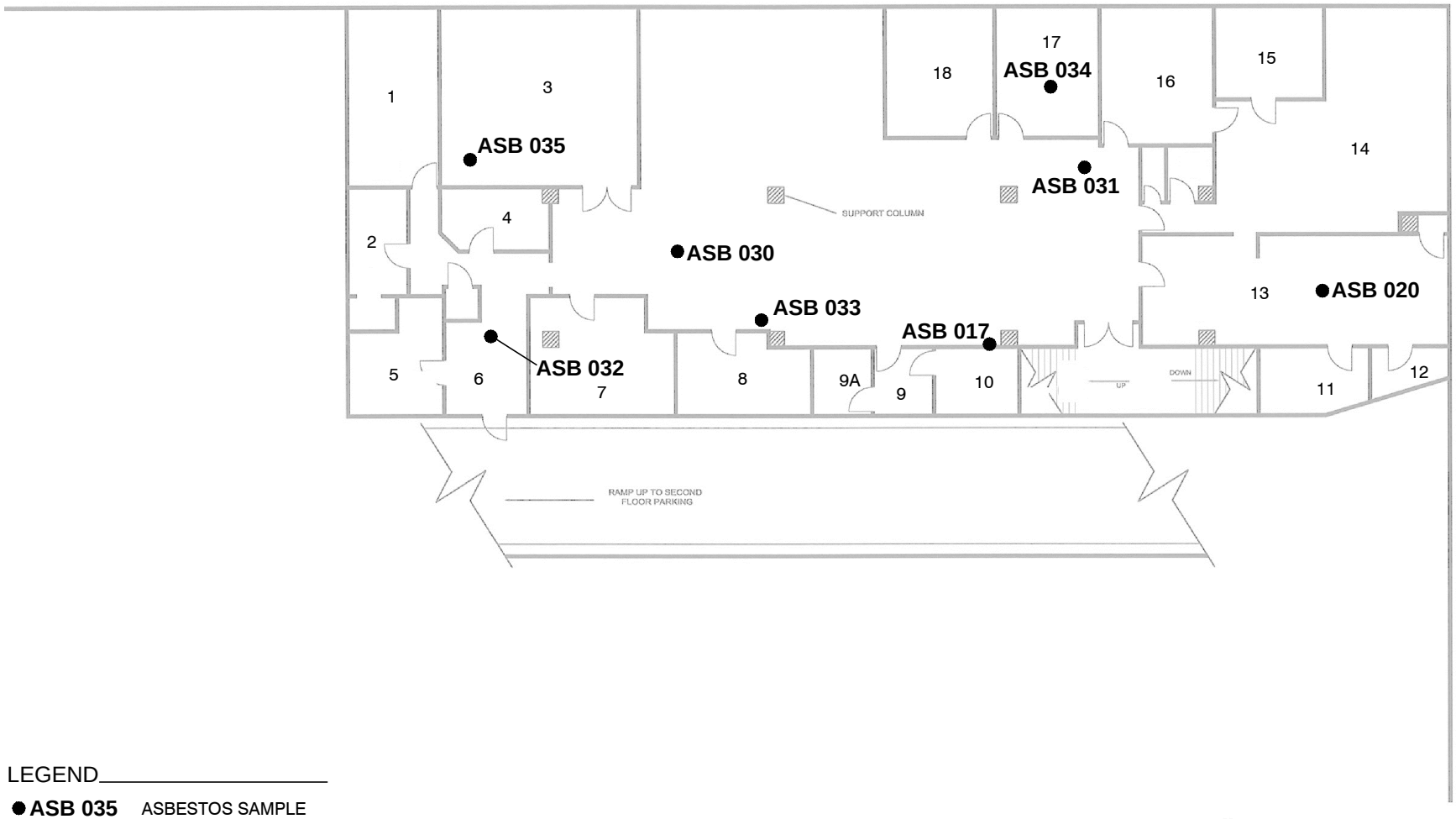

LEGEND

● **ASB 035** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

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FEET

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5 108410001 SPL 2ND OFFICE.DWG

FIGURE 5

Ninyo & Moore

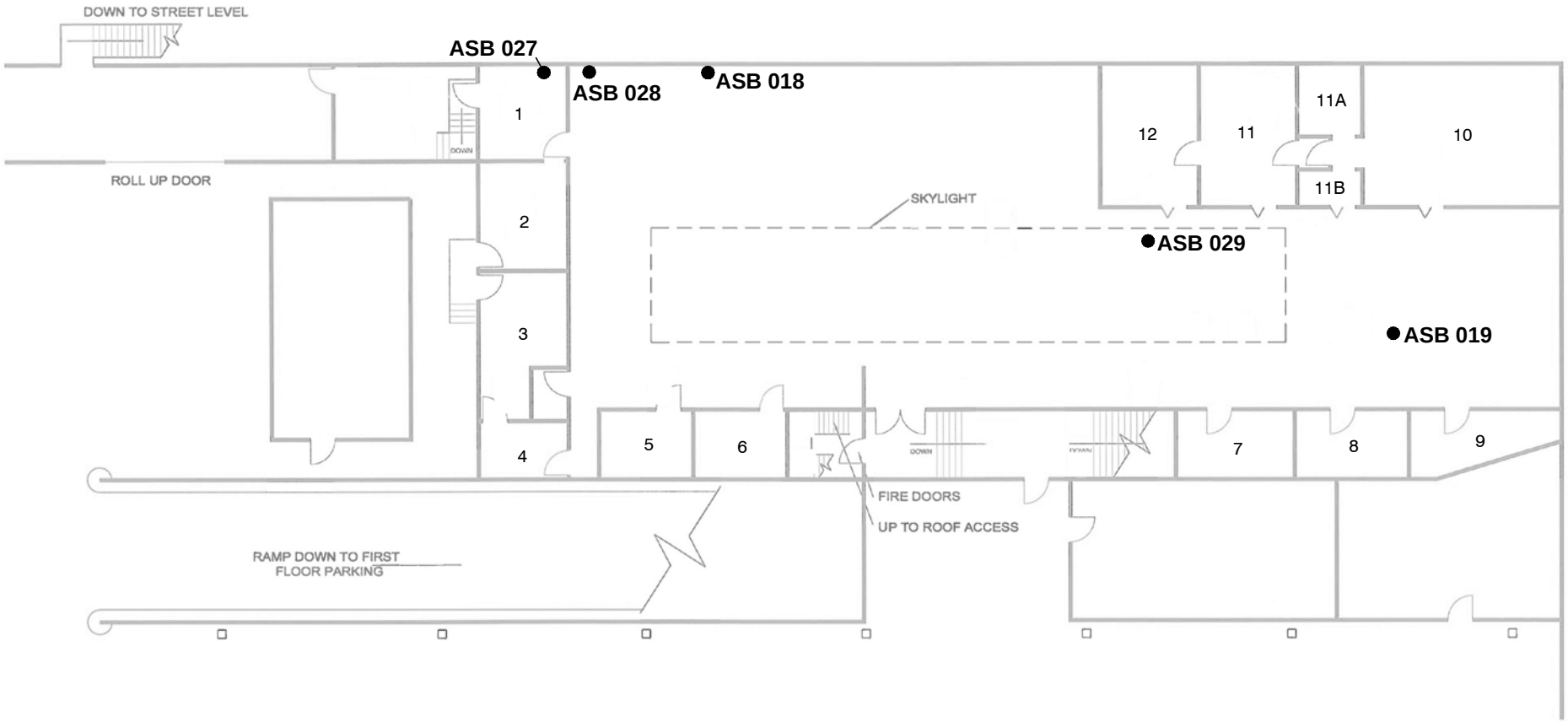
Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 2ND FLOOR OFFICES

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 12/22



LEGEND

● **ASB 029** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

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FEET

0 20 40

FIGURE 6

SAMPLE LOCATIONS - 3RD FLOOR

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 12/22

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

6 108410001 SPL 3RD.DWG

TABLES

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity (1)	Friable Y/N	Condition	Asbestos Content
ASB-001	Navy	7	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-001A	Navy	7	Central floor	Beige vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-001B	Navy	7	Central floor	Yellow mastic associated with ASB-001A	--	N/A	N/A	ND
ASB-001C	**Navy**	**7**	**Central floor**	**Brown vinyl floor tile, layer 2**	**14,175 - 17,325 SF**	**N**	**Fair**	**6% chrysotile**
ASB-001D	**Navy**	**7**	**Central floor**	**Black mastic associated with ASB-001C**	**14,175 - 17,325 SF**	**N**	**Fair**	**3% chrysotile**
ASB-002	Navy	8	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-002A	Navy	8	Central floor	Beige vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-002B	Navy	8	Central floor	Yellow mastic associated with ASB-002A	--	N/A	N/A	ND
ASB-002C	**Navy**	**8**	**Central floor**	**Brown vinyl floor tile, layer 2**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-002D	Navy	8	Central floor	Black mastic associated with ASB-002C	--	N/A	N/A	ND
ASB-003	Navy	9	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-003A	Navy	9	Central floor	Beige vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-003B	Navy	9	Central floor	Yellow mastic associated with ASB-003A	--	N/A	N/A	ND
ASB-003C	**Navy**	**9**	**Central floor**	**Brown vinyl floor tile, layer 2**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-003D	Navy	9	Central floor	Black mastic associated with ASB-003C	--	N/A	N/A	ND
ASB-004	Navy	11	Southeast floor	Beige sheet vinyl flooring	--	N/A	N/A	ND
ASB-004A	Navy	11	Southeast floor	Yellow mastic associated with ASB-004A	--	N/A	N/A	ND
ASB-004B	Navy	11	Southeast floor	Beige vinyl floor tile	--	N/A	N/A	ND
ASB-004C	Navy	11	Southeast floor	Yellow mastic associated with ASB-004B	--	N/A	N/A	ND
ASB-005	Navy	1st Main	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-005A	**Navy**	**1st Main**	**Central floor**	**Brown vinyl floor tile**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity (1)	Friable Y/N	Condition	Asbestos Content
ASB-005B	Navy	1st Main	Central floor	Black mastic associated with ASB-005A	--	N/A	N/A	ND
ASB-006	Navy	12	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-006A	**Navy**	**12**	**Central floor**	**Brown vinyl floor tile**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-006B	Navy	12	Central floor	Black mastic associated with ASB-006A	--	N/A	N/A	ND
ASB-007	Navy	20	Southwest floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-007A	**Navy**	**20**	**Southwest floor**	**Brown vinyl floor tile**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-007B	Navy	20	Southwest floor	Black mastic associated with ASB-007A	--	N/A	N/A	ND
ASB-008	Navy	Exterior	Southwest windows (1st Floor)	White window putty	--	N/A	N/A	ND
ASB-009	Navy	Exterior	Southwest windows (1st Floor)	White window putty	--	N/A	N/A	ND
ASB-010	Navy	Interior	Southwest windows (1st Floor)	Gray window putty	--	N/A	N/A	ND
ASB-011	Navy	Interior	Southwest windows (1st Floor)	Gray window putty	--	N/A	N/A	ND
ASB-012	Navy	Exterior	Northwest windows (2nd Floor)	Gray window putty	--	N/A	N/A	ND
ASB-013	Navy	Exterior	Southwest windows (2nd Floor)	Gray window putty	--	N/A	N/A	ND
ASB-014	Navy	1st Main	Central debris pile	12"x12" brown/white acoustic ceiling tile	--	N/A	N/A	ND
ASB-014A	Navy	1st Main	Central debris pile	Brown mastic associated with ASB-014	--	N/A	N/A	ND
ASB-015	Navy	1st Main	Central debris pile	12"x12" brown/white acoustic ceiling tile	--	N/A	N/A	ND
ASB-015A	Navy	1st Main	Central debris pile	Brown mastic associated with ASB-015	--	N/A	N/A	ND
ASB-016	Navy	1st Main	Southwest wall	Brown covebase mastic	--	N/A	N/A	ND
ASB-017	Navy	2nd Main	South middle wall	Brown covebase mastic	--	N/A	N/A	ND
ASB-018	Navy	3rd Main	Northwest wall	Brown covebase mastic	--	N/A	N/A	ND
ASB-019	Navy	3rd Main	Southeast ceiling	Brown mastic associated with acoustic ceiling tile	--	N/A	N/A	ND
ASB-020	Navy	13	Southeast ceiling	Brown mastic associated with acoustic ceiling tile	--	N/A	N/A	ND

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity (1)	Friable Y/N	Condition	Asbestos Content
ASB-021	Navy	1	Southeast floor	12"x12" blue vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-021A	Navy	1	Southeast floor	Black mastic associated with ASB-021	--	N/A	N/A	ND
ASB-021B	**Navy**	**1**	**Southeast floor**	**Tan vinyl floor tile, layer 2**	**See ASB-001C**	**N**	**Fair**	**4% chrysotile**
ASB-021C	Navy	1	Southeast floor	Black mastic associated with ASB-021B	--	N/A	N/A	ND
ASB-021D	Navy	1	Southeast floor	Gray leveling compound	--	N/A	N/A	ND
ASB-022	**Navy**	**Pump**	**Northwest transformer**	**Gray electrical box**	**5-10 SF**	**N**	**Damaged**	**10% chrysotile**
ASB-023	Navy	Gym Office	Southwest metal grate	12"x12" blue vinyl floor tile	--	N/A	N/A	ND
ASB-023A	Navy	Gym Office	Southwest metal grate	Yellow mastic associated with ASB-023	--	N/A	N/A	ND
ASB-024	Navy	Pump	Northwest lower wall	White sluice grate gasket	--	N/A	N/A	ND
ASB-025	Navy	Refridge	Southwest wall panel, at seam	White metal panel sealant	--	N/A	N/A	ND
ASB-026	**Navy**	**Refridge**	**South middle pipe**	**White TSI pipe insulation**	**6,750 - 8,250 LF**	**Y**	**Fair**	**15% amosite**
ASB-027	Navy	3	Northeast floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-027A	**Navy**	**3**	**Northeast floor**	**12"x12" beige vinyl floor tile, layer 1**	**5,785 - 7,070 SF**	**N**	**Fair**	**2% chrysotile**
ASB-027B	**Navy**	**3**	**Northeast floor**	**Black mastic associated with ASB-27A**	**5,785 - 7,070 SF**	**N**	**Fair**	**4% chrysotile**
ASB-027C	**Navy**	**3**	**Northeast floor**	**9"x9" brown vinyl floor tile, layer 2**	**See ASB-027A**	**N**	**Fair**	**10% chrysotile**
ASB-027D	Navy	2	Northeast floor	Black mastic associated with ASB-027C	--	N/A	N/A	ND
ASB-028	**Navy**	**3rd Main**	**Northwest pipe**	**White TSI pipe insulation**	**See ASB-026**	**Y**	**Fair**	**10% chrysotile**
ASB-029	Navy	3rd Main	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-029A	**Navy**	**3rd Main**	**Central floor**	**9"x9" brown vinyl floor tile**	**See ASB-027A**	**N**	**Fair**	**12% chrysotile**
ASB-029B	Navy	3rd Main	Central floor	Black mastic associated with ASB-027A	--	N/A	N/A	ND

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity (1)	Friable Y/N	Condition	Asbestos Content
ASB-030	Navy	2nd Main	East central floor	Yellow/black carpet mastic	--	N/A	N/A	ND
ASB-031	Navy	2nd Main	West central floor	Yellow/black carpet mastic	--	N/A	N/A	ND
ASB-032	Navy	6	North middle floor	12"x12" black vinyl floor tile	--	N/A	N/A	ND
ASB-032A	Navy	6	North middle floor	Black mastic associated with ASB-032	--	N/A	N/A	ND
ASB-033	**Navy**	**2nd Main**	**Southwest pipe**	**White TSI pipe insulation**	**See ASB-028A**	**Y**	**Fair**	**8% amosite, 4% chrysotile**
ASB-034	Navy	17	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-034A	**Navy**	**17**	**Central floor**	**9"x9" brown vinyl floor tile**	**9,100 - 11,110 SF**	**N**	**Fair**	**12% chrysotile**
ASB-034B	Navy	17	Central floor	Black mastic associated with ASB-034A	--	N/A	N/A	ND
ASB-035	Navy	3	Southwest floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-035A	**Navy**	**3**	**Southwest floor**	**9"x9" brown vinyl floor tile**	**See ASB-034A**	**N**	**Fair**	**12% chrysotile**
ASB-035B	Navy	3	Southwest floor	Black mastic associated with ASB-035A	--	N/A	N/A	ND

NOTES:

Bulk asbestos sample analysis via USEPA 600/R-93/116 method using polarized light microscopy, unless otherwise noted.

(1) = Material quantities are approximate and have a 20% contingency range represented where appropriate.

LF = Linear feet

SF = Square feet

N/A = Not applicable

ND = None detected

Table 2 - Summary of Asbestos-Containing Materials

Sample No.(s)	ACM Location [1]	ACM Description	Approx. Quantity [2]	Friable Y/N	Condition	Asbestos Content
ASB-001C, ASB-001D, ASB-002C, ASB-003C, ASB-005A, ASB-006A, ASB-007A, ASB-021B, and Previous Survey Results	1st Floor: Rooms 1, 3, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, and Main - floors throughout	Various vinyl floor tile and associated mastic - multiple layers of tile under carpet in many areas	14,175 - 17,325 SF	N	Fair	3-10% chrysotile
ASB-022	1st Floor: Pump Room - Northwest transformer	Transite electrical box insulation	5-10 SF	N	Damaged	10% chrysotile
ASB-032, ASB-034A, ASB-035A, and Previous Survey Results	2nd Floor: Rooms 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, and 18 - floors throughout	Various vinyl floor tile and associated mastic - multiple layers of tile under carpet in many areas	9,100 - 11,110 SF	N	Fair	3-12% chrysotile
ASB-027A, ASB-027B, ASB-027C, ASB-029A, and Previous Survey Results	3rd Floor: Rooms 1, 2, 3, 4, 5, 6, 10, 11, 12, and Main - floors throughout	Various vinyl floor tile and associated mastic - multiple layers of tile under carpet in many areas	5,785 - 7,070 SF	N	Fair	2-12% chrysotile
Previous Survey Results	All Floors: Northwest and Southwest exterior walls	Corrugated transite wall panels	2,250 - 2,750 SF	N	Fair	55% chrysotile
ASB-026, ASB-028, ASB-033, and Previous Survey Results	All Floors: Crawl spaces, above ceiling grid, and interstitial wall spaces, also including above/within refrigeration units, boiler room, and parking garage.	Mudded thermal system insulation pipe risers, elbows, fittings, tanks, etc.	6,750 - 8,250 LF	Y	Fair	4-40% chrysotile, 8-15% amosite
Previous Survey Results	All Floors: Extending from boiler room to roof	Transite flue pipes (6" and 16" outer diameter) and fitting sealant	90 - 110 LF	N	Good	5-10% chrysotile
Previous Survey Results	Boiler Room	Fire bricks	135 - 165 SF	N	Good	Assumed
Previous Survey Results	Boiler Room, 2nd Floor Mezzanine, and 3rd Floor Roof Access - doors	Fire door insulation	6 EA	Y	Good	Assumed
Previous Survey Results	Main Roof - skylights	Skylight mastic	225 - 275 SF	N	Fair	5-15% chrysotile
Previous Survey Results	Main and South Mezzanine Roofs - penetrations, perimeter edge, and at HVAC units	Roofing mastics	1,800 - 2,200 SF	N	Fair	10-15% chrysotile
Previous Survey Results	South Mezzanine Roof - roof throughout	Roof assembly composite	1,800 - 2,200 SF	N	Fair	5% chrysotile

NOTES:

[1] = ACM locations are based upon Ninyo & Moore's visual observations during survey activities. Materials that are uniform in color, texture, construction or application date, and/or general appearance to materials found to be asbestos-containing, should be presumed to be asbestos-containing.

[2] = Material quantities are approximate and have a 20% contingency range represented where appropriate.

EA = Each LF = Linear feet SF = Square feet

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
1	--	--	--	Shutter Calibration					--	--	NA	--
2	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	1.00	0.10
3	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	0.90	0.10
4	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	0.90	0.10
5	Navy	1	B	Gym	Roll-up door	Metal	Intact	Gray	NEG	--	< LOD	0.06
6	Navy	1	B	Gym	Roll-up door frame	Metal	Intact	Gray	NEG	--	< LOD	0.03
7	Navy	1	B	Gym	Roll-up door 2	Metal	Intact	Gray	NEG	--	0.19	0.07
8	Navy	1	B	Gym	Roll-up door 3	Metal	Intact	Gray	NEG	--	< LOD	0.28
9	*Navy*	*1*	*B*	*Gym*	*Roll-up door 4*	*Metal*	*Intact*	*Gray*	*POS*	*13 EA*	*0.50*	*0.10*
10	**Navy**	**1**	**C**	**Gym - Custodial**	**Custodian sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**6 EA**	**25.60**	**6.20**
11	Navy	1	A	Men's Locker	Wall tile	Ceramic	Intact	Gray	NEG	--	0.04	0.02
12	Navy	1	D	Men's Locker	Sink	Porcelain	Intact	Gray	NEG	--	< LOD	0.03
13	Navy	1	C	Men's Locker	Urinal	Porcelain	Intact	Gray	NEG	--	< LOD	0.05
14	Navy	1	B	Men's Locker	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.05
15	Navy	1	A	Gym	Support columns	Metal	Intact	Gray	NEG	--	< LOD	0.03
16	Navy	1	B	Gym	Fire sprinkler main	Metal	Intact	Gray	NEG	--	< LOD	0.03
17	Navy	1	C	Gym	Railing	Metal	Intact	Gray	INCOM	--	< LOD	0.48
18	Navy	1	C	Pump	Wood sluice header	Wood	Intact	Brown	NEG	--	< LOD	0.17
19	**Navy**	**1**	**C**	**Pump**	**Electrical box**	**Metal**	**Intact**	**Gray**	**POS**	**550 SF**	**12.90**	**4.70**
20	Navy	1	D	Pump	Pump	Metal	Intact	Red	NEG	--	< LOD	0.03
21	Navy	1	D	Pump	Pump	Metal	Intact	Gray	NEG	--	< LOD	0.03
22	**Navy**	**1**	**B**	**Pump**	**Grate**	**Metal**	**Intact**	**Gray**	**POS**	**150 SF**	**2.00**	**1.20**
23	**Navy**	**1**	**C**	**Pump**	**Structural steel**	**Metal**	**Intact**	**Gray**	**POS**	**40,500 - 49,500 SF**	**3.50**	**1.60**
24	**Navy**	**1**	**C**	**Pump**	**Structural steel**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 23**	**11.50**	**3.70**
25	**Navy**	**1**	**A**	**Pump**	**Structural steel**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 23**	**15.30**	**5.90**
26	**Navy**	**1**	**A**	**Pump**	**Cabinet**	**Wood**	**Intact**	**Gray**	**POS**	**50 SF**	**1.00**	**0.30**
27	Navy	1	A	Pump	Ladder	Metal	Intact	Gray	INCOM	--	< LOD	0.61
28	Navy	1	B	Pump	Beam	Metal	Intact	Black	NEG	--	< LOD	0.07

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
29	Navy	1	A	Pump	Door	Metal	Intact	Gray	NEG	--	< LOD	0.03
30	Navy	1	C	Pump	Door frame	Metal	Intact	Gray	NEG	--	< LOD	0.03
31	Navy	1	C	Pump	Water	Metal	Intact	Gray	NEG	--	< LOD	0.97
32	**Navy**	**1**	**B**	**Parking garage**	**Support beam**	**Metal**	**Intact**	**Yellow**	**POS**	**See Reading 23**	**3.10**	**1.50**
33	**Navy**	**1**	**B**	**Parking garage**	**Support beam**	**Metal**	**Intact**	**Yellow**	**POS**	**See Reading 23**	**13.80**	**6.50**
34	Navy	1	C	Parking garage	Roll-up door	Metal	Intact	Gray	NEG	--	< LOD	0.12
35	Navy	1	D	Parking garage	Speed bump	Concrete	Intact	Yellow	INCOM	--	< LOD	0.03
36	Navy	1	B	Parking garage	Speed bump	Concrete	Intact	Yellow	INCOM	--	< LOD	0.03
37	**Navy**	**1**	**D**	**Parking garage**	**Speed bump**	**Concrete**	**Intact**	**Yellow**	**POS**	**1,350 - 1,650 LF**	**1.20**	**0.60**
38	**Navy**	**1**	**D**	**Parking garage**	**Corrugated wall**	**Metal**	**Intact**	**Gray**	**POS**	**1,350 - 1,650 SF**	**4.50**	**1.50**
39	**Navy**	**1**	**D**	**Parking garage**	**Corrugated wall**	**Metal**	**Intact**	**Black**	**POS**	**See Reading 38**	**4.90**	**2.30**
40	Navy	1	A	Parking garage	Door	Metal	Intact	Gray	NEG	--	< LOD	0.03
41	**Navy**	**1**	**C**	**Parking garage**	**Door**	**Metal**	**Intact**	**Gray**	**POS**	**17 EA**	**1.10**	**0.40**
42	Navy	1	C	Parking garage	Double door	Metal	Intact	Gray	NEG	--	< LOD	0.03
43	**Navy**	**1**	**A**	**Parking garage**	**Double door**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 41**	**3.10**	**1.40**
44	Navy	1	B	Parking garage	Security window	Metal	Intact	Gray	NEG	--	< LOD	0.03
45	**Navy**	**1**	**B**	**5**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**9 EA**	**6.80**	**3.50**
46	Navy	1	B	5A	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.08
47	**Navy**	**1**	**C**	**5A**	**Door**	**Wood**	**Intact**	**Gray**	**POS**	**See Reading 41**	**4.00**	**2.60**
48	*Navy*	*1*	*C*	*Parking garage*	*Double door*	*Wood*	*Intact*	*Blue*	*POS*	*See Reading 41*	*0.60*	*0.10*

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
49	**Navy**	**1**	**A**	**Parking garage**	**Double door frame**	**Wood**	**Intact**	**Blue**	**POS**	**450 LF**	**6.50**	**4.00**
50	**Navy**	**1**	A	**9A**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**See Reading 45**	**29.90**	**5.90**
51	Navy	1	A	9A	Wall	Plaster	Intact	Green	NEG	--	0.19	0.03
52	**Navy**	**1**	C	**9A**	**Wall tile**	**Ceramic**	Intact	**Tan**	**POS**	**585 - 715 SF**	**16.60**	**10.70**
53	Navy	2	B	Custodian	Wall tile	Ceramic	Intact	Gray	POS	--	< LOD	14.70
54	Navy	2	B	Custodian	Sink	Porcelain	Intact	Gray	NEG	--	< LOD	0.05
55	Navy	2	D	9A	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.10
56	**Navy**	**2**	**A**	**9A**	**Toilet**	**Porcelain**	**Intact**	**Gray**	**POS**	**16 EA**	**9.10**	**4.90**
57	Navy	2	C	9A	Urinal	Porcelain	Intact	Gray	NEG	--	< LOD	0.15
58	**Navy**	**2**	**B**	**9A**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**See Reading 45**	**28.20**	**18.00**
59	**Navy**	**2**	**B**	**4**	**Door**	**Wood**	**Intact**	**Tan**	**POS**	**70 EA**	**3.50**	**1.70**
60	Navy	2	B	16	Door frame	Wood	Intact	Gray	POS	--	< LOD	3.90
61	Navy	2	A	Main area	Double door	Metal	Intact	Gray	NEG	--	< LOD	0.03
62	Navy	3	B	Parking garage	Wall	Plaster	Intact	Gray	INCOM	--	0.10	0.05
63	**Navy**	**3**	**B**	**Parking garage**	**Wall**	**Plaster**	**Intact**	**Gray**	**POS**	**65,475 - 80,025 SF**	**1.60**	**0.70**
64	Navy	3	B	Parking garage	Wall	Concrete	Intact	Blue	INCOM	--	0.08	0.02
65	Navy	3	B	Parking garage	Wall	Concrete	Intact	Blue	INCOM	--	0.18	0.02
66	**Navy**	**3**	**B**	**1**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**See Reading 45**	**24.50**	**2.20**
67	Navy	3	C	1	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.06
68	**Navy**	**3**	**D**	**1**	**Baseboard**	**Wood**	**Intact**	**Gray**	**POS**	**1,665 - 2,035 LF**	**4.00**	**1.80**
69	**Navy**	**3**	**D**	**1**	**Urinal**	**Porcelain**	**Intact**	**Gray**	**POS**	**8 EA**	**4.70**	**0.90**
70	Navy	3	D	3	Door	Wood	Intact	Gray	NEG		< LOD	3.75
71	**Navy**	**3**	**D**	**3**	**Sink**	**Porcelain**	**Intact**	**White**	**POS**	**See Reading 45**	**27.90**	**6.50**

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
72	Navy	3	A	3	Toilet	Porcelain	Intact	Pink	INCOM	--	< LOD	0.04
73	**Navy**	**3**	**A**	**3**	**Toilet**	**Porcelain**	**Intact**	**Pink**	**POS**	**See Reading 56**	**7.40**	**1.70**
74	*Navy*	*3*	*B*	*Parking garage*	*Column*	*Metal*	*Intact*	*Gray*	*POS*	*See Reading 23*	*0.80*	*0.30*
75	**Navy**	**3**	**B**	**Parking garage**	**Door**	**Wood**	**Intact**	**Gray**	**POS**	**See Reading 59**	**5.40**	**2.90**
76	Navy	3	B	6	Safe door	Metal	Intact	Gray	NEG	--	0.40	0.10
77	Navy	3	C	Parking garage	Roof railing	Metal	Intact	Tan	NEG	--	< LOD	13.35
78	**Navy**	**3**	**A**	**Hallway**	**Roof staircase**	**Metal**	**Intact**	**Yellow**	**POS**	**360-440 LF**	**2.50**	**0.60**
79	**Navy**	**3**	**A**	**Parking garage**	**Beam**	**Metal**	**Intact**	**Blue**	**POS**	**See Reading 23**	**11.60**	**5.50**
80	**Navy**	**3**	**C**	**Parking garage**	**Beam**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 23**	**18.60**	**5.10**
81	Navy	3	B	Exterior	Railing	Metal	Intact	Tan	NEG	--	< LOD	0.03
82	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	0.90	0.30
83	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	1.20	0.40
84	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	1.00	0.30

NOTES:

XRF assays were collected using a portable NITON XLp 300A XRF spectrum analyzer.

(1) = Surface quantities are approximate and a 20% contingency range represented where appropriate.

RR = restroom
SF = Square feet
POS = Positive
mg/cm^2 = milligrams per square centimeter
NEG = Negative
INCOM = Incomplete
EA = Each
LF = Linear feet

Table 4 - Summary of Lead-Containing Surfaces [1]

Reading No.(s)	Room / Area [2]	Source / Component	Substrate	Condition	Color(s)	Lead Reading(s) (mg/cm^2)	Approximate Quantity [3]
Previous Survey Results	Northwest exterior wall, 1st Floor - Southwest wall, and 2nd Floor - Northwest wall	Fire Hose Cabinet	Metal	Intact	Red	--	3 - 5 EA
Previous Survey Results	North exterior, South exterior, 1st Floor - North exterior by Pump Room, and 2nd Floor - North exterior	Fire Main Valve	Metal	Intact	Red	--	7 - 9 EA
Previous Survey Results	Northwest exterior wall	Fire Alarm Bell	Metal	Intact	Red	--	10 - 15 SF
Previous Survey Results	1st Floor - North wall in Parking Garage and 2nd Floor - Entry wall	Fire Alarm Pull Box	Metal	Intact	Red	--	5 - 10 SF
Previous Survey Results	All Floors - throughout building	Fire Main and Associated Piping	Metal	Intact/ Fair	Red/ White	--	9,000 - 11,000 LF
41, 43, 47, 48 and Previous Survey Results	Perimeter entry doorways	Single and Double Doors	Metal	Fair	Gray/Blue	0.60-4.00	17 EA
49 and Previous Survey Results	Perimeter entry doorways	Single and Double Door Frames	Metal	Fair	Gray/Blue	6.50	450 LF
Previous Survey Results	1st Floor - North and East entryways	Awning/Overhang	Metal	Fair	Gray	--	225 - 275 SF
9 and Previous Survey Results	1st Floor - Perimeter roll-up doorways and roll-up doorway to ramp, 2nd Floor - Perimeter roll-up doorway	Roll-Up Door	Metal	Fair	Gray	0.50	13 EA
Previous Survey Results	1st Floor - Perimeter roll-up doorways and roll-up doorway to ramp, 2nd Floor - Perimeter roll-up doorway	Roll-Up Door Frames	Metal	Fair	Gray	--	2,250 - 2,750 LF
Previous Survey Results	All Floors - exterior windows throughout and 1st Floor - South and West perimeter windows in Parking Garage	Window Frames	Metal	Fair	Gray/ White	--	3,240 - 3,960 LF
Previous Survey Results	2nd Floor Mezzanine - Northwest exterior wall	Wall Panel/Siding	Metal	Fair	Gray/Blue	--	1,125 - 1,375 SF
78 and Previous Survey Results	1st Floor - Parking Garage and Boiler Room vertical pipe chase, 2nd Floor Mezzanine - Northwest exterior wall, and 3rd Floor - Roof access	Ladder	Metal	Fair/Poor	Beige/ Gray	2.50	360 - 440 LF

Table 4 - Summary of Lead-Containing Surfaces [1]

Reading No.(s)	Room / Area [2]	Source / Component	Substrate	Condition	Color(s)	Lead Reading(s) (mg/cm^2)	Approximate Quantity [3]
Previous Survey Results	Main roof - vent pipes	Vent Pipe Cover	Metal	Poor	Gray	--	6 EA
Previous Survey Results	1st Floor - Parking Garage at ramp	Corner Protection/Cover	Metal	Fair	Black/ Yellow	--	8 - 12 SF
19 and Previous Survey Results	1st Floor - Parking Garage at ramp and Pump Room	Electrical Panel/Box	Metal	Fair/Poor	Gray/Red	12.90	550 SF
23, 24, 25, 32, 33, 79, 80, and Previous Survey Results	All Floors - throughout building	Structural Steel - Including Columns, Beams, Girders, and Crossbeams	Metal	Fair/Poor	Gray/ Yellow	3.10-18.60	40,500 - 49,500 SF
38, 39, and Previous Survey Results	1st Floor - Northwest and Southwest exterior walls, and Rooms 1 and 2 - South and West walls	Corrugated Wall Panel/Siding	Metal	Fair	White/ Blue/ Green	4.50-4.90	1,350 - 1,650 SF
10 and Previous Survey Results	All Floors - Custodial closets	Glazed Deep Sink	Porcelain/ Metal	Intact	White	25.60	6 EA
45, 50, 58, 66, and Previous Survey Results	All Floors - Restrooms and Locker Rooms	Sink	Porcelain	Intact	White	6.80-29.90	9 EA
56 and Previous Survey Results	All Floors - Restrooms and Locker Rooms	Toilet	Porcelain	Intact	White	9.10	16 EA
69 and Previous Survey Results	All Floors - Restrooms and Locker Rooms	Urinal	Porcelain	Intact	White	4.70	8 EA
Previous Survey Results	All Floors - Stairways throughout	Handrails	Metal	Intact	Black/ Blue/ Beige	--	400 - 500 LF
59, 75, and Previous Survey Results	All Floors - Interior doorways throughout	Door	Wood	Fair	White/ Blue	1.60-5.40	70 EA
Previous Survey Results	All Floors - Interior doorways throughout	Door Frame	Wood	Fair	White/ Blue	--	1,260 LF
Previous Survey Results	All Floors - Perimeter entry doorways	Door	Metal	Fair	Beige/ Gray/ White	--	26 EA
Previous Survey Results	All Floors - Perimeter entry doorways	Door Frames	Metal	Fair	Beige/ Gray/ White	--	470 LF

Table 4 - Summary of Lead-Containing Surfaces [1]

Reading No.(s)	Room / Area [2]	Source / Component	Substrate	Condition	Color(s)	Lead Reading(s) (mg/cm^2)	Approximate Quantity [3]
26 and Previous Survey Results	1st Floor Pump Room - West wall	Cabinet	Wood	Fair	Gray/ Green	1.00	50 SF
68 and Previous Survey Results	All Floors - Interior office space walls throughout, behind plastic covebase	Baseboard	Wood	Fair	Beige	4.00	1,665 - 2,035 LF
52 and Previous Survey Results	All Floors - Restroom and Locker Room walls	Wall	Ceramic tile	Intact	White/ Tan	16.60	585 - 715 SF
63 and Previous Survey Results	All Floors - Interior walls and ceilings throughout	Wall and Ceiling	Plaster/ Concrete	Damaged	White/ Tan	1.60	65,475 - 80,025 SF
Previous Survey Results	1st Floor - Parking Garage ceiling/deck	Ceiling/Deck	Concrete	Poor	White	--	33,300 - 40,700 SF
Previous Survey Results	2st Floor - Parking Garage ceiling/deck	Ceiling/Deck	Wood	Poor	White	--	40,410 - 49,390 SF
Previous Survey Results	2nd Floor - Parking Garage wall supports and columns	Columns/Supports/ Framing	Metal/ Wood	Fair/ Poor	White/ Blue	--	1,575 - 1,925 SF
Previous Survey Results	2nd Floor - Parking Garage drains	Drain pipe	Metal	Fair	Blue	--	315 - 385 LF
37 and Previous Survey Results	1st and 2nd Floor - Parking Garage floors and curbs	Marking paint	Concrete/ Asphalt	Fair	Yellow	1.20	1,350 - 1,650 LF
22 and Previous Survey Results	1st Floor Pump Room - Sluice	Sluice Header	Metal	Poor	Gray	2.00	150 SF

NOTES:

[1] = Note that the LCS in this table are materials that meet or exceed the criteria of CDPH. LCS in this table does not necessarily identify all materials that could contain lead at concentrations less than 1.0 mg/cm^2 or 5,000 milligrams per kilogram (mg/kg), which could trigger the Cal-OSHA lead in construction standard.

[2] = LCS locations are based upon Ninyo & Moore's visual observations during survey activities.

[3] = Surface quantities are approximate and a 20% contingency range represented where appropriate.

EA = Each

LF = Linear feet

SF = Square feet

mg/cm^2 = milligrams per square centimeter

Table 5 - Summary of Other Potential Hazardous Building Materials

Material Location	Fluorescent Light Tubes	Fluorescent Light Ballasts	Non-Incandescent Lights	Smoke Detectors	Mercury Thermostats and Switches	A/C Units	Tritium-Powered Exit Signs	Freon Refrig. Systems	Wet Transformers	Cooling Towers	Lead Acid Batteries	Halon Fire Suppression Systems	Other
Navy Pier Head House	1,530 - 1,870	765 - 935	54 - 66 (Exterior and Parking)	72 - 88	1 (2nd Floor Mezz., SE Office)	4	18 - 22	5	--	--	--	--	Extensive Mold and Biological Hazard

NOTES:

Material quantities are approximate and a 20% contingency range represented where appropriate.

A/C = Air Conditioning

APPENDIX A

Suspect Asbestos-Containing Materials Sampling Protocol

SUSPECT ASBESTOS-CONTAINING MATERIALS SAMPLING PROTOCOL

Personal Protection Equipment

Inhalation of asbestos fibers during asbestos survey poses a serious health and safety hazard, the use of personal protection equipment (PPE) by building inspectors is recommended during sampling activities. Our building inspectors generally wear a respirator (either a full- or half-face mask) equipped with high-efficiency disposable filter cartridges. If utilized, full-face masks will also prevent eye irritation from dust, fibers, and debris released during sampling activities. When necessary, disposable clothing is worn during sampling activities. Our building inspectors utilize plastic bags to handle the disposal of drop cloths, protective clothing, wet cloths, and debris.

Sampling Equipment

Our building inspectors will need various tools and materials to accomplish their sampling tasks, including those listed below:

- a ladder to access areas and a flash light to aid visibility,
- airtight, sampling containers (e.g., resealable plastic bags),
- a plastic spray bottle, filled with amended water, to wet the material to be sampled,
- plastic drop cloths to spread beneath the area to be sampled,
- a utility knife, linoleum cutter, or other tool appropriate for collecting samples,
- a caulking gun and compound for filling holes once a sample has been extracted,
- spray acrylic or adhesive to encapsulate the small areas from which samples were collected,
- duct tape for repairing thermal system insulation jackets,
- cloths and cleaner for decontaminating tools,
- a vacuum cleaner equipped with high efficiency particulate air (HEPA) filters, when necessary,
- indelible ink pen for labeling sample containers, and
- camera for photographic documentation, and
- Chain-of-Custody documentation forms.

Sampling Procedures

ACMs are divided into three categories: Surfacing materials, Thermal System Insulation (TSI), and Miscellaneous materials. The procedures for sampling these three types of materials are as follows:

Surfacing Materials

1. Select a location where the material has been previously damaged or a low profile area.
2. Spread a plastic drop cloth on the floor and set up other equipment, (e.g., ladder).
3. Put on protective equipment (respirator at all times when sampling friable material and protective clothing, when needed).
4. Moisten area where sample is to be collected (spray the area with amended water).
5. Collect sample using a clean knife or other tool appropriate to cut out or scrape off a small piece of the material. Care is taken to ensure that all layers of material are collected, without disturbing any adjacent material.
6. Place the sample in the labeled container and tightly seal it.
7. Wipe the exterior of the container with a wet wipe to remove any residue which may have adhered to the container it during sampling.
8. Clean tools with wet wipes and vacuum area with a HEPA vacuum to clean all debris.
9. Fill hole with caulking compound or appropriate filler (to minimize subsequent fiber release and for appearance).
10. Label container with its sample identification number and fill out location and type of material being sampled on a Chain-of-Custody documentation form.
11. Mark the location and sample identification number on the sample location map.
12. Repeat the above steps at each sample location. Place sample containers in plastic bags.
13. Discard protective clothing, rags, and drop cloth in a plastic bag.

Thermal System Insulation

Sampling TSI follows the same procedural sequence as laid out above. Obtain samples from exposed or damaged areas, if possible. However, random sampling will require sampling of some intact material. Sampling holes can be patched with plastic spackling, caulk, or fibrous glass.

Miscellaneous Materials

Sampling miscellaneous materials follows the same procedural sequence as laid out above, making sure that a cross section of the materials have been obtained.

Forwarding Samples to Laboratory

The samples are transferred, using standard chain-of-custody procedures, to a laboratory accredited in the National Voluntary Laboratory Accreditation Program (NVLAP), for bulk asbestos fiber analysis. The samples are analyzed using polarized light microscopy with dispersion staining (PLM/ds) for the presence and quantification of asbestos fibers, in general accordance with either United States Environmental Protection Agency (USEPA) Method 600/M4-82-020 or USEPA Method 600/R-93/116. The lower limit of reliable detection for asbestos using the PLM/ds method is approximately 1% by volume. California regulations require certain worker protection standards and have certain contractor requirements for disturbing those materials having an asbestos content of greater than one tenth of 1% (0.1%).

APPENDIX B

Laboratory Analytical Report and Chain-Of-Custody Records

EMSL Analytical, Inc.

7916 Convoy Court,Building 4, Suite A San Diego, CA 92111

Tel/Fax: (858) 499-1303 / (858) 499-1304

http://www.EMSL.com / sandiegolab@emsl.com

EMSL Order:	431703718
Customer ID:	32NIN63
Customer PO:	
Project ID:	

Attention:	Brian Ford	**Phone:**	(858) 761-7067
	Ninyo & Moore	**Fax:**	(858) 576-9600
	5710 Ruffin Road	**Received Date:**	07/27/2017 3:15 PM
	San Diego, CA 92123	**Analysis Date:**	07/28/2017
		Collected Date:	
Project:	NAVY PIER/108410001		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-001-Mastic 1 *431703718-0001*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-001-Floor Tile 1 *431703718-0001A*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-001-Mastic 2 *431703718-0001B*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-001-Floor Tile 2 *431703718-0001C*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-001-Mastic 3 *431703718-0001D*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
ASB-002-Mastic 1 *431703718-0002*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-002-Floor Tile 1 *431703718-0002A*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-002-Mastic 2 *431703718-0002B*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-002-Floor Tile 2 *431703718-0002C*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-002-Mastic 3 *431703718-0002D*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 07/28/2017 18:18:17

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-003-Mastic 1 *431703718-0003*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-003-Floor Tile 1 *431703718-0003A*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-003-Mastic 2 *431703718-0003B*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-003-Floor Tile 2 *431703718-0003C*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-003-Mastic 3 *431703718-0003D*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Sheet Flooring *431703718-0004*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Adhesive *431703718-0004A*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Floor Tile *431703718-0004B*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Mastic *431703718-0004C*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-005-Mastic 1 *431703718-0005*	NAVY/1ST FLOOR MAIN/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-005-Floor Tile *431703718-0005A*	NAVY/1ST FLOOR MAIN/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-005-Mastic 2 *431703718-0005B*	NAVY/1ST FLOOR MAIN/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 07/28/2017 18:18:17

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EMSL Order: 431703718
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-006-Mastic 1 *431703718-0006*	NAVY/RM 12/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-006-Floor Tile *431703718-0006A*	NAVY/RM 12/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-006-Mastic 2 *431703718-0006B*	NAVY/RM 12/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-007-Mastic 1 *431703718-0007*	NAVY/RM 20/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-007-Floor Tile *431703718-0007A*	NAVY/RM 20/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-007-Mastic 2 *431703718-0007B*	NAVY/RM 20/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-008 *431703718-0008*	NAVY/EXT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY EXT	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-009 *431703718-0009*	NAVY/EXT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY EXT	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-010 *431703718-0010*	NAVY/INT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY INT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-011 *431703718-0011*	NAVY/INT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY INT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-012 *431703718-0012*	NAVY/EXT/NW WINDOWS (2ND FLOOR)/WINDOW PUTTY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-013 *431703718-0013*	NAVY/EXT/SW WINDOWS (2ND FLOOR)/WINDOW PUTTY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-014-Ceiling Tile *431703718-0014*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown/White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-014-Mastic *431703718-0014A*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-015-Ceiling Tile *431703718-0015*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown/White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-015-Mastic *431703718-0015A*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-016 *431703718-0016*	NAVY/MAIN/SW WALL (1ST)/COVEBASE MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-017 *431703718-0017*	NAVY/MAIN/S MIDDLE WALL (2ND)/COVEBASE MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-018 *431703718-0018*	NAVY/MAIN/NW WALL (3RD)/COVEBASE MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-019 *431703718-0019*	NAVY/MAIN/SE CEILING (3RD)/ACT MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-020 *431703718-0020*	NAVY/RM 13/SE CEILING (2ND)/ACT MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-021-Floor Tile 1 *431703718-0021*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-021-Mastic 1 *431703718-0021A*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-021-Floor Tile 2 *431703718-0021B*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Tan Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
ASB-021-Mastic 2 *431703718-0021C*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Black Non-Fibrous Homogeneous	2% Synthetic	98% Non-fibrous (Other)	None Detected
ASB-021-Leveler *431703718-0021D*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-022 *431703718-0022*	NAVY/PUMP RM/NW TRANSFORMER/ELECTRICAL BOX TRANSITE	Gray Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
ASB-023-Floor Tile *431703718-0023* *No gasket present, only floor tile.*	NAVY/PUMP RM/SW METAL GRATE/GRATE GASKET	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-023-Mastic *431703718-0023A*	NAVY/PUMP RM/SW METAL GRATE/GRATE GASKET	Yellow Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected

Initial report from: 07/28/2017 18:18:17

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EMSL Order:	431703718
Customer ID:	32NIN63
Customer PO:	
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
No gasket present, only floor tile.					
ASB-024 *431703718-0024*	NAVY/REFRIDGE/NW LOWER WALL/LOWER WALL SEALANT	White Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
ASB-025 *431703718-0025*	NAVY/REFRIDGE/SW WALL PANEL @ BREAK/METAL PANEL SEALANT	Black Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
ASB-026 *431703718-0026*	NAVY/RM 21/S MIDDLE PIPE/TSI PIPE INSULATION	White Fibrous Homogeneous		85% Non-fibrous (Other)	15% Amosite
ASB-027-Glue *431703718-0027*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
ASB-027-Floor Tile 1 *431703718-0027A*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Beige Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
ASB-027-Mastic 1 *431703718-0027B*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
ASB-027-Floor Tile 2 *431703718-0027C*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Brown Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
ASB-027-Mastic 2 *431703718-0027D*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-028 *431703718-0028*	NAVY/MAIN 3/NW PIPE/TSI PIPE WRAP	White Fibrous Homogeneous		90% Non-fibrous (Other)	10% Amosite
ASB-029-Glue *431703718-0029*	NAVY/MAIN 3/CENTRAL FLOOR/CPT MASTIC/9X9 VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-029-Floor Tile *431703718-0029A*	NAVY/MAIN 3/CENTRAL FLOOR/CPT MASTIC/9X9 VFT MASTIC	Brown Non-Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
ASB-029-Mastic *431703718-0029B*	NAVY/MAIN 3/CENTRAL FLOOR/CPT MASTIC/9X9 VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-030 *431703718-0030*	NAVY/MAIN 2/E CENTRAL FLOOR/CPT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-031 *431703718-0031*	NAVY/MAIN 2/W CENTRAL FLOOR/CPT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Customer ID:	32NIN63
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-032-Floor Tile *431703718-0032*	NAVY/RM 6/N MIDDLE FLOOR/12X12 VFT/MASTIC	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-032-Mastic *431703718-0032A*	NAVY/RM 6/N MIDDLE FLOOR/12X12 VFT/MASTIC	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
ASB-033 *431703718-0033*	NAVY/MAIN/SW PIPE/TSI PIPE WRAP	White Fibrous Homogeneous		88% Non-fibrous (Other)	8% Amosite 4% Chrysotile
ASB-034-Glue *431703718-0034*	NAVY/RM 17/CENTRAL FLOOR/CPT MASTIC/9X9 VFT/MASTIC	Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
ASB-034-Floor Tile *431703718-0034A*	NAVY/RM 17/CENTRAL FLOOR/CPT MASTIC/9X9 VFT/MASTIC	Brown Non-Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
ASB-034-Mastic *431703718-0034B*	NAVY/RM 17/CENTRAL FLOOR/CPT MASTIC/9X9 VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-035-Glue *431703718-0035*	NAVY/RM 3/SW FLOOR/B	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-035-Floor Tile *431703718-0035A*	NAVY/RM 3/SW FLOOR/B	Brown Non-Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
ASB-035-Mastic *431703718-0035B*	NAVY/RM 3/SW FLOOR/B	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Mariah Curran (36)

Natalia Toscano (38)

Mariah Curran, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. San Diego, CA NVLAP Lab Code 200855-0, CA ELAP 2713

Initial report from: 07/28/2017 18:18:17

ASBESTOS BULK SAMPLE DATA SHEET

#431703718

Sheet 1 of ____

Ninyo & Moore 5710 Ruffin Road San Diego, CA 92123 Tel: (858) 576-1000 Fax: (858) 576-9600	**Project Name : Navy Pier** Project No.: 108410001 Project Manager: NJC Site Address: 960 N. Harbor Drive San Diego, CA	Sampled By: Sampled By: NJC Date Sampled: 7/13/17	**Laboratory:** EMSL 7916 Convoy Court, Suite A San Diego, CA 92111 Tel: (858) 499-1303

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time(24 hr.)	Received By: (sign/print)	Laboratory
Nic Carpenter	Ninyo&Moore	7/13/17	24 hr		7/27/17 1515
/				/	

Sample ID	Building Number	Room Number	Sample Location	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
ASB-001	Navy	7	Central floor	CPT mastic / VFT / mastic / VFT / mastic		N	~~Good~~ Fair
ASB-002	↓	8	↓	↓		↓	↓
ASB-003		9	↓	↓		↓	↓
ASB-004		11	SE floor	Lino / mastic / VFT / mastic		N	~~Good~~ Fair
ASB-005		1st Floor main	Central floor	CPT mastic / VFT / VFT mastic		↓	Poor
ASB-006		12	↓	↓		↓	↓
ASB-007		20	SW floor	↓		↓	↓
ASB-008		Ext.	SW windows (1st floor)	Window putty (ext.)		N	Good
ASB-009		↓	↓	↓		↓	↓
ASB-010		Int.	↓	Window putty (int.)		↓	↓
ASB-011		↓	↓	↓		↓	↓
ASB-012		Ext.	NW windows (2nd floor)	↓		N	Fair
ASB-013		↓	SW windows (2nd floor)	↓		↓	↓
ASB-014		1st Floor main	Central debris pile	12"x12" ACT / mastic		Y/N	Poor
ASB-015	↓	↓	↓	↓		↓	↓

OrderID: 431703718

ASBESTOS BULK SAMPLE DATA SHEET

#431703718

Ninyo & Moore 5710 Ruffin Road San Diego, CA 92123 Tel: (858) 576-1000 Fax: (858) 576-9600	**Project Name : Navy Pier** Project No.: 108410001 Project Manager: NJC Site Address: 960 N. Harbor Drive San Diego, CA	Sampled By: Sampled By: NJC Date Sampled: 7/13/17	**Laboratory:** EMSL 7916 Convoy Court, Suite A San Diego, CA 92111 Tel: (858) 499-1303

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time(24 hr.)	Received By: (sign/print)	Laboratory
Nic Carpenter	Ninyo&Moore	7/13/17		/	
/				/	

Sample ID	Building Number	Room Number	Sample Location	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
ASB-016	Navy	Main	SW wall (1st)	Covebase mastic		N	Fair
ASB-017		Pass	S. middle wall (2nd)	↓		↓	↓
ASB-018		Main	NW wall (3rd)	↓		↓	↓
ASB-019		Main	SE ceiling (3rd)	ACT mastic		N	Poor
ASB-020		13	SE ceiling (2nd)	↓		↓	↓
ASB-021		1	SE floor	12"x12" VFT/mastic/VFT/mastic		N/N	↓
ASB-022		Pump Rm.	NW transformer	Electrical box transite	5 SF	N	↓
ASB-023		↓	SW metal grate	Grate gasket	80 LF	N	Fair
ASB-024		Refridge	NW lower wall	Lower wall sealant		↓	↓
ASB-025		↓	SW wall panel, at break	metal panel sealant		↓	↓
ASB-026		21	S. middle pipe	TSI pipe insulation		Y	↓
ASB-027		2	NE floor	12"x12" VFT/mastic/9"x9" VFT/mastic		N/N	↓
ASB-028		Main3	NW pipe	TSI pipe wrap		Y	↓
ASB-029		↓	Central floor	CPT mastic/9"x9" VFT/mastic		N/N	↓
ASB-030		Main2	E. central floor	CPT mastic		N	↓

OrderID: 431703718

ASBESTOS BULK SAMPLE DATA SHEET

#431703718 Sheet 3 of _____

Ninyo & Moore 5710 Ruffin Road San Diego, CA 92123 Tel: (858) 576-1000 Fax: (858) 576-9600	**Project Name : Navy Pier** Project No.: 108410001 Project Manager: NJC Site Address: 960 N. Harbor Drive San Diego, CA	Sampled By: Sampled By: NJC Date Sampled: 7/27/17	**Laboratory:** EMSL 7916 Convoy Court, Suite A San Diego, CA 92111 Tel: (858) 499-1303

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time(24 hr)	Received By: (sign/print)	Laboratory
Nic Carpenter	Ninyo&Moore	7/27/17		/	
/				/	

Sample ID	Building Number	Room Number	Sample Location	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
2nd ASB-031	Navy	Main 2	W. central floor	CPT mastic		N	Fair
ASB-032	↓	6	N. middle floor	12"x12" VFT/mastic		N/N	↓
ASB-033		Main	SW pipe	TSI pipe wrap		Y	
ASB-034		17	~~STA~~ Central floor	CPT mastic/9"x9" VFT/mastic		N/N	
ASB-035	↓	3	SW floor	b		↓	↓
ASB-036							
ASB-037							
ASB-038							
ASB-039							
ASB-040							
ASB-041							
ASB-042							
ASB-043							
ASB-044							
ASB-045							

OrderID: 431703718

APPENDIX C

County of San Diego – Rule 1206 Requirements

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

County of San Diego – Rule 1206 Requirements

(d) (5) (i) Facility Information

- Name of Building(s):
  Navy Pier Head House

- Address of Building(s):
  960 North Harbor Drive
  San Diego, CA 92110

- Building Owner:
  Port of San Diego
  3165 Pacific Hwy
  San Diego, CA 92101
  619-686-6200

(d) (5) (ii) Consultant Information

- Name and Title:
  Nicolas Carpenter
  Senior Environmental Scientist

- Company:
  Ninyo & Moore
  5710 Ruffin Road
  San Diego, CA 92123
  858-576-1000

- Qualifications:
  Certified Asbestos Consultant No. 12-4867
  Expires March 21, 2024

(d) (5) (iii) Facility Survey Date

- October 2022

(d) (5) (vi) Suspect Materials Information

- See Tables 1 and 2

(d) (5) (v) Analytical Laboratory Information

- EMSL Analytical, Inc.
  8145 Ronson Road, Suite B
  San Diego, CA 92111
  (858) 499-1303

(d) (5) (vi) Analytical Laboratory Qualifications

- Laboratory qualification documents can be found on their website below - https://www.emsl.com/Locations.aspx?laboratoryid=43

(d) (5) (vii) Analytical Test Method Used

- Asbestos Analysis of Bulk Materials via EPA Method 600/R-93/116 using Polarized Light Microscopy

APPENDIX D

XRF Testing Methodology

XRF TESTING METHODOLOGY

To assess the painted surfaces for future contractor worker safety, x-ray fluorescence (XRF) testing technologies were utilized. The testing was conducted in general accordance with the following regulation: *Title 17, California Code of Regulations, Division 1, Chapter 8, Accreditation Certification, and Work Practice in Lead Related Construction, Section 36000.*

After a visual assessment, accessible painted surfaces were screened for lead content with a NITON XLp 300A XRF spectrum analyzer. XRF readings were taken using the standard paint mode. Standard paint mode measurements have no predetermined testing length, and automatically adjust to account for various types of substrates and material's densities. In the standard paint mode, the NITON 300A XLp XRF collects an XRF assay until either a K-shell or L-shell result is indicated as either positive or negative, compared to the threshold level based on the current precision of the test. Correction for paint matrix and substrate effects is performed automatically by the XRF analyzer.

XRF readings were made on testing combinations in all room equivalents in an effort to test typical materials that are representative of the room equivalent. Testing combinations were tested non-destructively by holding the shutter of the XRF against the surface being tested. At each XRF assay location, the trigger is depressed to open the shutter, and one reading was made using the standard paint testing mode. Results of each assay were recorded in the memory of the XRF spectrum analyzer and downloaded via the software provided by the manufacturer. In addition, the results of each assay were read and recorded on the XRF Data Sheet field data sheet.

The XRF testing orientation is depicted on the attached sample location maps. The "A" direction was initially assigned to the direction of the street, and the subsequent directions ("B", "C", and "D") were assigned clockwise from the "A" direction. Should the subject site be located on the corner of two streets, the "A" direction is assigned to the direction of the street address of the subject site.

To ensure that the XRF equipment was working properly, various quality control tests were performed before, during, and after the on-site work. At the beginning of the work day, three start up validation measurements were made in the K and L calibration mode, using the calibration check standard associated with the particular XRF that was used. This painted standard contains a known quantity of lead and allows the XRF operator to determine whether the instrument is functioning within acceptable tolerance ranges for accuracy and precision, as determined by the manufacturer. Calibration checks were generally collected on the red 1.06 mg/cm^2 and/or yellow 1.57 mg/cm^2 Standard Reference Material (SRM) paint film, developed by the National Institute of Standards and Technology (NIST).

In addition to the three starts up tests, calibration readings are collected between each building, after four hours, and at the completion of XRF testing. Results of each calibration reading were recorded within the memory of the XRF spectrum analyzer and on the XRF Data Sheet. The quality control tests taken during testing at the subject site were within the acceptable performance range prescribed by the XRF equipment manufacturer. Documentation of the quality control calibration check is included in the XRF Data Sheet, Table 3.

APPENDIX E

CDPH Form 8552 – Lead Hazard Evaluation Report

State of California—Health and Human Services Agency

California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation 7/28/17

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☒ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
960 N. Harbor Drive	San Diego	San Diego	92101

Construction date (year) of structure	Type of structure		Children living in structure?
1941	☐ Multi-unit building	☐ School or daycare	☐ Yes ☒ No
	☐ Single family dwelling	☒ Other Navy Facility	☐ Don't Know

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
San Diego Unified Port District, Paul Brown	619-686-6558

Address [number, street, apartment (if applicable)]	City	State	Zip Code
3165 Pacific Highway	San Diego	CA	92101

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected ☒ Intact lead-based paint detected ☒ Deteriorated lead-based paint detected

☒ No lead hazards detected ☒ Lead-contaminated dust found ☐ Lead-contaminated soil found ☐ Other _____

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
Nicolas Carpenter	858-576-1000

Address [number, street, apartment (if applicable)]	City	State	Zip Code
5710 Ruffin Road	San Diego	CA	92123

CDPH certification number	Signature	Date
19280		8/1/17

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

APPENDIX F

Prior Hazardous Building Materials Survey Report

HAZARDOUS BUILDING MATERIALS SURVEY UPDATE FORMER NAVY PIER HEAD HOUSE 960 NORTH HARBOR DRIVE SAN DIEGO, CALIFORNIA

PREPARED FOR:
Rick Engineering Company
5620 Friars Road
San Diego, California 92110

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
5710 Ruffin Road
San Diego, California 92123

October 27, 2017
Project No. 108410001

October 27, 2017
Project No. 108410001

Mr. Kevin Gibson, PE
Principal – Public Works Division
RICK Engineering Company
5620 Friars Road
San Diego, California 92110

Subject: Hazardous Building Materials Survey Update
Former Navy Pier Head House
960 North Harbor Drive
San Diego, California

References: Andersen Environmental, 2012, Asbestos, Lead & Hazardous Materials Update Assessment Report, Former Navy Pier Head House (Building 11), 960 N. Harbor Drive, San Diego, California: dated January 6.

TRC Solutions, Inc., 2007, Hazardous Materials Survey Report, Navy Pier Building 11A, Port of San Diego, California: dated August 30.

Dear Mr. Gibson:

In accordance with our Proposal No. 03-00459, dated June 6, 2017 and Rick Engineering Company (RICK) Job Number 18082, Ninyo & Moore has performed a hazardous building materials (HBM) survey update for the Former Navy Pier Head House Building in San Diego, California (subject building). The attached report presents our methodology, findings, and recommendations regarding the hazardous building materials at the subject building.

We appreciate the opportunity to be of service to you on this important project.

Sincerely,
NINYO & MOORE

Nicolas J. Carpenter, CAC#12-4867
Senior Project Environmental Scientist

Stephen J. Waide, CIH, CSP
Principal Environmental Scientist

NJC/SJW/gg

Distribution: (1) Addressee (via e-mail)

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Appendix A – Suspect Asbestos-Containing Materials Sampling Protocol
Appendix B – Laboratory Analytical Report and Chain-of-Custody Records
Appendix C – XRF Testing Methodology
Appendix D – CDPH Form 8552 - Lead Hazard Evaluation Report
Appendix E – Prior Hazardous Building Materials Survey Reports (CD Attached)

1. INTRODUCTION

Ninyo & Moore has conducted a HBM survey update for the subject building addressed 960 N. Harbor Drive, within the City and County of San Diego, California (Figure 1). Our services included review of the prior hazardous building materials survey reports, a supplemental asbestos-containing materials (ACM) survey, a supplemental lead-containing surfaces (LCS) survey, and visual identification and quantification of building materials potentially falling under the California Department of Toxic Substances Control (DTSC) Universal Waste Rule (UWR) and other potential hazardous building materials.

The purpose of this survey update is to assess changes in site conditions, quantities, and/or locations of the materials and/or surfaces in the subject building previously sampled and/or tested in the 2007 TRC Solutions and 2012 Andersen Environmental survey reports referenced in our opening letter, and to identify any other hazardous building materials that may be impacted by proposed demolition activities. For the purposes of this assessment, LCS refers to both lead-based paint, as defined by the California Department of Public Health (CDPH) and U.S. Department of Housing and Urban Development (HUD), and other potential lead-containing materials, including, but not limited to, ceramic tile and porcelain bathroom fixtures.

The survey update was performed in accordance with established guidelines for the assessment of ACM and LCS, and is based upon conditions of the subject building at the time of the surveying/assessment update activities.

2. OBJECTIVE AND SCOPE OF SERVICES

The purpose of this report is to provide information regarding the current site conditions to assist RICK in implementing future demolition of the subject building. Our scope of work performed for the study is identified below.

- Reviewed previously prepared survey reports for the subject building in order to incorporate prior survey data into this report.

- Conducted a visual reconnaissance of the subject building to document homogeneous areas and locate suspect ACM, LCS, building materials potentially falling under the UWR, and other potential hazardous building materials.

- Inspected the subject building for the presence or absence of previously identified asbestos-containing materials.

- Collected 35 bulk samples of suspect ACM that had not been previously evaluated and submitted them to an independent laboratory for analysis of asbestos content. Samples were analyzed via the Environmental Protection Agency (EPA) recommended method of polarized light microscopy (PLM) in accordance with EPA Method 600/R-93/116 July 93.

- Re-assessed condition of previously identified LCS.

- Collected 84 x-ray fluorescence (XRF) readings of potential LCS that had not been previously evaluated.

- Visually assessed building materials potentially falling under the UWR, including, but not limited to non-incandescent light bulbs, mercury-containing thermostat triggers, batteries, and electronic devices. Other potentially hazardous building materials, including, but not limited to, potential polychlorinated biphenyl-containing light ballasts, potential tritium-containing exit signs, potential americium-containing smoke detectors, and potential Freon™-containing air conditioning units and refrigerators, were noted, if observed.

- Prepared sample location maps showing locations where suspect ACM were collected and locations of XRF readings of surfaces with lead concentrations in excess of 1.0 milligram per square centimeter (mg/cm^2), if encountered.

- Prepared this report presenting our data and summarizing our findings and recommendations regarding ACM, LCS, and other potential hazardous building materials for the subject building.

3. SITE DESCRIPTION

The survey encompassed the Head House Building at the Former Navy Pier. The building is located at 960 N. Harbor Drive, in the City of San Diego, California (Figure 2). The building construction consists of concrete slab foundation on an inner mole pier/pile cup support system on wharf sections, poured in place concrete columns and floors supported by steel framing and girder system. The following table describes the building assessed during our assessment.

Building Descriptions

Bldg.	Approx. Date of Construction	Approx. SF	Roof Con-struction	Foun-dation	Flooring Materials	Interior Framing	Ceiling Finishes	Wall Finishes
Navy Pier Head House	1941	1,000,000 (3 Stories)	BURM	C	C, CT, CPT, L, T, VFT	C, M, W	ACP, ACT, C, P, DW	C, CT, DW, P, S, T, TP

Notes:
ACP = acoustic ceiling panel
ACT = acoustic ceiling tile
BURM = built-up roofing membrane
C = concrete
CT = ceramic tile
CMU = concrete masonry unit
CPT = carpet
DW = drywall
FB = fiberboard
P = plaster
L = linoleum
MP = metal panel
S = stucco
SOAC = spray-on acoustic ceiling
T = terrazzo
TP = Transite panels
VFT = vinyl floor tile
W = wood
WP = wood panel

4. PHYSICAL LIMITATIONS

Survey activities were limited to the aboveground structures. Underground utilities, such as suspect cementious water lines or suspect insulated/coated gas or electrical lines were not assessed during survey activities.

Physical limitations, such as inaccessible rooms, were not encountered during survey activities. In addition, since the interior of building was subjected to major damage to walls and ceilings throughout and the attic spaces were also inspected, a destructive-level survey was able to be performed. Suspect materials and/or surfaces encountered during building demolition activities that have not been assessed either may be assumed to be asbestos and/or lead-containing and handled accordingly, or may be sampled and analyzed to assess whether they are asbestos and/or lead-containing.

5. SAMPLE COLLECTION AND ANALYSES

In July 2017, the subject building was re-assessed for the presence of ACM and LCS, and other potential hazardous building materials. The ACM and LCS surveys followed EPA guidelines, or industry standards, within the limitations of the scope of this assessment. Survey activities are discussed below.

5.1. Supplemental Asbestos Survey

Ninyo & Moore reviewed the 2007 TRC Solutions and 2012 Andersen Environmental survey reports for the subject building. The purpose of the review was to obtain information on the materials sampled in the subject building to date. Copies of the prior survey reports are included in Appendix E. Ninyo & Moore's objective was to collect samples of suspect ACM observed in the subject building that had not been sampled, or that had not adequately been sampled.

The supplemental asbestos survey was performed by a State of California Certified Asbestos Consultant. Survey activities included a preliminary visual assessment and bulk sampling of suspect ACMs that had not been adequately assessed to date, including destruction of structures to allow for visualization of underlying materials. Representative samples of suspect ACMs were collected after identification of homogeneous sampling areas (areas in which the materials are uniform in color, texture, construction or application date, and general appearance). Material type, location, condition, and friability were noted for each homogeneous area. For the purposes of the assessment, the subject building was treated as a homogeneous area. Thirty-five samples of suspect ACMs were collected, using EPA-recommended sampling procedures (Appendix A).

The suspect ACM samples were delivered to EMSL Analytical (EMSL) of San Diego, California for analysis. EMSL is accredited in the National Voluntary Laboratory Accreditation Program for bulk asbestos fiber analysis. The samples were analyzed for the presence and quantification of asbestos fibers, using PLM with dispersion staining, in accordance with EPA Method 600/R-93/116 July 93. Due to material layering, 74 separate PLM analyses were performed. The lower limit of reliable detection for asbestos using the PLM method is approximately 1% by weight. Currently, the EPA and the State of California stipulate that materials containing greater than 1% asbestos constitute an ACM and the State of California stipulates that a material containing greater than 0.1% asbestos constitutes an asbestos-containing construction material (ACCM).

Building materials that were sampled and analyzed for the presence of asbestos in this survey update are presented in the attached Table 1, and the locations from which bulk asbestos samples were collected during this survey update are shown on Figures 2 through 6. Copies of the laboratory analytical report and chain-of-custody records for this survey update are presented in Appendix B.

5.2. Lead-Containing Surfaces Survey

Ninyo & Moore reviewed the 2007 TRC Solutions and 2012 Andersen Environmental survey reports, to obtain information on the surfaces tested for the presence of lead in the subject buildings (Appendix E). Ninyo & Moore's objective was to test suspect lead-containing surfaces observed in the subject building that had not been tested and to re-assess the condition of surfaces found to be lead-containing in the prior investigation to determine if surface conditions had changed or worsened. For the purposes of this assessment, LCS refers to both lead-based paint, as defined by CDPH and HUD, and other potential lead-containing materials, including, but not limited to, ceramic tile and porcelain bathroom fixtures.

The testing was conducted by a CDPH-certified Lead Inspector/Assessor using a portable NITON XLp 300A XRF spectrum analyzer in accordance with accepted environmental science and engineering practices for renovation projects. The testing methodology utilized is presented in Appendix C. Eighty-four XRF readings (including calibrations) were collected during the survey update. Building components that were tested for the presence of lead during this survey update are presented in the attached Table 3. The XRF testing orientation (A, B, C, and D wall orientations) utilized during the testing is depicted on Figures 2 through 6. A copy of CDPH form 8552 "Lead Hazard Evaluation Report" for the subject building is included in Appendix D.

5.3. Other Potential Hazardous Building Materials

Ninyo & Moore performed a visual re-assessment of building materials potentially falling under the UWR, including, but not limited to non-incandescent light bulbs, mercury-containing thermostat triggers, batteries, and electronic devices. Other potentially hazardous

building materials, including, but not limited to, potential polychlorinated biphenyl-containing light ballasts, potential tritium-containing exit signs, potential americium-containing smoke detectors, and potential Freon™-containing air conditioning units and refrigerators, were noted, if observed. In accordance with the scope of work, positive identifi-identification of the suspect hazardous material, via analytical testing, was not performed. Other potentially hazardous building materials are summarized in Table 5.

6. FINDINGS AND RECOMMENDATIONS

The findings of these surveys are based on our visual observations and analysis of suspect building materials. Our findings are presented below.

6.1. Asbestos

Based on the analytical results from this survey and review of the previous surveys, ACMs are located at the subject building. ACMs are summarized in Table 2. Materials, which were not sampled as part of this assessment, that are uniform in color, texture, construction or application date, and/or general appearance to materials found to be asbestos-containing, should be presumed to be asbestos-containing.

The identified ACMs should not be disturbed. Prior to building demolition activities, a licensed asbestos abatement contractor should remove the ACMs in accordance with federal, state and local regulations.

Should additional suspect materials, not sampled or assessed in this report, be uncovered during building demolition: (a) samples of suspect materials should be collected for laboratory analysis, and all activities that may impact the materials should cease until laboratory analytical results are reviewed; or (b) the materials should be assumed to be asbestos-containing and handled as such. Note that any work involving the disturbance of materials containing asbestos should be performed using appropriate work practices, and be conducted by, and under the supervision of, properly trained, experienced, and certified personnel.

6.2. Lead-Containing Surfaces

Based on the results of the XRF assays collected during this survey and review of the previous survey, surfaces containing concentrations of lead greater than or equal to 1.0 mg/cm^2 or 0.5%, by weight, were identified at the subject building. Surfaces with a lead content exceeding the regulatory standard for lead in surface coatings are summarized in Table 4.

In addition, surfaces with a lead content between 0.5 and 1.0 mg/cm^2 were identified in the subject buildings and are depicted in italicized text in Tables 3 and 4. To comply with City of San Diego Ordinance 19732, "lead-safe work practices", as described in the ordinance, should be used when these surfaces are disturbed during demolition activities.

The identified LCSs should be handled by an appropriately trained and licensed contractor in accordance with all federal, state, and local regulations. Prior to building demolition activities, a licensed contractor, using CDPH-certified personnel, should perform the LCS abatement in accordance with local, state, and federal regulations. The Contractor is also responsible for waste characterization for all materials removed from the subject building.

Please note that disturbing surfaces containing lead concentrations below the LCS criteria, as defined by CDPH and HUD, (e.g., lead concentrations less than 1.0 mg/cm^2 or 0.5%, by weight) may still trigger the California Occupational Safety and Health Administration (Cal-OSHA) lead in construction standard (e.g., Title 8, CCR Section 1532.1). In addition, please note that LCS condition was based upon Ninyo & Moore's visual observations during survey activities and, as some of the identified LCS are located on the exterior of the subject building, LCS conditions may further deteriorate prior to demolition activities.

Should suspect surfaces, not sampled or assessed in this report, be uncovered during building demolition: (a) samples of suspect surfaces should be collected for laboratory analysis and/or XRF testing of the suspect surfaces, and all activities that impact the suspect surfaces should cease until laboratory analytical results are reviewed and/or XRF testing results become available; or (b) the surfaces should be assumed to contain concentrations of lead greater than or equal to 1.0 mg/cm^2 or 0.5%, by weight, and handled as such.

6.3. Other Potential Hazardous Building Materials

A visual assessment and quantification of all UWR and other potential hazardous building materials that could be impacted by renovation activities was performed. Other potential hazardous building materials observed throughout the subject buildings are summarized in Table 5 and include:

- Fluorescent light tubes and associated ballasts,
- Non-incandescent lights,
- Tritium-powered exit signs,
- Potential Freon™-containing refrigeration units,
- Potential Freon™-containing air-conditioning units,
- Smoke detectors.

Prior to renovation activities that could potentially disturb these materials, building materials falling under the UWR and other potential hazardous building materials should be removed and properly recycled or disposed by a licensed contractor in accordance with federal, state and local regulations. The Contractor is also responsible for waste characterization for all materials removed from the subject building.

7. MICROBIAL AND BIOLOGICAL HAZARDS

A large water leak from an undetermined source has caused extensive damage to ceiling materials on all floors and has resulted in a severe microbial hazard with black mold observed in many areas. In addition, visible biological contamination including bird and rodent feces were observed in the subject building. Further characterization of this condition is recommended prior to hazardous materials abatement. An assessment should be conducted to identify the types and scope of biological contamination and to identify the special conditions and controls that may be required for cleanup and verification of adequate removal of these materials. This may require a specification describing the biological contamination evaluation and methodology intended to clean the premises and a post-abatement assessment to document post-abatement conditions relative to mold and other biological contaminants and water-impacted building materials that could harbor mold growth.

8. LIMITATIONS

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited sampling and chemical analysis. Further assessment of potential adverse environmental impacts may be accomplished by conducting a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the areas evaluated. However, if additional suspect building materials are encountered during demolition activities, these materials should be sampled by qualified personnel, and analyzed for content prior to further disturbance. In addition, please note that quantities of impacted building materials are approximate. It is the contractor's responsibility to confirm quantities present.

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard of care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory that is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results. Please note the laboratory analytical report states "Due to the magnification limitations inherent in PLM, asbestos fibers below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testings by transmission electron microscopy to confirm asbestos quantities."

Our findings, opinions, and recommendations are based on an analysis of the observed site conditions. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

1_108410001_SL.mxd 8/2/2017 AOB

NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCE: ESRI WORLD TOPO, 2017

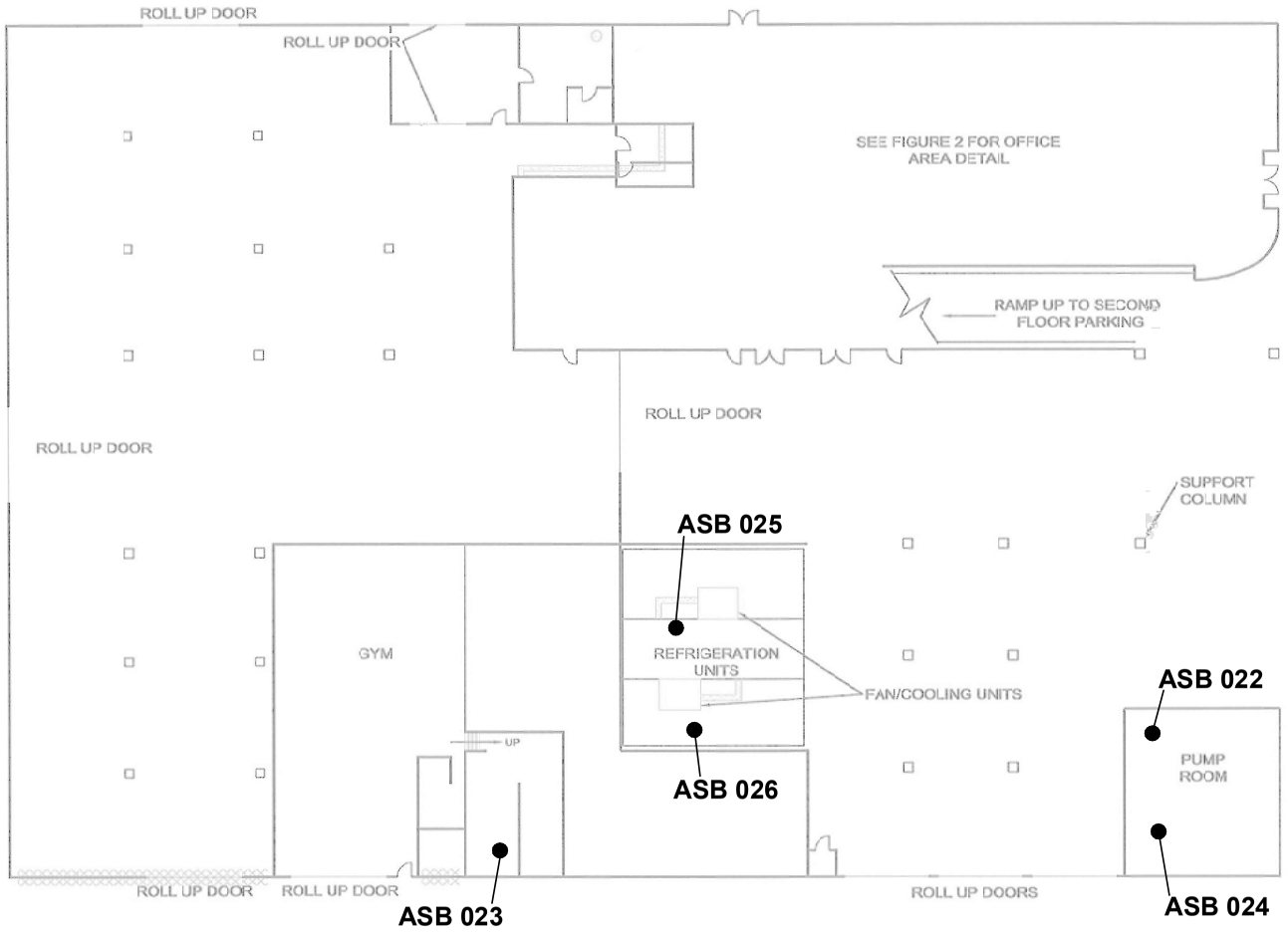
FIGURE 1

SITE LOCATION

NAVY PIER HEAD HOUSE
960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 | 10/17

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants



LEGEND

● **ASB 026** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

N

FEET

0 40 80

2 108410001 SPL 1ST.DWG

FIGURE 2

Ninyo & Moore

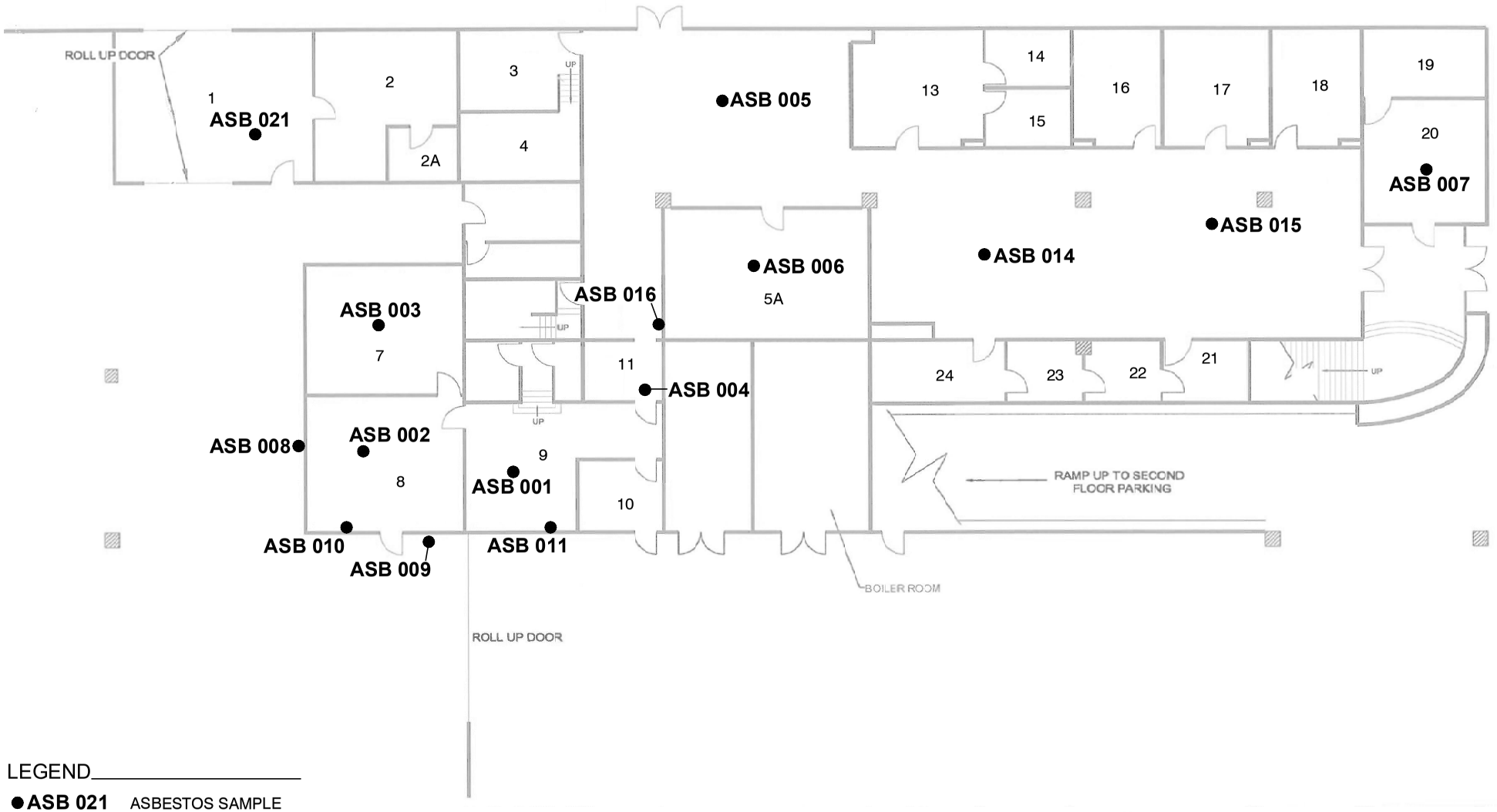
Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 1ST FLOOR

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 10/17



LEGEND

● **ASB 021** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

N

FEET

0 20 40

3 108410001 SPL 1ST OFFICES.DWG

FIGURE 3

Ninyo & Moore

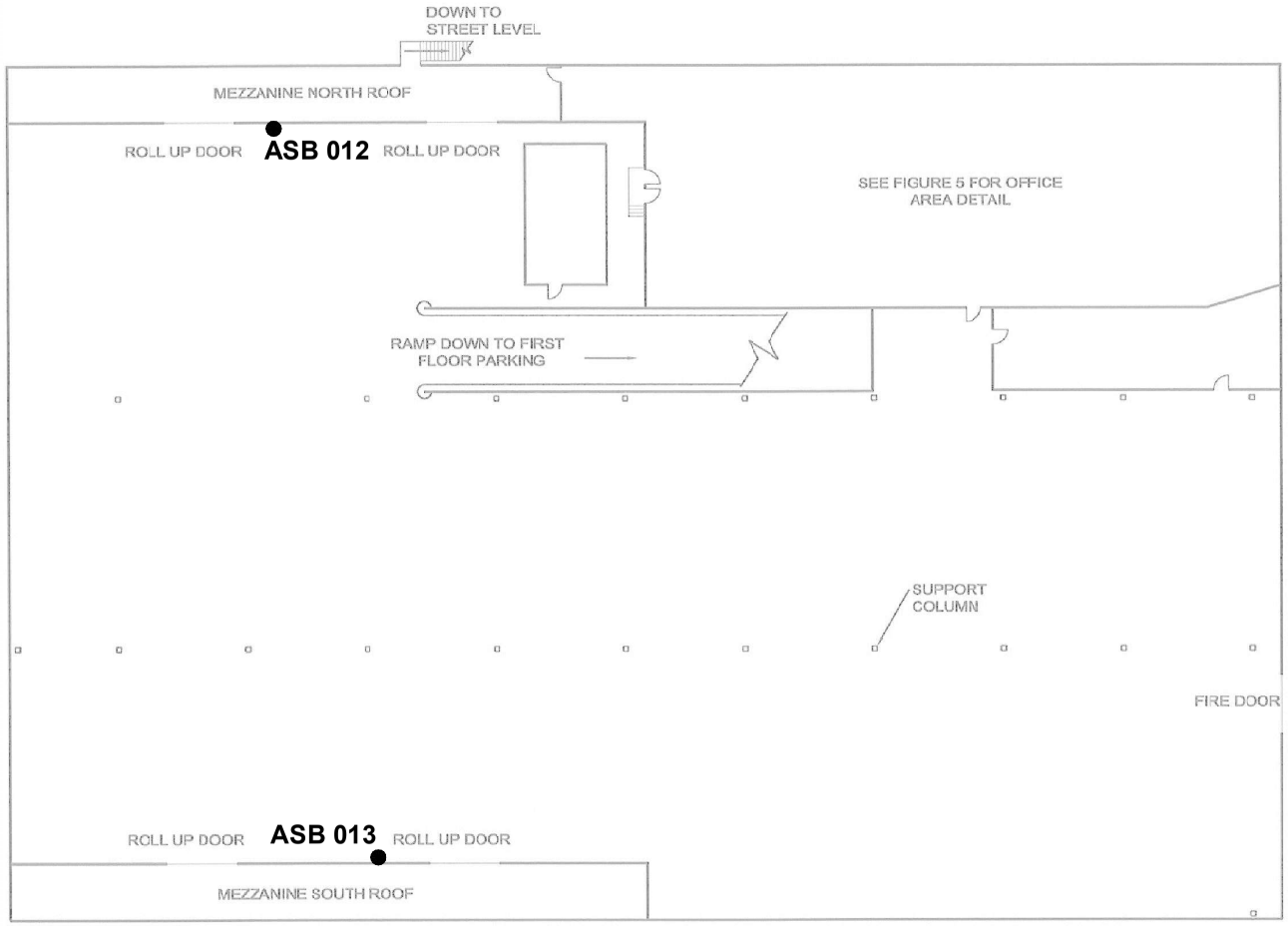
Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 1ST FLOOR OFFICES

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 10/17



LEGEND

● **ASB 013** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

N

FEET

0 40 80

4 108410001 SPL 2ND.DWG

FIGURE 4

Ninyo & Moore

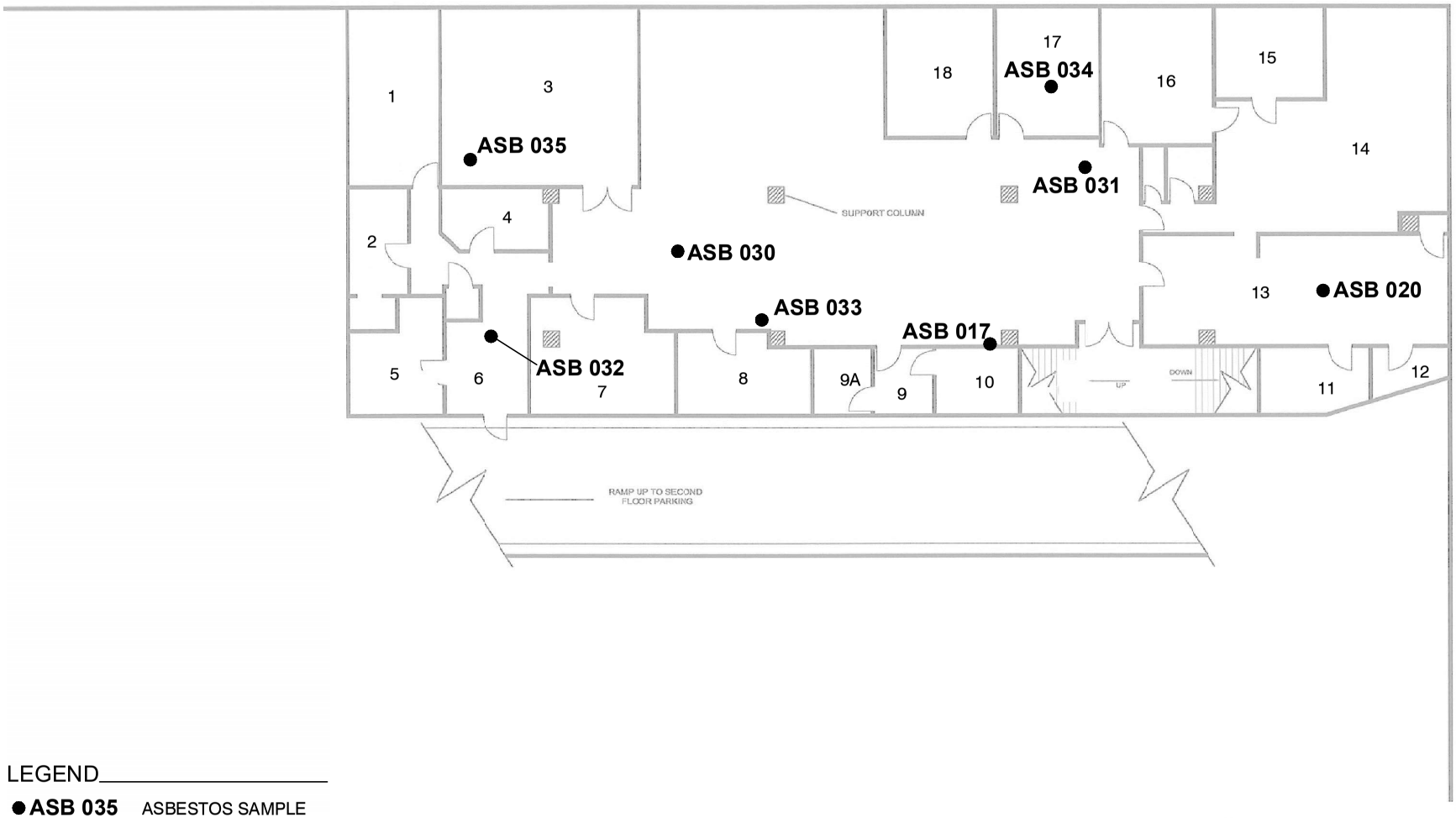
Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 2ND FLOOR

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 10/17



LEGEND

● **ASB 035** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

N

FEET

0 20 40

5 108410001 SPL 2ND OFFICE.DWG

FIGURE 5

Ninyo & Moore

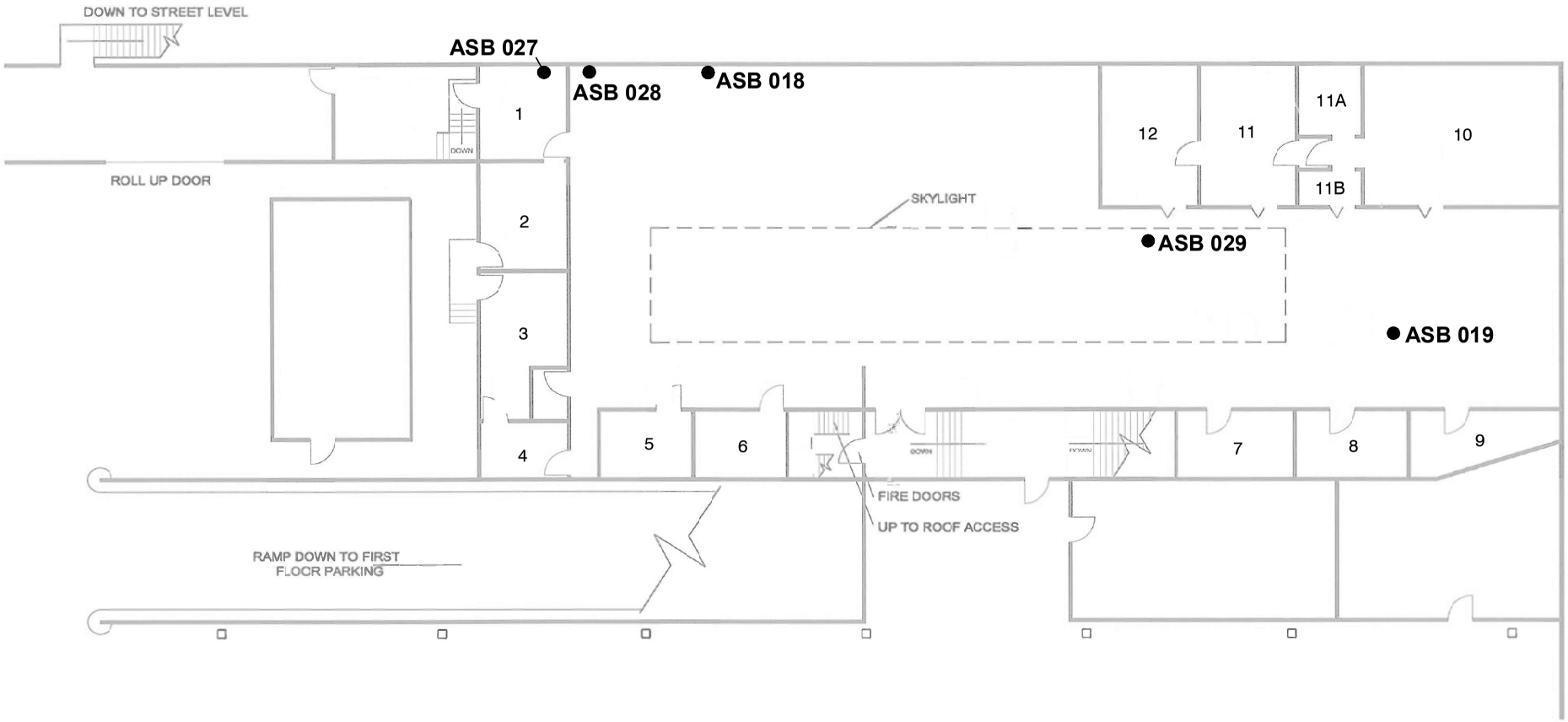
Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 2ND FLOOR OFFICES

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 10/17



LEGEND

● **ASB 029** ASBESTOS SAMPLE

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: TRC, 8/30/07.

N

FEET

0 20 40

FIGURE 6

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

SAMPLE LOCATIONS - 3RD FLOOR

NAVY PIER HEAD HOUSE

960 NORTH HARBOR DRIVE, SAN DIEGO, CALIFORNIA

108410001 I 10/17

6 108410001 SPL 3RD.DWG

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity [1]	Friable Y/N	Condition	Asbestos Content
ASB-001	Navy	7	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-001A	Navy	7	Central floor	Beige vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-001B	Navy	7	Central floor	Yellow mastic associated with ASB-001A	--	N/A	N/A	ND
ASB-001C	**Navy**	**7**	**Central floor**	**Brown vinyl floor tile, layer 2**	**14,175 - 17,325 SF**	**N**	**Fair**	**6% chrysotile**
ASB-001D	**Navy**	**7**	**Central floor**	**Black mastic associated with ASB-001C**	**14,175 - 17,325 SF**	**N**	**Fair**	**3% chrysotile**
ASB-002	Navy	8	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-002A	Navy	8	Central floor	Beige vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-002B	Navy	8	Central floor	Yellow mastic associated with ASB-002A	--	N/A	N/A	ND
ASB-002C	**Navy**	**8**	**Central floor**	**Brown vinyl floor tile, layer 2**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-002D	Navy	8	Central floor	Black mastic associated with ASB-002C	--	N/A	N/A	ND
ASB-003	Navy	9	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-003A	Navy	9	Central floor	Beige vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-003B	Navy	9	Central floor	Yellow mastic associated with ASB-003A	--	N/A	N/A	ND
ASB-003C	**Navy**	**9**	**Central floor**	**Brown vinyl floor tile, layer 2**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-003D	Navy	9	Central floor	Black mastic associated with ASB-003C	--	N/A	N/A	ND
ASB-004	Navy	11	Southeast floor	Beige sheet vinyl flooring	--	N/A	N/A	ND
ASB-004A	Navy	11	Southeast floor	Yellow mastic associated with ASB-004A	--	N/A	N/A	ND
ASB-004B	Navy	11	Southeast floor	Beige vinyl floor tile	--	N/A	N/A	ND
ASB-004C	Navy	11	Southeast floor	Yellow mastic associated with ASB-004B	--	N/A	N/A	ND
ASB-005	Navy	1st Main	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-005A	**Navy**	**1st Main**	**Central floor**	**Brown vinyl floor tile**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity [1]	Friable Y/N	Condition	Asbestos Content
ASB-005B	Navy	1st Main	Central floor	Black mastic associated with ASB-005A	--	N/A	N/A	ND
ASB-006	Navy	12	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-006A	**Navy**	**12**	**Central floor**	**Brown vinyl floor tile**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-006B	Navy	12	Central floor	Black mastic associated with ASB-006A	--	N/A	N/A	ND
ASB-007	Navy	20	Southwest floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-007A	**Navy**	**20**	**Southwest floor**	**Brown vinyl floor tile**	**See ASB-001C**	**N**	**Fair**	**6% chrysotile**
ASB-007B	Navy	20	Southwest floor	Black mastic associated with ASB-007A	--	N/A	N/A	ND
ASB-008	Navy	Exterior	Southwest windows (1st Floor)	White window putty	--	N/A	N/A	ND
ASB-009	Navy	Exterior	Southwest windows (1st Floor)	White window putty	--	N/A	N/A	ND
ASB-010	Navy	Interior	Southwest windows (1st Floor)	Gray window putty	--	N/A	N/A	ND
ASB-011	Navy	Interior	Southwest windows (1st Floor)	Gray window putty	--	N/A	N/A	ND
ASB-012	Navy	Exterior	Northwest windows (2nd Floor)	Gray window putty	--	N/A	N/A	ND
ASB-013	Navy	Exterior	Southwest windows (2nd Floor)	Gray window putty	--	N/A	N/A	ND
ASB-014	Navy	1st Main	Central debris pile	12"x12" brown/white acoustic ceiling tile	--	N/A	N/A	ND
ASB-014A	Navy	1st Main	Central debris pile	Brown mastic associated with ASB-014	--	N/A	N/A	ND
ASB-015	Navy	1st Main	Central debris pile	12"x12" brown/white acoustic ceiling tile	--	N/A	N/A	ND
ASB-015A	Navy	1st Main	Central debris pile	Brown mastic associated with ASB-015	--	N/A	N/A	ND
ASB-016	Navy	1st Main	Southwest wall	Brown covebase mastic	--	N/A	N/A	ND
ASB-017	Navy	2nd Main	South middle wall	Brown covebase mastic	--	N/A	N/A	ND
ASB-018	Navy	3rd Main	Northwest wall	Brown covebase mastic	--	N/A	N/A	ND
ASB-019	Navy	3rd Main	Southeast ceiling	Brown mastic associated with acoustic ceiling tile	--	N/A	N/A	ND
ASB-020	Navy	13	Southeast ceiling	Brown mastic associated with acoustic ceiling tile	--	N/A	N/A	ND
ASB-021	Navy	1	Southeast floor	12"x12" blue vinyl floor tile, layer 1	--	N/A	N/A	ND
ASB-021A	Navy	1	Southeast floor	Black mastic associated with ASB-021	--	N/A	N/A	ND

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity (1)	Friable Y/N	Condition	Asbestos Content
ASB-021B	**Navy**	**1**	**Southeast floor**	**Tan vinyl floor tile, layer 2**	**See ASB-001C**	**N**	**Fair**	**4% chrysotile**
ASB-021C	Navy	1	Southeast floor	Black mastic associated with ASB-021B	--	N/A	N/A	ND
ASB-021D	Navy	1	Southeast floor	Gray leveling compound	--	N/A	N/A	ND
ASB-022	**Navy**	**Pump**	**Northwest transformer**	**Gray electrical box**	**5-10 SF**	**N**	**Damaged**	**10% chrysotile**
ASB-023	Navy	Gym Office	Southwest metal grate	12"x12" blue vinyl floor tile	--	N/A	N/A	ND
ASB-023A	Navy	Gym Office	Southwest metal grate	Yellow mastic associated with ASB-023	--	N/A	N/A	ND
ASB-024	Navy	Pump	Northwest lower wall	White sluice grate gasket	--	N/A	N/A	ND
ASB-025	Navy	Refridge	Southwest wall panel, at seam	White metal panel sealant	--	N/A	N/A	ND
ASB-026	**Navy**	**Refridge**	**South middle pipe**	**White TSI pipe insulation**	**6,750 - 8,250 LF**	**Y**	**Fair**	**15% amosite**
ASB-027	Navy	3	Northeast floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-027A	**Navy**	**3**	**Northeast floor**	**12"x12" beige vinyl floor tile, layer 1**	**5,785 - 7,070 SF**	**N**	**Fair**	**2% chrysotile**
ASB-027B	**Navy**	**3**	**Northeast floor**	**Black mastic associated with ASB-27A**	**5,785 - 7,070 SF**	**N**	**Fair**	**4% chrysotile**
ASB-027C	**Navy**	**3**	**Northeast floor**	**9"x9" brown vinyl floor tile, layer 2**	**See ASB-027A**	**N**	**Fair**	**10% chrysotile**
ASB-027D	Navy	2	Northeast floor	Black mastic associated with ASB-027C	--	N/A	N/A	ND
ASB-028	**Navy**	**3rd Main**	**Northwest pipe**	**White TSI pipe insulation**	**See ASB-026**	**Y**	**Fair**	**10% chrysotile**
ASB-029	Navy	3rd Main	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-029A	**Navy**	**3rd Main**	**Central floor**	**9"x9" brown vinyl floor tile**	**See ASB-027A**	**N**	**Fair**	**12% chrysotile**
ASB-029B	Navy	3rd Main	Central floor	Black mastic associated with ASB-027A	--	N/A	N/A	ND
ASB-030	Navy	2nd Main	East central floor	Yellow/black carpet mastic	--	N/A	N/A	ND
ASB-031	Navy	2nd Main	West central floor	Yellow/black carpet mastic	--	N/A	N/A	ND
ASB-032	Navy	6	North middle floor	12"x12" black vinyl floor tile	--	N/A	N/A	ND

Table 1 - Asbestos Survey Results

Sample No.	Bldg. No.	Room No.	Sample Location	Sample Description	Approx. Quantity (1)	Friable Y/N	Condition	Asbestos Content
ASB-032A	Navy	6	North middle floor	Black mastic associated with ASB-032	--	N/A	N/A	ND
ASB-033	**Navy**	**2nd Main**	**Southwest pipe**	**White TSI pipe insulation**	**See ASB-028A**	**Y**	**Fair**	**8% amosite, 4% chrysotile**
ASB-034	Navy	17	Central floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-034A	**Navy**	**17**	**Central floor**	**9"x9" brown vinyl floor tile**	**9,100 - 11,110 SF**	**N**	**Fair**	**12% chrysotile**
ASB-034B	Navy	17	Central floor	Black mastic associated with ASB-034A	--	N/A	N/A	ND
ASB-035	Navy	3	Southwest floor	Yellow carpet mastic	--	N/A	N/A	ND
ASB-035A	**Navy**	**3**	**Southwest floor**	**9"x9" brown vinyl floor tile**	**See ASB-034A**	**N**	**Fair**	**12% chrysotile**
ASB-035B	Navy	3	Southwest floor	Black mastic associated with ASB-035A	--	N/A	N/A	ND

NOTES:

Bulk asbestos sample analysis via USEPA 600/R-93/116 method using polarized light microscopy, unless otherwise noted.

(1) = Material quantities are approximate and have a 20% contingency range represented where appropriate.

LF = Linear feet

SF = Square feet

N/A = Not applicable

ND = None detected

Table 2 - Summary of Asbestos-Containing Materials

Sample No.(s)	ACM Location [1]	ACM Description	Approx. Quantity [2]	Friable Y/N	Condition	Asbestos Content
ASB-001C, ASB-001D, ASB-002C, ASB-003C, ASB-005A, ASB-006A, ASB-007A, ASB-021B, and Previous Survey Results	1st Floor: Rooms 1, 3, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, and Main - floors throughout	Various vinyl floor tile and associated mastic - multiple layers of tile under carpet in many areas	14,175 - 17,325 SF	N	Fair	3-10% chrysotile
ASB-022	1st Floor: Pump Room - Northwest transformer	Transite electrical box insulation	5-10 SF	N	Damaged	10% chrysotile
ASB-032, ASB-034A, ASB-035A, and Previous Survey Results	2nd Floor: Rooms 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, and 18 - floors throughout	Various vinyl floor tile and associated mastic - multiple layers of tile under carpet in many areas	9,100 - 11,110 SF	N	Fair	3-12% chrysotile
ASB-027A, ASB-027B, ASB-027C, ASB-029A, and Previous Survey Results	3rd Floor: Rooms 1, 2, 3, 4, 5, 6, 10, 11, 12, and Main - floors throughout	Various vinyl floor tile and associated mastic - multiple layers of tile under carpet in many areas	5,785 - 7,070 SF	N	Fair	2-12% chrysotile
Previous Survey Results	All Floors: Northwest and Southwest exterior walls	Corrugated transite wall panels	2,250 - 2,750 SF	N	Fair	55% chrysotile
ASB-026, ASB-028, ASB 033, and Previous Survey Results	All Floors: Crawl spaces, above ceiling grid, and interstitial wall spaces, also including above/within refrigeration units, boiler room, and parking garage.	Mudded thermal system insulation pipe risers, elbows, fittings, tanks, etc.	6,750 - 8,250 LF	Y	Fair	4-40% chrysotile, 8-15% amosite
Previous Survey Results	All Floors: Extending from boiler room to roof	Transite flue pipes (6" and 16" outer diameter) and fitting sealant	90 - 110 LF	N	Good	5-10% chrysotile
Previous Survey Results	Boiler Room	Fire bricks	135 - 165 SF	N	Good	Assumed
Previous Survey Results	Boiler Room, 2nd Floor Mezzanine, and 3rd Floor Roof Access - doors	Fire door insulation	6 EA	Y	Good	Assumed
Previous Survey Results	Main Roof - skylights	Skylight mastic	225 - 275 SF	N	Fair	5-15% chrysotile
Previous Survey Results	Main and South Mezzanine Roofs - penetrations, perimeter edge, and at HVAC	Roofing mastics	1,800 - 2,200 SF	N	Fair	10-15% chrysotile
Previous Survey Results	South Mezzanine Roof - roof throughout	Roof assembly composite	1,800 - 2,200 SF	N	Fair	5% chrysotile

NOTES:

[1] = ACM locations are based upon Ninyo & Moore's visual observations during survey activities. Materials that are uniform in color, texture, construction or application date, and/or general appearance to materials found to be asbestos-containing, should be presumed to be asbestos-containing.

[2] = Material quantities are approximate and have a 20% contingency range represented where appropriate.

EA = Each
LF = Linear feet
SF = Square feet

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
1	--	--	--	Shutter Calibration					--	--	NA	--
2	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	1.00	0.10
3	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	0.90	0.10
4	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	0.90	0.10
5	Navy	1	B	Gym	Roll-up door	Metal	Intact	Gray	NEG	--	< LOD	0.06
6	Navy	1	B	Gym	Roll-up door frame	Metal	Intact	Gray	NEG	--	< LOD	0.03
7	Navy	1	B	Gym	Roll-up door 2	Metal	Intact	Gray	NEG	--	0.19	0.07
8	Navy	1	B	Gym	Roll-up door 3	Metal	Intact	Gray	NEG	--	< LOD	0.28
9	*Navy*	*1*	*B*	*Gym*	*Roll-up door 4*	*Metal*	*Intact*	*Gray*	*POS*	*13 EA*	*0.50*	*0.10*
10	**Navy**	**1**	**C**	**Gym - Custodial**	**Custodian sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**6 EA**	**25.60**	**6.20**
11	Navy	1	A	Men's Locker	Wall tile	Ceramic	Intact	Gray	NEG	--	0.04	0.02
12	Navy	1	D	Men's Locker	Sink	Porcelain	Intact	Gray	NEG	--	< LOD	0.03
13	Navy	1	C	Men's Locker	Urinal	Porcelain	Intact	Gray	NEG	--	< LOD	0.05
14	Navy	1	B	Men's Locker	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.05
15	Navy	1	A	Gym	Support columns	Metal	Intact	Gray	NEG	--	< LOD	0.03
16	Navy	1	B	Gym	Fire sprinkler main	Metal	Intact	Gray	NEG	--	< LOD	0.03
17	Navy	1	C	Gym	Railing	Metal	Intact	Gray	INCOM	--	< LOD	0.48
18	Navy	1	C	Pump	Wood sluice header	Wood	Intact	Brown	NEG	--	< LOD	0.17
19	**Navy**	**1**	**C**	**Pump**	**Electrical box**	**Metal**	**Intact**	**Gray**	**POS**	**550 SF**	**12.90**	**4.70**
20	Navy	1	D	Pump	Pump	Metal	Intact	Red	NEG	--	< LOD	0.03
21	Navy	1	D	Pump	Pump	Metal	Intact	Gray	NEG	--	< LOD	0.03
22	**Navy**	**1**	**B**	**Pump**	**Grate**	**Metal**	**Intact**	**Gray**	**POS**	**150 SF**	**2.00**	**1.20**
23	**Navy**	**1**	**C**	**Pump**	**Structural steel**	**Metal**	**Intact**	**Gray**	**POS**	**40,500 - 49,500 SF**	**3.50**	**1.60**
24	**Navy**	**1**	**C**	**Pump**	**Structural steel**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 23**	**11.50**	**3.70**
25	**Navy**	**1**	**A**	**Pump**	**Structural steel**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 23**	**15.30**	**5.90**
26	**Navy**	**1**	**A**	**Pump**	**Cabinet**	**Wood**	**Intact**	**Gray**	**POS**	**50 SF**	**1.00**	**0.30**
27	Navy	1	A	Pump	Ladder	Metal	Intact	Gray	INCOM	--	< LOD	0.61
28	Navy	1	B	Pump	Beam	Metal	Intact	Black	NEG	--	< LOD	0.07

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
29	Navy	1	A	Pump	Door	Metal	Intact	Gray	NEG	--	< LOD	0.03
30	Navy	1	C	Pump	Door frame	Metal	Intact	Gray	NEG	--	< LOD	0.03
31	Navy	1	C	Pump	Water	Metal	Intact	Gray	NEG	--	< LOD	0.97
32	**Navy**	**1**	**B**	**Parking garage**	**Support beam**	**Metal**	**Intact**	**Yellow**	**POS**	**See Reading 23**	**3.10**	**1.50**
33	**Navy**	**1**	**B**	**Parking garage**	**Support beam**	**Metal**	**Intact**	**Yellow**	**POS**	**See Reading 23**	**13.80**	**6.50**
34	Navy	1	C	Parking garage	Roll-up door	Metal	Intact	Gray	NEG	--	< LOD	0.12
35	Navy	1	D	Parking garage	Speed bump	Concrete	Intact	Yellow	INCOM	--	< LOD	0.03
36	Navy	1	B	Parking garage	Speed bump	Concrete	Intact	Yellow	INCOM	--	< LOD	0.03
37	**Navy**	**1**	**D**	**Parking garage**	**Speed bump**	**Concrete**	**Intact**	**Yellow**	**POS**	**1,350 - 1,650 LF**	**1.20**	**0.60**
38	**Navy**	**1**	**D**	**Parking garage**	**Corrugated wall**	**Metal**	**Intact**	**Gray**	**POS**	**1,350 - 1,650 SF**	**4.50**	**1.50**
39	**Navy**	**1**	**D**	**Parking garage**	**Corrugated wall**	**Metal**	**Intact**	**Black**	**POS**	**See Reading 38**	**4.90**	**2.30**
40	Navy	1	A	Parking garage	Door	Metal	Intact	Gray	NEG	--	< LOD	0.03
41	**Navy**	**1**	**C**	**Parking garage**	**Door**	**Metal**	**Intact**	**Gray**	**POS**	**17 EA**	**1.10**	**0.40**
42	Navy	1	C	Parking garage	Double door	Metal	Intact	Gray	NEG	--	< LOD	0.03
43	**Navy**	**1**	**A**	**Parking garage**	**Double door**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 41**	**3.10**	**1.40**
44	Navy	1	B	Parking garage	Security window	Metal	Intact	Gray	NEG	--	< LOD	0.03
45	**Navy**	**1**	**B**	**5**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**9 EA**	**6.80**	**3.50**
46	Navy	1	B	5A	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.08
47	**Navy**	**1**	**C**	**5A**	**Door**	**Wood**	**Intact**	**Gray**	**POS**	**See Reading 41**	**4.00**	**2.60**
48	*Navy*	*1*	*C*	*Parking garage*	*Double door*	*Wood*	*Intact*	*Blue*	*POS*	*See Reading 41*	*0.60*	*0.10*
49	**Navy**	**1**	**A**	**Parking garage**	**Double door frame**	**Wood**	**Intact**	**Blue**	**POS**	**450 LF**	**6.50**	**4.00**
50	**Navy**	**1**	A	**9A**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**See Reading 45**	**29.90**	**5.90**
51	Navy	1	A	9A	Wall	Plaster	Intact	Green	NEG	--	0.19	0.03

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity [1]	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
52	**Navy**	**1**	C	**9A**	**Wall tile**	**Ceramic**	Intact	**Tan**	**POS**	**585 - 715 SF**	**16.60**	**10.70**
53	Navy	2	B	Custodian	Wall tile	Ceramic	Intact	Gray	POS	--	< LOD	14.70
54	Navy	2	B	Custodian	Sink	Porcelain	Intact	Gray	NEG	--	< LOD	0.05
55	Navy	2	D	9A	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.10
56	**Navy**	**2**	**A**	**9A**	**Toilet**	**Porcelain**	**Intact**	**Gray**	**POS**	**16 EA**	**9.10**	**4.90**
57	Navy	2	C	9A	Urinal	Porcelain	Intact	Gray	NEG	--	< LOD	0.15
58	**Navy**	**2**	**B**	**9A**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**See Reading 45**	**28.20**	**18.00**
59	**Navy**	**2**	**B**	**4**	**Door**	**Wood**	**Intact**	**Tan**	**POS**	**70 EA**	**3.50**	**1.70**
60	Navy	2	B	16	Door frame	Wood	Intact	Gray	POS	--	< LOD	3.90
61	Navy	2	A	Main area	Double door	Metal	Intact	Gray	NEG	--	< LOD	0.03
62	Navy	3	B	Parking garage	Wall	Plaster	Intact	Gray	INCOM	--	0.10	0.05
63	**Navy**	**3**	**B**	**Parking garage**	**Wall**	**Plaster**	**Intact**	**Gray**	**POS**	**65,475 - 80,025 SF**	**1.60**	**0.70**
64	Navy	3	B	Parking garage	Wall	Concrete	Intact	Blue	INCOM	--	0.08	0.02
65	Navy	3	B	Parking garage	Wall	Concrete	Intact	Blue	INCOM	--	0.18	0.02
66	**Navy**	**3**	**B**	**1**	**Sink**	**Porcelain**	**Intact**	**Gray**	**POS**	**See Reading 45**	**24.50**	**2.20**
67	Navy	3	C	1	Toilet	Porcelain	Intact	Gray	NEG	--	< LOD	0.06
68	**Navy**	**3**	**D**	**1**	**Baseboard**	**Wood**	**Intact**	**Gray**	**POS**	**1,665 - 2,035 LF**	**4.00**	**1.80**
69	**Navy**	**3**	**D**	**1**	**Urinal**	**Porcelain**	**Intact**	**Gray**	**POS**	**8 EA**	**4.70**	**0.90**
70	Navy	3	D	3	Door	Wood	Intact	Gray	NEG		< LOD	3.75
71	**Navy**	**3**	**D**	**3**	**Sink**	**Porcelain**	**Intact**	**White**	**POS**	**See Reading 45**	**27.90**	**6.50**
72	Navy	3	A	3	Toilet	Porcelain	Intact	Pink	INCOM	--	< LOD	0.04
73	**Navy**	**3**	**A**	**3**	**Toilet**	**Porcelain**	**Intact**	**Pink**	**POS**	**See Reading 56**	**7.40**	**1.70**
74	*Navy*	*3*	*B*	*Parking garage*	*Column*	*Metal*	*Intact*	*Gray*	*POS*	*See Reading 23*	*0.80*	*0.30*

Table 3 - XRF Data Sheet

Reading No.	Building	Floor	Side	Room / Area	Source / Component	Substrate	Condition	Color	Results (Pos/Neg)	Approx. Quantity (1)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
75	**Navy**	**3**	**B**	**Parking garage**	**Door**	**Wood**	**Intact**	**Gray**	**POS**	**See Reading 59**	**5.40**	**2.90**
76	Navy	3	B	6	Safe door	Metal	Intact	Gray	NEG	--	0.40	0.10
77	Navy	3	C	Parking garage	Roof railing	Metal	Intact	Tan	NEG	--	< LOD	13.35
78	**Navy**	**3**	**A**	**Hallway**	**Roof staircase**	**Metal**	**Intact**	**Yellow**	**POS**	**360-440 LF**	**2.50**	**0.60**
79	**Navy**	**3**	**A**	**Parking garage**	**Beam**	**Metal**	**Intact**	**Blue**	**POS**	**See Reading 23**	**11.60**	**5.50**
80	**Navy**	**3**	**C**	**Parking garage**	**Beam**	**Metal**	**Intact**	**Gray**	**POS**	**See Reading 23**	**18.60**	**5.10**
81	Navy	3	B	Exterior	Railing	Metal	Intact	Tan	NEG	--	< LOD	0.03
82	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	0.90	0.30
83	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	1.20	0.40
84	--	--	--	Standard Calibration 1.04 +/- 0.06 mg/cm^2					POS	--	1.00	0.30

NOTES:

XRF assays were collected using a portable NITON XLp 300A XRF spectrum analyzer.

(1) **= Surface quantities are approximate and a 20% contingency range represented where appropriate.**

RR = restroom

POS = Positive

NEG = Negative

INCOM = Incomplete

EA = Each

LF = Linear feet

SF = Square feet

mg/cm^2 = milligrams per square centimeter

Table 4 - Summary of Lead-Containing Surfaces [1]

Reading No.(s)	Room / Area [2]	Source / Component	Substrate	Condition	Color(s)	Lead Reading(s) (mg/cm^2)	Approximate Quantity [3]
Previous Survey Results	Northwest exterior wall, 1st Floor - Southwest wall, and 2nd Floor - Northwest wall	Fire Hose Cabinet	Metal	Intact	Red	--	3 - 5 EA
Previous Survey Results	North exterior, South exterior, 1st Floor - North exterior by Pump Room, and 2nd Floor - North exterior	Fire Main Valve	Metal	Intact	Red	--	7 - 9 EA
Previous Survey Results	Northwest exterior wall	Fire Alarm Bell	Metal	Intact	Red	--	10 - 15 SF
Previous Survey Results	1st Floor - North wall in Parking Garage and 2nd Floor - Entry wall	Fire Alarm Pull Box	Metal	Intact	Red	--	5 - 10 SF
Previous Survey Results	All Floors - throughout building	Fire Main and Associated Piping	Metal	Intact/ Fair	Red/ White	--	9,000 - 11,000 LF
41, 43, 47, 48 and Previous Survey Results	Perimeter entry doorways	Single and Double Doors	Metal	Fair	Gray/Blue	0.60-4.00	17 EA
49 and Previous Survey Results	Perimeter entry doorways	Single and Double Door Frames	Metal	Fair	Gray/Blue	6.50	450 LF
Previous Survey Results	1st Floor - North and East entryways	Awning/Overhang	Metal	Fair	Gray	--	225 - 275 SF
9 and Previous Survey Results	1st Floor - Perimeter roll-up doorways and roll-up doorway to ramp, 2nd Floor - Perimeter roll-up doorway	Roll-Up Door	Metal	Fair	Gray	0.50	13 EA
Previous Survey Results	1st Floor - Perimeter roll-up doorways and roll-up doorway to ramp, 2nd Floor - Perimeter roll-up doorway	Roll-Up Door Frames	Metal	Fair	Gray	--	2,250 - 2,750 LF
Previous Survey Results	All Floors - exterior windows throughout and 1st Floor - South and West perimeter windows in Parking Garage	Window Frames	Metal	Fair	Gray/ White	--	3,240 - 3,960 LF
Previous Survey Results	2nd Floor Mezzanine - Northwest exterior wall	Wall Panel/Siding	Metal	Fair	Gray/Blue	--	1,125 - 1,375 SF
78 and Previous Survey Results	1st Floor - Parking Garage and Boiler Room vertical pipe chase, 2nd Floor Mezzanine - Northwest exterior wall, and 3rd Floor - Roof access	Ladder	Metal	Fair/Poor	Beige/ Gray	2.50	360 - 440 LF
Previous Survey Results	Main roof - vent pipes	Vent Pipe Cover	Metal	Poor	Gray	--	6 EA

Table 4 - Summary of Lead-Containing Surfaces [1]

Reading No.(s)	Room / Area [2]	Source / Component	Substrate	Condition	Color(s)	Lead Reading(s) (mg/cm^2)	Approximate Quantity [3]
Previous Survey Results	1st Floor - Parking Garage at ramp	Corner Protection/Cover	Metal	Fair	Black/ Yellow	--	8 - 12 SF
19 and Previous Survey Results	1st Floor - Parking Garage at ramp and Pump Room	Electrical Panel/Box	Metal	Fair/Poor	Gray/Red	12.90	550 SF
23, 24, 25, 32, 33, 79, 80, and Previous Survey Results	All Floors - throughout building	Structural Steel - Including Columns, Beams, Girders, and Crossbeams	Metal	Fair/Poor	Gray/ Yellow	3.10-18.60	40,500 - 49,500 SF
38, 39, and Previous Survey Results	1st Floor - Northwest and Southwest exterior walls, and Rooms 1 and 2 - South and West walls	Corrugated Wall Panel/Siding	Metal	Fair	White/ Blue/ Green	4.50-4.90	1,350 - 1,650 SF
10 and Previous Survey Results	All Floors - Custodial closets	Glazed Deep Sink	Porcelain/ Metal	Intact	White	25.60	6 EA
45, 50, 58, 66, and Previous Survey Results	All Floors - Restrooms and Locker Rooms	Sink	Porcelain	Intact	White	6.80-29.90	9 EA
56 and Previous Survey Results	All Floors - Restrooms and Locker Rooms	Toilet	Porcelain	Intact	White	9.10	16 EA
69 and Previous Survey Results	All Floors - Restrooms and Locker Rooms	Urinal	Porcelain	Intact	White	4.70	8 EA
Previous Survey Results	All Floors - Stairways throughout	Handrails	Metal	Intact	Black/ Blue/ Beige	--	400 - 500 LF
59, 75, and Previous Survey Results	All Floors - Interior doorways throughout	Door	Wood	Fair	White/ Blue	1.60-5.40	70 EA
Previous Survey Results	All Floors - Interior doorways throughout	Door Frame	Wood	Fair	White/ Blue	--	1,260 LF
Previous Survey Results	All Floors - Perimeter entry doorways	Door	Metal	Fair	Beige/ Gray/ White	--	26 EA
Previous Survey Results	All Floors - Perimeter entry doorways	Door Frames	Metal	Fair	Beige/ Gray/ White	--	470 LF
26 and Previous Survey Results	1st Floor Pump Room - West wall	Cabinet	Wood	Fair	Gray/ Green	1.00	50 SF

Table 4 - Summary of Lead-Containing Surfaces [1]

Reading No.(s)	Room / Area [2]	Source / Component	Substrate	Condition	Color(s)	Lead Reading(s) (mg/cm^2)	Approximate Quantity [3]
68 and Previous Survey Results	All Floors - Interior office space walls throughout, behind plastic covebase	Baseboard	Wood	Fair	Beige	4.00	1,665 - 2,035 LF
52 and Previous Survey Results	All Floors - Restroom and Locker Room walls	Wall	Ceramic tile	Intact	White/ Tan	16.60	585 - 715 SF
63 and Previous Survey Results	All Floors - Interior walls and ceilings throughout	Wall and Ceiling	Plaster/ Concrete	Damaged	White/ Tan	1.60	65,475 - 80,025 SF
Previous Survey Results	1st Floor - Parking Garage ceiling/deck	Ceiling/Deck	Concrete	Poor	White	--	33,300 - 40,700 SF
Previous Survey Results	2st Floor - Parking Garage ceiling/deck	Ceiling/Deck	Wood	Poor	White	--	40,410 - 49,390 SF
Previous Survey Results	2nd Floor - Parking Garage wall supports and columns	Columns/Supports/ Framing	Metal/ Wood	Fair/ Poor	White/ Blue	--	1,575 - 1,925 SF
Previous Survey Results	2nd Floor - Parking Garage drains	Drain pipe	Metal	Fair	Blue	--	315 - 385 LF
37 and Previous Survey Results	1st and 2nd Floor - Parking Garage floors and curbs	Marking paint	Concrete/ Asphalt	Fair	Yellow	1.20	1,350 - 1,650 LF
22 and Previous Survey Results	1st Floor Pump Room - Sluice	Sluice Header	Metal	Poor	Gray	2.00	150 SF

NOTES:

[1] = Note that the LCS in this table are materials that meet or exceed the criteria of CDPH. LCS in this table does not necessarily identify all materials that could contain lead at concentrations less than 1.0 mg/cm^2 or 5,000 milligrams per kilogram (mg/kg), which could trigger the Cal-OSHA lead in construction standard.

[2] = LCS locations are based upon Ninyo & Moore's visual observations during survey activities.

[3] = Surface quantities are approximate and a 20% contingency range represented where appropriate.

EA = Each

LF = Linear feet

SF = Square feet

mg/cm^2 = milligrams per square centimeter

Table 5 - Summary of Other Potential Hazardous Building Materials

Material Location	Fluorescent Light Tubes	Fluorescent Light Ballasts	Non-Incandescent Lights	Smoke Detectors	Mercury Thermostats and Switches	A/C Units	Tritium-Powered Exit Signs	Freon Refrig. Systems	Wet Transformers	Cooling Towers	Lead Acid Batteries	Halon Fire Suppression Systems	Other
Navy Pier Head House	1,530 - 1,870	765 - 935	54 - 66 (Exterior and Parking)	72 - 88	1 (2nd Floor Mezz., SE Office)	4	18 - 22	5	--	--	--	--	Extensive Mold and Biological Hazard

NOTES:

Material quantities are approximate and a 20% contingency range represented where appropriate.

A/C = Air Conditioning

APPENDIX A

SUSPECT ASBESTOS-CONTAINING MATERIALS SAMPLING PROTOCOL

SUSPECT ASBESTOS-CONTAINING MATERIALS SAMPLING PROTOCOL

Personal Protection Equipment

Inhalation of asbestos fibers during asbestos survey poses a serious health and safety hazard, the use of personal protection equipment (PPE) by building inspectors is recommended during sampling activities. Our building inspectors generally wear a respirator (either a full- or half-face mask) equipped with high-efficiency disposable filter cartridges. If utilized, full-face masks will also prevent eye irritation from dust, fibers, and debris released during sampling activities. When necessary, disposable clothing is worn during sampling activities. Our building inspectors utilize plastic bags to handle the disposal of drop cloths, protective clothing, wet cloths, and debris.

Sampling Equipment

Our building inspectors will need various tools and materials to accomplish their sampling tasks, including those listed below:

- a ladder to access areas and a flash light to aid visibility,
- airtight, sampling containers (e.g., resealable plastic bags),
- a plastic spray bottle, filled with amended water, to wet the material to be sampled,
- plastic drop cloths to spread beneath the area to be sampled,
- a utility knife, linoleum cutter, or other tool appropriate for collecting samples,
- a caulking gun and compound for filling holes once a sample has been extracted,
- spray acrylic or adhesive to encapsulate the small areas from which samples were collected,
- duct tape for repairing thermal system insulation jackets,
- cloths and cleaner for decontaminating tools,
- a vacuum cleaner equipped with high efficiency particulate air (HEPA) filters, when necessary,
- indelible ink pen for labeling sample containers, and
- camera for photographic documentation, and
- Chain-of-Custody documentation forms.

Sampling Procedures

ACMs are divided into three categories: Surfacing materials, Thermal System Insulation (TSI), and Miscellaneous materials. The procedures for sampling these three types of materials are as follows:

Surfacing Materials

1. Select a location where the material has been previously damaged or a low profile area.
2. Spread a plastic drop cloth on the floor and set up other equipment, (e.g., ladder).
3. Put on protective equipment (respirator at all times when sampling friable material and protective clothing, when needed).
4. Moisten area where sample is to be collected (spray the area with amended water).
5. Collect sample using a clean knife or other tool appropriate to cut out or scrape off a small piece of the material. Care is taken to ensure that all layers of material are collected, without disturbing any adjacent material.
6. Place the sample in the labeled container and tightly seal it.
7. Wipe the exterior of the container with a wet wipe to remove any residue which may have adhered to the container it during sampling.
8. Clean tools with wet wipes and vacuum area with a HEPA vacuum to clean all debris.
9. Fill hole with caulking compound or appropriate filler (to minimize subsequent fiber release and for appearance).
10. Label container with its sample identification number and fill out location and type of material being sampled on a Chain-of-Custody documentation form.
11. Mark the location and sample identification number on the sample location map.
12. Repeat the above steps at each sample location. Place sample containers in plastic bags.
13. Discard protective clothing, rags, and drop cloth in a plastic bag.

Thermal System Insulation

Sampling TSI follows the same procedural sequence as laid out above. Obtain samples from exposed or damaged areas, if possible. However, random sampling will require sampling of some intact material. Sampling holes can be patched with plastic spackling, caulk, or fibrous glass.

Miscellaneous Materials

Sampling miscellaneous materials follows the same procedural sequence as laid out above, making sure that a cross section of the materials have been obtained.

Forwarding Samples to Laboratory

The samples are transferred, using standard chain-of-custody procedures, to a laboratory accredited in the National Voluntary Laboratory Accreditation Program (NVLAP), for bulk asbestos fiber analysis. The samples are analyzed using polarized light microscopy with dispersion staining (PLM/ds) for the presence and quantification of asbestos fibers, in general accordance with either United States Environmental Protection Agency (USEPA) Method 600/M4-82-020 or USEPA Method 600/R-93/116. The lower limit of reliable detection for asbestos using the PLM/ds method is approximately 1% by volume. California regulations require certain worker protection standards and have certain contractor requirements for disturbing those materials having an asbestos content of greater than one tenth of 1% (0.1%).

APPENDIX B

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY RECORDS

EMSL Analytical, Inc.

7916 Convoy Court,Building 4, Suite A San Diego, CA 92111

Tel/Fax: (858) 499-1303 / (858) 499-1304

http://www.EMSL.com / sandiegolab@emsl.com

EMSL Order:	431703718
Customer ID:	32NIN63
Customer PO:	
Project ID:	

Attention:	Brian Ford	**Phone:**	(858) 761-7067
	Ninyo & Moore	**Fax:**	(858) 576-9600
	5710 Ruffin Road	**Received Date:**	07/27/2017 3:15 PM
	San Diego, CA 92123	**Analysis Date:**	07/28/2017
		Collected Date:	
Project:	NAVY PIER/108410001		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-001-Mastic 1 *431703718-0001*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-001-Floor Tile 1 *431703718-0001A*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-001-Mastic 2 *431703718-0001B*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-001-Floor Tile 2 *431703718-0001C*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-001-Mastic 3 *431703718-0001D*	NAVY/RM 7/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
ASB-002-Mastic 1 *431703718-0002*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-002-Floor Tile 1 *431703718-0002A*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-002-Mastic 2 *431703718-0002B*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-002-Floor Tile 2 *431703718-0002C*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-002-Mastic 3 *431703718-0002D*	NAVY/RM 8/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 07/28/2017 18:18:17

EMSL Analytical, Inc.

7916 Convoy Court,Building 4, Suite A San Diego, CA 92111

Tel/Fax: (858) 499-1303 / (858) 499-1304

http://www.EMSL.com / sandiegolab@emsl.com

EMSL Order:	431703718
Customer ID:	32NIN63
Customer PO:	
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-003-Mastic 1 *431703718-0003*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-003-Floor Tile 1 *431703718-0003A*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-003-Mastic 2 *431703718-0003B*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-003-Floor Tile 2 *431703718-0003C*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-003-Mastic 3 *431703718-0003D*	NAVY/RM 9/CENTRAL FLOOR/CPT MASTIC/VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Sheet Flooring *431703718-0004*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Adhesive *431703718-0004A*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Floor Tile *431703718-0004B*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-004-Mastic *431703718-0004C*	NAVY/RM 11/SE FLOOR/LINO/ MASTIC/VFT/MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-005-Mastic 1 *431703718-0005*	NAVY/1ST FLOOR MAIN/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-005-Floor Tile *431703718-0005A*	NAVY/1ST FLOOR MAIN/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-005-Mastic 2 *431703718-0005B*	NAVY/1ST FLOOR MAIN/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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EMSL Order: 431703718
Customer ID: 32NIN63
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-006-Mastic 1 *431703718-0006*	NAVY/RM 12/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-006-Floor Tile *431703718-0006A*	NAVY/RM 12/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-006-Mastic 2 *431703718-0006B*	NAVY/RM 12/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-007-Mastic 1 *431703718-0007*	NAVY/RM 20/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-007-Floor Tile *431703718-0007A*	NAVY/RM 20/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Brown Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
ASB-007-Mastic 2 *431703718-0007B*	NAVY/RM 20/CENTRAL FLOOR/CPT MASTIC/VFT/VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-008 *431703718-0008*	NAVY/EXT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY EXT	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-009 *431703718-0009*	NAVY/EXT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY EXT	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-010 *431703718-0010*	NAVY/INT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY INT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-011 *431703718-0011*	NAVY/INT/SW WINDOWS (1ST FLOOR)/WINDOW PUTTY INT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-012 *431703718-0012*	NAVY/EXT/NW WINDOWS (2ND FLOOR)/WINDOW PUTTY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-013 *431703718-0013*	NAVY/EXT/SW WINDOWS (2ND FLOOR)/WINDOW PUTTY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-014-Ceiling Tile *431703718-0014*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown/White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-014-Mastic *431703718-0014A*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-015-Ceiling Tile *431703718-0015*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown/White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-015-Mastic *431703718-0015A*	NAVY/1ST FLOOR MAIN/CENTRAL DEBRIS PILE/12X12 ACT/MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-016 *431703718-0016*	NAVY/MAIN/SW WALL (1ST)/COVEBASE MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-017 *431703718-0017*	NAVY/MAIN/S MIDDLE WALL (2ND)/COVEBASE MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-018 *431703718-0018*	NAVY/MAIN/NW WALL (3RD)/COVEBASE MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-019 *431703718-0019*	NAVY/MAIN/SE CEILING (3RD)/ACT MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-020 *431703718-0020*	NAVY/RM 13/SE CEILING (2ND)/ACT MASTIC	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-021-Floor Tile 1 *431703718-0021*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-021-Mastic 1 *431703718-0021A*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-021-Floor Tile 2 *431703718-0021B*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Tan Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
ASB-021-Mastic 2 *431703718-0021C*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Black Non-Fibrous Homogeneous	2% Synthetic	98% Non-fibrous (Other)	None Detected
ASB-021-Leveler *431703718-0021D*	NAVY/RM 1/SE FLOOR/12X12 VFT/MASTIC	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-022 *431703718-0022*	NAVY/PUMP RM/NW TRANSFORMER/ELECTRICAL BOX TRANSITE	Gray Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
ASB-023-Floor Tile *431703718-0023* *No gasket present, only floor tile.*	NAVY/PUMP RM/SW METAL GRATE/GRATE GASKET	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-023-Mastic *431703718-0023A*	NAVY/PUMP RM/SW METAL GRATE/GRATE GASKET	Yellow Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
No gasket present, only floor tile.					
ASB-024 *431703718-0024*	NAVY/REFRIDGE/NW LOWER WALL/LOWER WALL SEALANT	White Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
ASB-025 *431703718-0025*	NAVY/REFRIDGE/SW WALL PANEL @ BREAK/METAL PANEL SEALANT	Black Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
ASB-026 *431703718-0026*	NAVY/RM 21/S MIDDLE PIPE/TSI PIPE INSULATION	White Fibrous Homogeneous		85% Non-fibrous (Other)	15% Amosite
ASB-027-Glue *431703718-0027*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
ASB-027-Floor Tile 1 *431703718-0027A*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Beige Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
ASB-027-Mastic 1 *431703718-0027B*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
ASB-027-Floor Tile 2 *431703718-0027C*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Brown Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
ASB-027-Mastic 2 *431703718-0027D*	NAVY/RM 2/NE FLOOR/12X12 VFT/MASTIC/9X9 VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-028 *431703718-0028*	NAVY/MAIN 3/NW PIPE/TSI PIPE WRAP	White Fibrous Homogeneous		90% Non-fibrous (Other)	10% Amosite
ASB-029-Glue *431703718-0029*	NAVY/MAIN 3/CENTRAL FLOOR/CPT MASTIC/9X9 VFT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-029-Floor Tile *431703718-0029A*	NAVY/MAIN 3/CENTRAL FLOOR/CPT MASTIC/9X9 VFT MASTIC	Brown Non-Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
ASB-029-Mastic *431703718-0029B*	NAVY/MAIN 3/CENTRAL FLOOR/CPT MASTIC/9X9 VFT MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-030 *431703718-0030*	NAVY/MAIN 2/E CENTRAL FLOOR/CPT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-031 *431703718-0031*	NAVY/MAIN 2/W CENTRAL FLOOR/CPT MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
ASB-032-Floor Tile *431703718-0032*	NAVY/RM 6/N MIDDLE FLOOR/12X12 VFT/MASTIC	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-032-Mastic *431703718-0032A*	NAVY/RM 6/N MIDDLE FLOOR/12X12 VFT/MASTIC	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
ASB-033 *431703718-0033*	NAVY/MAIN/SW PIPE/TSI PIPE WRAP	White Fibrous Homogeneous		88% Non-fibrous (Other)	8% Amosite 4% Chrysotile
ASB-034-Glue *431703718-0034*	NAVY/RM 17/CENTRAL FLOOR/CPT MASTIC/9X9 VFT/MASTIC	Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
ASB-034-Floor Tile *431703718-0034A*	NAVY/RM 17/CENTRAL FLOOR/CPT MASTIC/9X9 VFT/MASTIC	Brown Non-Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
ASB-034-Mastic *431703718-0034B*	NAVY/RM 17/CENTRAL FLOOR/CPT MASTIC/9X9 VFT/MASTIC	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-035-Glue *431703718-0035*	NAVY/RM 3/SW FLOOR/B	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
ASB-035-Floor Tile *431703718-0035A*	NAVY/RM 3/SW FLOOR/B	Brown Non-Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
ASB-035-Mastic *431703718-0035B*	NAVY/RM 3/SW FLOOR/B	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Mariah Curran (36)

Natalia Toscano (38)

Mariah Curran, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. San Diego, CA NVLAP Lab Code 200855-0, CA ELAP 2713

Initial report from: 07/28/2017 18:18:17

ASBESTOS BULK SAMPLE DATA SHEET

#431703718

Sheet 1 of ____

Ninyo & Moore 5710 Ruffin Road San Diego, CA 92123 Tel: (858) 576-1000 Fax: (858) 576-9600	**Project Name : Navy Pier** Project No.: 108410001 Project Manager: NJC Site Address: 960 N. Harbor Drive San Diego, CA	Sampled By: Sampled By: NJC Date Sampled: 7/13/17	**Laboratory:** EMSL 7916 Convoy Court, Suite A San Diego, CA 92111 Tel: (858) 499-1303

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time(24 hr.)	Received By: (sign/print)	Laboratory
Nic Carpenter	Ninyo&Moore	7/13/17	24 hr		7/27/17 1515
/				/	

Sample ID	Building Number	Room Number	Sample Location	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
ASB-001	Navy	7	Central floor	CPT mastic / VFT / mastic / VFT / mastic		N	~~Good~~ Fair
ASB-002	↓	8	↓	↓		↓	↓
ASB-003		9	↓	↓		↓	↓
ASB-004		11	SE floor	Lino / mastic / VFT / mastic		N	~~Good~~ Fair
ASB-005		1st Floor main	Central floor	CPT mastic / VFT / VFT mastic		↓	Poor
ASB-006		12	↓	↓		↓	↓
ASB-007		20	SW floor	↓		↓	↓
ASB-008		Ext.	SW windows (1st floor)	Window putty (ext.)		N	Good
ASB-009		↓	↓	↓		↓	↓
ASB-010		Int.	↓	Window putty (int.)		↓	↓
ASB-011		↓	↓	↓		↓	↓
ASB-012		Ext.	NW windows (2nd floor)	↓		N	Fair
ASB-013		↓	SW windows (2nd floor)	↓		↓	↓
ASB-014		1st Floor main	Central debris pile	12"x12" ACT / mastic		Y/N	Poor
ASB-015	↓	↓	↓	↓		↓	↓

OrderID: 431703718

ASBESTOS BULK SAMPLE DATA SHEET

#431703718

Ninyo & Moore 5710 Ruffin Road San Diego, CA 92123 Tel: (858) 576-1000 Fax: (858) 576-9600	**Project Name : Navy Pier** Project No.: 108410001 Project Manager: NJC Site Address: 960 N. Harbor Drive San Diego, CA	Sampled By: Sampled By: NJC Date Sampled: 7/13/17	**Laboratory:** EMSL 7916 Convoy Court, Suite A San Diego, CA 92111 Tel: (858) 499-1303

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time(24 hr.)	Received By: (sign/print)	Laboratory
Nic Carpenter	Ninyo&Moore	7/13/17		/	
/				/	

Sample ID	Building Number	Room Number	Sample Location	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
ASB-016	Navy	Main	SW wall (1st)	Covebase mastic		N	Fair
ASB-017		Pass	S. middle wall (2nd)	↓		↓	↓
ASB-018		Main	NW wall (3rd)	↓		↓	↓
ASB-019		Main	SE ceiling (3rd)	ACT mastic		N	Poor
ASB-020		13	SE ceiling (2nd)	↓		↓	↓
ASB-021		1	SE floor	12"x12" VFT/mastic/VFT/mastic		N/N	↓
ASB-022		Pump Rm.	NW transformer	Electrical box transite	5 SF	N	↓
ASB-023		↓	SW metal grate	Grate gasket	80 LF	N	Fair
ASB-024		Refridge	NW lower wall	Lower wall sealant		↓	↓
ASB-025		↓	SW wall panel, at break	metal panel sealant		↓	↓
ASB-026		21	S. middle pipe	TSI pipe insulation		Y	↓
ASB-027		2	NE floor	12"x12" VFT/mastic/9"x9" VFT/mastic		N/N	↓
ASB-028		Main3	NW pipe	TSI pipe wrap		Y	↓
ASB-029		↓	Central floor	CPT mastic/9"x9" VFT/mastic		N/N	↓
ASB-030		Main2	E. central floor	CPT mastic		N	↓

OrderID: 431703718

ASBESTOS BULK SAMPLE DATA SHEET

#431703718 Sheet 3 of _____

Ninyo & Moore 5710 Ruffin Road San Diego, CA 92123 Tel: (858) 576-1000 Fax: (858) 576-9600	**Project Name : Navy Pier** Project No.: 108410001 Project Manager: NJC Site Address: 960 N. Harbor Drive San Diego, CA	Sampled By: Sampled By: NJC Date Sampled: 7/27/17	**Laboratory:** EMSL 7916 Convoy Court, Suite A San Diego, CA 92111 Tel: (858) 499-1303

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time(24 hr)	Received By: (sign/print)	Laboratory
Nic Carpenter	Ninyo&Moore	7/27/17		/	
/				/	

Sample ID	Building Number	Room Number	Sample Location	Sample Description	Quantity (SF/LF/E	Friable (Y/N)	Condition
2nd ASB-031	Navy	Main 2	W. central floor	CPT mastic		N	Fair
ASB-032	↓	6	N. middle floor	12"x12" VFT/mastic		N/N	↓
ASB-033		Main	SW pipe	TSI pipe wrap		Y	
ASB-034		17	~~STA~~ Central floor	CPT mastic/9"x9" VFT/mastic		N/N	
ASB-035	↓	3	SW floor	b		↓	↓
ASB-036							
ASB-037							
ASB-038							
ASB-039							
ASB-040							
ASB-041							
ASB-042							
ASB-043							
ASB-044							
ASB-045							

OrderID: 431703718

APPENDIX C

XRF TESTING METHODOLOGY

XRF TESTING METHODOLOGY

To assess the painted surfaces for future contractor worker safety, x-ray fluorescence (XRF) testing technologies were utilized. The testing was conducted in general accordance with the following regulation: *Title 17, California Code of Regulations, Division 1, Chapter 8, Accreditation Certification, and Work Practice in Lead Related Construction, Section 36000.*

After a visual assessment, accessible painted surfaces were screened for lead content with a NITON XLp 300A XRF spectrum analyzer. XRF readings were taken using the standard paint mode. Standard paint mode measurements have no predetermined testing length, and automatically adjust to account for various types of substrates and material's densities. In the standard paint mode, the NITON 300A XLp XRF collects an XRF assay until either a K-shell or L-shell result is indicated as either positive or negative, compared to the threshold level based on the current precision of the test. Correction for paint matrix and substrate effects is performed automatically by the XRF analyzer.

XRF readings were made on testing combinations in all room equivalents in an effort to test typical materials that are representative of the room equivalent. Testing combinations were tested non-destructively by holding the shutter of the XRF against the surface being tested. At each XRF assay location, the trigger is depressed to open the shutter, and one reading was made using the standard paint testing mode. Results of each assay were recorded in the memory of the XRF spectrum analyzer and downloaded via the software provided by the manufacturer. In addition, the results of each assay were read and recorded on the XRF Data Sheet field data sheet.

The XRF testing orientation is depicted on the attached sample location maps. The "A" direction was initially assigned to the direction of the street, and the subsequent directions ("B", "C", and "D") were assigned clockwise from the "A" direction. Should the subject site be located on the corner of two streets, the "A" direction is assigned to the direction of the street address of the subject site.

To ensure that the XRF equipment was working properly, various quality control tests were performed before, during, and after the on-site work. At the beginning of the work day, three start up validation measurements were made in the K and L calibration mode, using the calibration check standard associated with the particular XRF that was used. This painted standard contains a known quantity of lead and allows the XRF operator to determine whether the instrument is functioning within acceptable tolerance ranges for accuracy and precision, as determined by the manufacturer. Calibration checks were generally collected on the red 1.06 mg/cm^2 and/or yellow 1.57 mg/cm^2 Standard Reference Material (SRM) paint film, developed by the National Institute of Standards and Technology (NIST).

In addition to the three starts up tests, calibration readings are collected between each building, after four hours, and at the completion of XRF testing. Results of each calibration reading were recorded within the memory of the XRF spectrum analyzer and on the XRF Data Sheet. The quality control tests taken during testing at the subject site were within the acceptable performance range prescribed by the XRF equipment manufacturer. Documentation of the quality control calibration check is included in the XRF Data Sheet, Table 3.

APPENDIX D

CDPH FORM 8552 - LEAD HAZARD EVALUATION REPORT

State of California—Health and Human Services Agency

California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation 7/28/17

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☒ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
960 N. Harbor Drive	San Diego	San Diego	92101

Construction date (year) of structure	Type of structure		Children living in structure?
1941	☐ Multi-unit building	☐ School or daycare	☐ Yes ☒ No
	☐ Single family dwelling	☒ Other Navy Facility	☐ Don't Know

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
San Diego Unified Port District, Paul Brown	619-686-6558

Address [number, street, apartment (if applicable)]	City	State	Zip Code
3165 Pacific Highway	San Diego	CA	92101

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected ☒ Intact lead-based paint detected ☒ Deteriorated lead-based paint detected

☒ No lead hazards detected ☒ Lead-contaminated dust found ☐ Lead-contaminated soil found ☐ Other _____

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
Nicolas Carpenter	858-576-1000

Address [number, street, apartment (if applicable)]	City	State	Zip Code
5710 Ruffin Road	San Diego	CA	92123

CDPH certification number	Signature	Date
19280		8/1/17

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by Inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

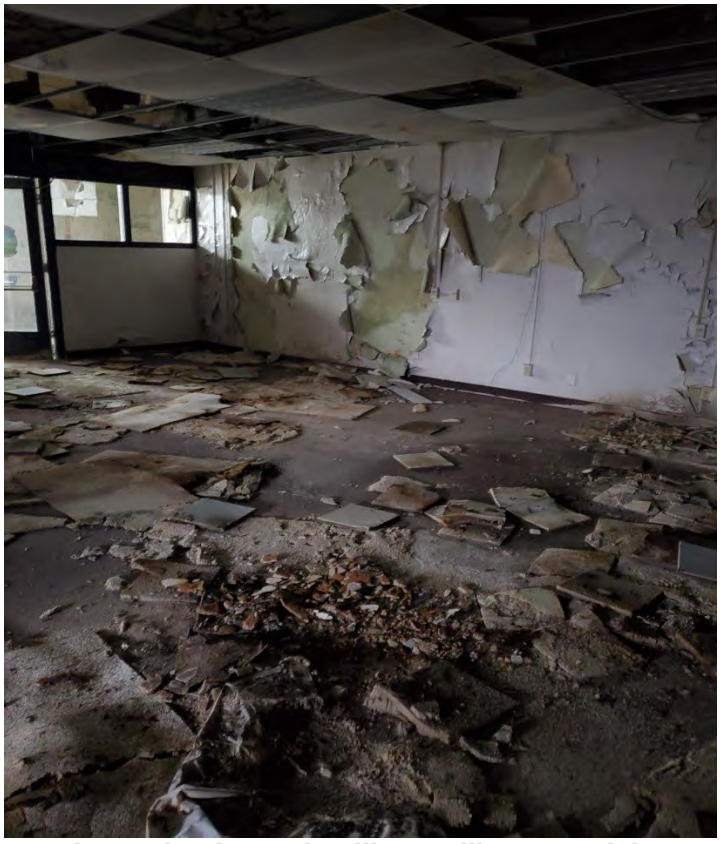
California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

APPENDIX E

PRIOR HAZARDOUS BUILDING MATERIALS SURVEYS (CD INCLUDED)

APPENDIX G

Photograph Log



Photograph 1: **Deteriorated Paint and Falling Ceiling Materials**

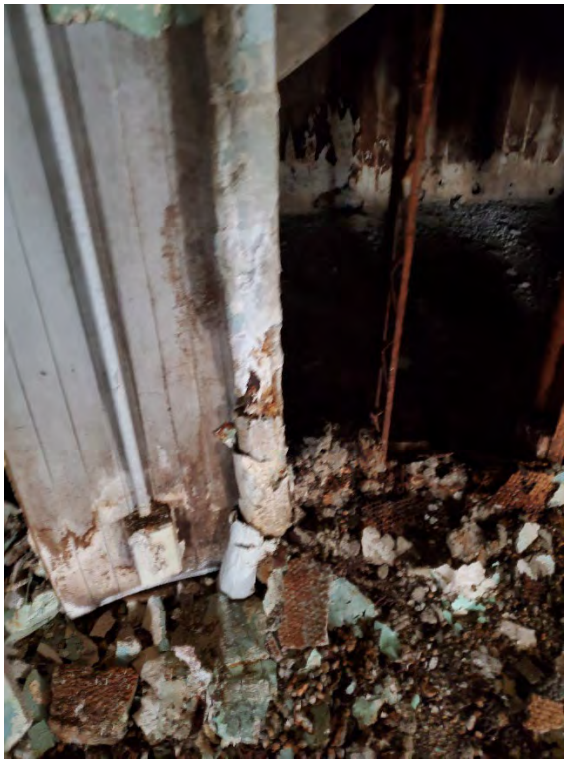
Photograph 2: **Deteriorated Paint and Falling Ceiling Materials**

Photograph 3: **Black Mold on Walls**

Photograph 4: **Black Mold on Walls**

Photograph 5: **Falling Ceiling Tiles Above Drop-Ceiling System**

Photograph 6: **Ceiling and Wall Failure with Debris Covering Stairwell**



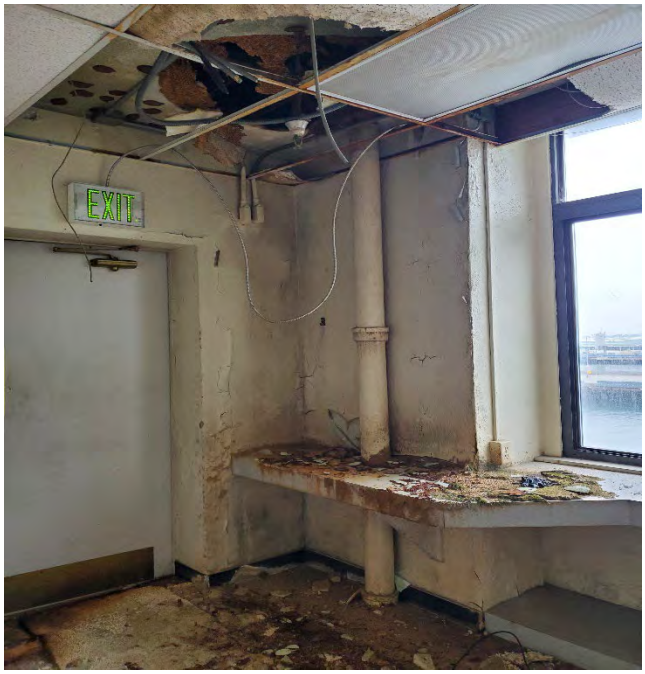
Photograph 7: **Damaged Thermal System Pipe Insulation with Debris Contamination**

Photograph 8: **Collapsed Ceiling**

Photograph 9: **Collapsed Ceiling and Delaminated Flooring**

Photograph 10: **Collapsed Ceiling, Peeling Paint, and Delaminated Flooring**

Photograph 11: **Point of Water Entry on Upper Floor**



Photograph 12: **Point of Water Entry on Upper Floor**

Photograph 13: **Biological Hazard**

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

5710 Ruffin Road | San Diego, California 92123 | p. 858.576.1000

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www.ninyoandmoore.com

Appendix G

g. Endangered Species

1. USFWS IPaC Resource List

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Freedom Park at Navy Pier

LOCATION

San Diego County, California

DESCRIPTION

Some(The San Diego Unified Port District ("Port") and USS Midway Museum ("Midway") propose to construct a public park on Navy Pier ("project"). Navy Pier is a 5.7-acre pier located on the San Diego Bay immediately north of the USS Midway Museum and is currently used for parking primarily by Midway employees, volunteers, and visitors.

The project includes the following components:
(1) Demolish the Head House Building: The Head House is a two-story, 48,000 sq. ft. building formerly used by the Navy and located on the easternmost portion of the pier adjacent to the public promenade. The building is currently vacant. The proposed demolition would include abatement of hazardous materials; removal of the interior, roof, walls and foundation system; capping and abandonment of existing utilities; installation of structural infills in pier deck openings; and paving of the pier in the demolition footprint.

(2) Reinforce Pier: The pier would be repaired and rehabilitated to support loading requirements of the proposed park and above-deck improvements. Work would occur on the pier and under the pier deck. For the work under the deck, scaffolding would be used and work would occur at low tide. Work on the pier would include concrete and asphalt removal, drilling, installation of reinforcement, and patching with epoxy or grout. Construction activities will occur following demolition of the Head House building and overlap with construction of the park. Staging and storage would be on the pier deck, within the footprint of the Head House.

(3) Improve Pier Entry and Exit: The pier entry and exit driveways would be modified to improve traffic and pedestrian flow and coordinate with the future North Harbor Drive development.

(4) Construct Public Park: The proposed 3.6 acre park includes a 32 ft. wide promenade along the northern perimeter of the existing pier to connect the Embarcadero Promenade to the west end of the pier, several pedestrian walkways, 10 benches, five swings, three shade structures, interactive play structures, lighting, landscaping, bicycle racks, coastal access and interpretive signage, a public restroom, several monuments, a memorial, and a 1,000 square foot pavilion for a low-cost snack concessionaire. The park will include 100 parking spaces.)

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440

NOT FOR CONSULTATION

(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Pacific Pocket Mouse Perognathus longimembris pacificus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8080	Endangered

Birds

NAME	STATUS
California Least Tern Sterna antillarum browni Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
Coastal California Gnatcatcher Polioptila californica californica Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered

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Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/6749

Western Snowy Plover Charadrius nivosus nivosus — Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/8035

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Orcutt's Spineflower Chorizanthe orcuttiana Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7573	Endangered
San Diego Ambrosia Ambrosia pumila Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8287	Endangered
San Diego Button-celery Eryngium aristulatum var. parishii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5937	Endangered
San Diego Thornmint Acanthomintha ilicifolia Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/351	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

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- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/ documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

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Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Oystercatcher Haematopus bachmani This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Turnstone Arenaria melanocephala This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Gull-billed Tern Gelochelidon nilotica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Lawrence's Goldfinch Carduelis lawrencei This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

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Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

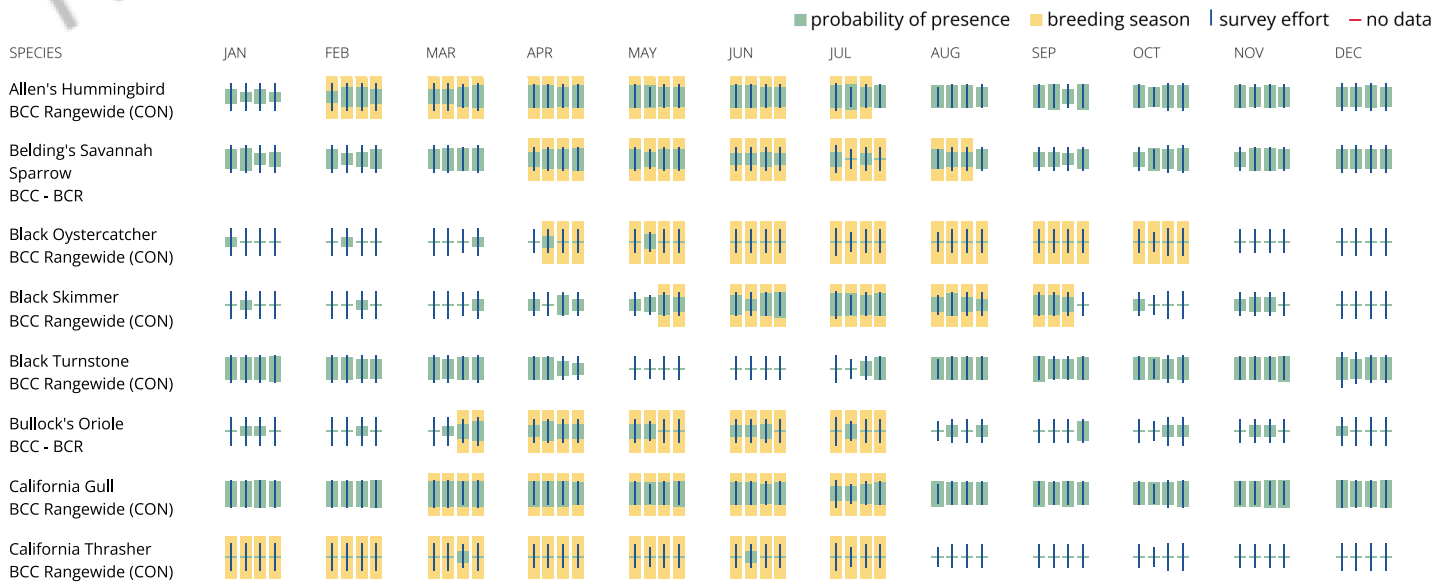
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

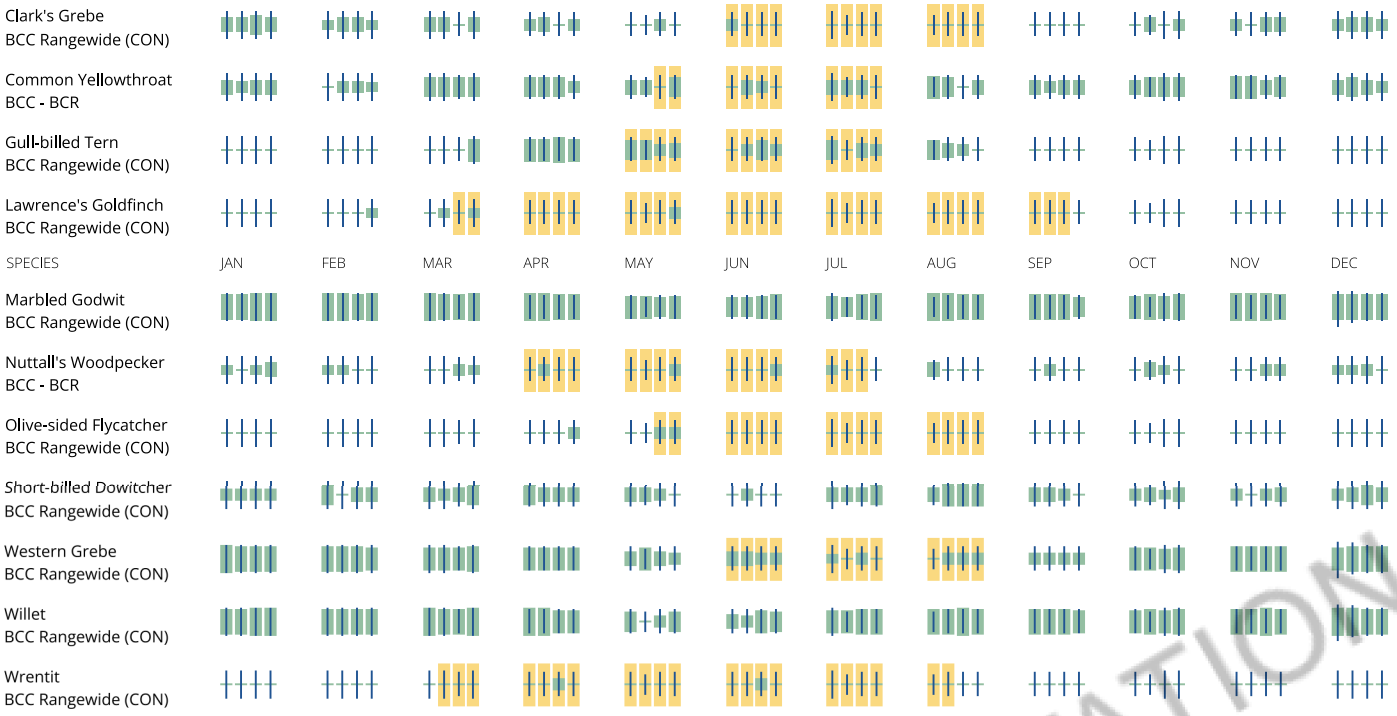
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

NOT FOR CONSULTATION

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER
E1UBL

A full description for each wetland code can be found at the National Wetlands Inventory website

NOT FOR CONSULTATION

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

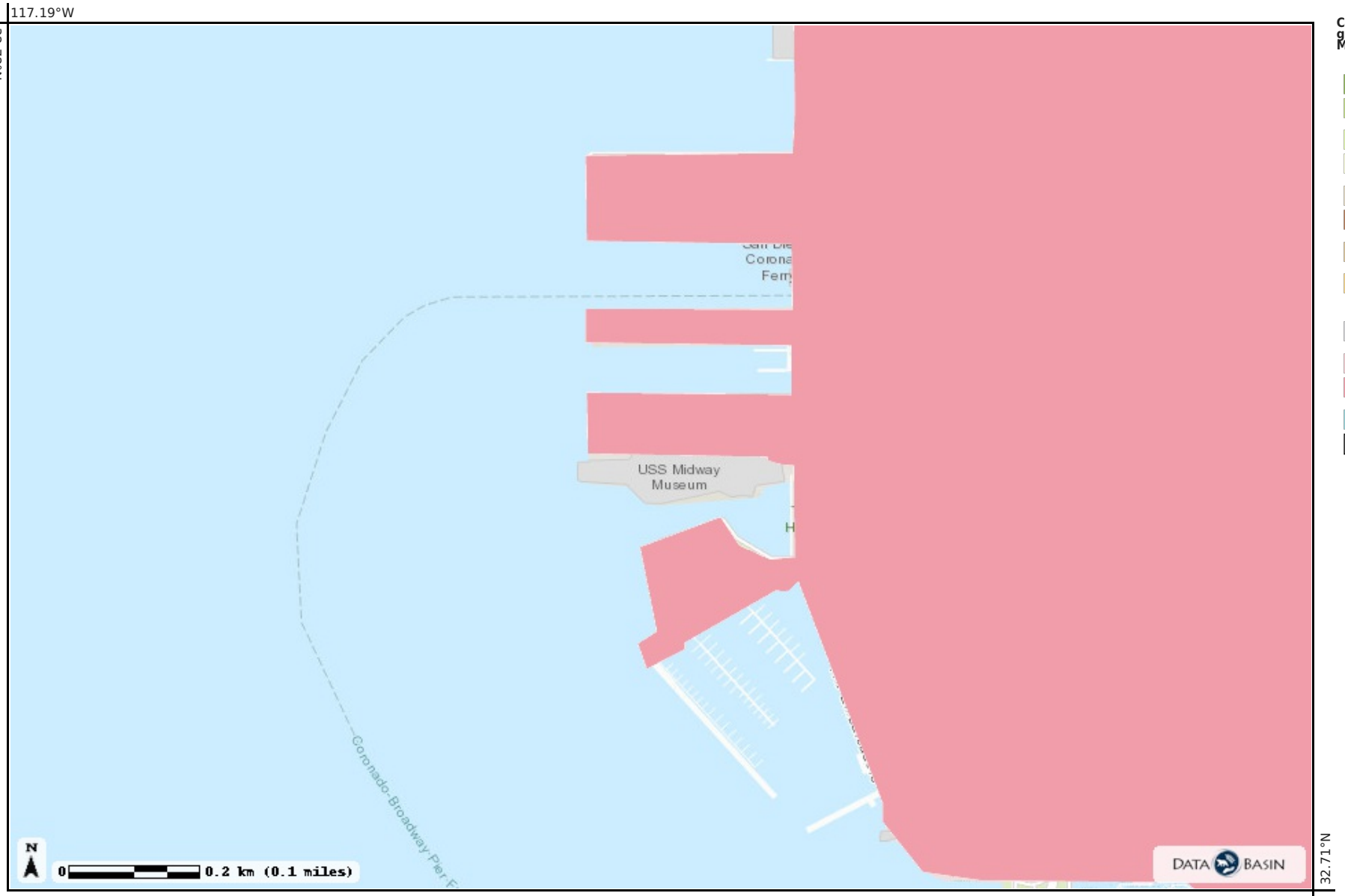
Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Appendix H

h. Farmlands Protection

1. California Important Farmlands Finder
2. Navy Pier Farmlands Map



Legend

California - Farmland Mapping and Monitoring Program (FMMP), 2014/2016

Displaying: **polygon_ty**

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Confined Animal Agriculture
- NonAgricultural and Natural Vegetation
- Semi-Agricultural and Rural Commercial Land
- Vacant or Disturbed Land
- Rural Residential Land
- Urban and Built-Up Land
- Water
- Area Not Mapped

Map Details

Datasets

California - Farmland Mapping and Monitoring Program (FMMP), 2014/2016

https://databasin.org/datasets/b83ea1952fea44ac9fc62c60dd57fe48/

Credits: California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program

Layers:

- California - Farmland Mapping and Monitoring Program (FMMP), 2014/2016

Appendix I

i. Floodplain Management

1. FEMA Flood Map Service Center
2. National Flood Hazard Layer FIRMette
3. Letter from Rick Engineering Company, dated September 1, 2023

National Flood Hazard Layer FIRMette

FEMA

117°10'54"W 32°43'7"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

117°10'17"W 32°42'37"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/17/2023 at 8:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

RICK
ENGINEERING COMPANY

September 1, 2023

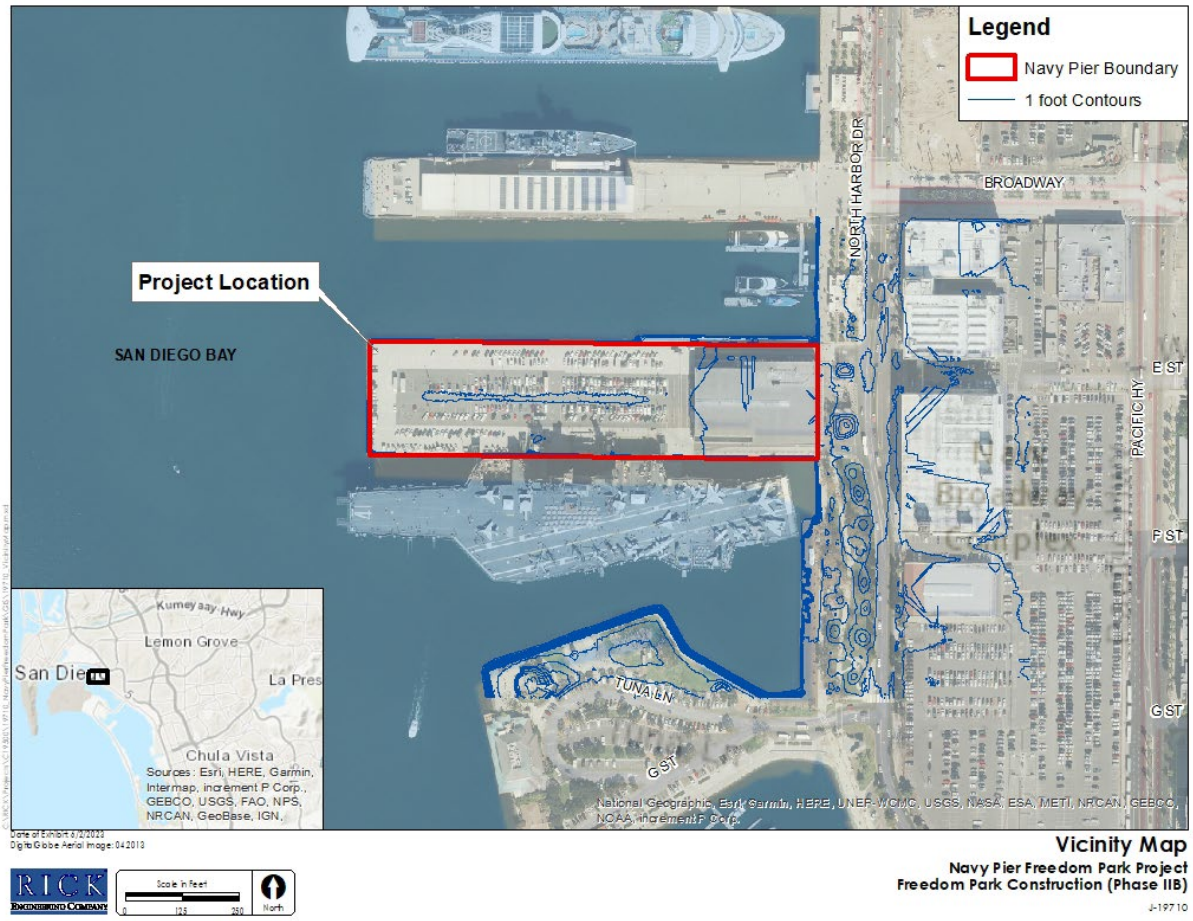
San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92101

SUBJECT: DRAINAGE DESIGN LETTER FOR NAVY PIER FREEDOM PARK, PHASE IIB
PROJECT # 76-2022JLR, DWG # EM-2022-07
(RICK ENGINEERING COMPANY JOB NUMBER 19710-A)

To Whom It May Concern:

This drainage study letter has been prepared to support the design and plan set for the proposed *Navy Pier Freedom Park Project – Freedom Park Construction (Phase IIB)* (herein referred to as the project). This document provides information on the methodologies and results of the hydrologic and hydraulic analyses performed to support the planning and design of the proposed structural best management practices (BMPs) and storm drain network. Analysis of the existing condition was performed in a previous study titled *Preliminary Hydrologic Drainage Report for Former Navy Pier Head House Demolition and Site Improvements Project (60% Design)* by RICK Engineering Company, dated October 30, 2017. The hydraulic capacity was then assessed under the proposed conditions to estimate the performance of the system with the proposed improvements. The project is located at the Navy Pier along North Harbor Drive, in San Diego, California within the San Diego Unified Ports District (District) jurisdiction. Refer to Figure 1-1 for the project location.

Figure 1-1: Vicinity Map



Drainage Characteristics

The pre-project condition is based on preliminary field reconnaissance performed by Rick Engineering Company in June and July 2017 and topographic data obtained by Rick Engineering Company.

Pre-Project Condition

The Existing Condition Drainage Exhibit in Exhibit 1 shows the delineation of the pre-project condition basins. In the pre-project condition, the project consists of surface drainage improvements that collect and convey runoff from the surface parking and one existing building on-site to the San Diego Bay. The surface parking (Basin 100) is approximately 4.1 acres of public parking that is generally used by visitors to the USS Midway Museum. Basin 100 has a trench drain that is aligned

in the shape of a horseshoe in order to collect runoff from both the exterior and interior of the pier. The exterior part of the pier is sloped to drain inward towards the trench drain. The center of the pier is crowned to allow positive drainage toward the trench drain. The trench drain has a number of pipes that discharge downward into the San Diego Bay.

The existing building covers approximately 48,000 square feet of the pier and once served as an office, warehouse, and covered parking. The existing building has been identified as Basins 201 and 202. The roof has a centrally located pitch that results in half the building draining to the north (Basin 201) and half to the south (Basin 202). Drainage from the building and adjacent pier pavement is collected in a number of scupper drains that drain vertically to the San Diego Bay below. Basins 201 and 202 are approximately 0.78 acres each.

On the east side of the of the Navy Pier, along Harbor Drive, four drainage areas collect runoff from the existing driveway entrance/exit portions of North Harbor Drive, and landscaped areas. The existing parking entrance (Basin 300) is approximately 0.7 acres and is sloped towards a curb core located north of the parking entrance. This curb core connects the gutter to an existing BMP constructed off site, north of the parking entrance (As-Built 35194-5-D).

South of the north driveway, Basins 500 and 600 include mostly asphalt with utility boxes with small areas of mounded planter landscaped with mulch and sycamore trees. Each of these areas drain to catch basin that in turn drains to the San Diego Bay. Basin 500 is approximately 0.22 acres and drains to a drop inlet with 8-inch discharge storm drainpipe. Basin 600 is approximately 0.27 acres and drains to a drop inlet with 6-inch discharge storm drainpipe.

Basin 700 includes the Midway Museum pedestrian access location and pier-parking exit. The Basin is approximately 0.27 acres and consists of mostly asphalt / concrete surfaces with some landscaped areas. Basin 700 drains to an existing storm drain inlet with an 18-inch reinforced concrete pipe (RCP) (As-Built 1126). The 18-inch storm drain extends south and then connects to storm piping that discharges to San Diego Bay (As -Built 21189-4-D).

Basin 400 is approximately 970 square feet of landscaped median in the center of North Harbor Drive east of the pier north parking entrance. Basin 400 drains to the east to an existing inlet with a 10-inch storm drain that is conveys flows south westerly and connects to an existing 18-inch storm drain that discharges to San Diego Bay (As-Built 35194-7-D).

Information on the pre-project condition drainage is provided on Existing Condition Drainage Exhibit in Exhibit 1.

Post-Project Condition

The Post-Project Condition Drainage Exhibit in Exhibit 2 shows the delineation of the post-project condition basins. In the post-project condition, the site consists of surface drainage improvements that collect and convey runoff from the surface parking and proposed park on-site to the structural treatment BMPs and ultimately to the San Diego Bay. The proposed project does not substantially alter the existing drainage patterns and areas and no flooding will result on or off-site.

Hydrology

The drainage facilities were evaluated to accommodate the runoff from a 100-year frequency design storm. The procedures and guidance in the 2003 San Diego County Hydrology Manual were the basis of design for this report. Rational Method was used to determine runoff rates from the 100-year frequency storm event for the drainage areas.

The Rational Method uses drainage basin parameters, including land use, percent permeability, soil type, length of flow, slope of flow path, and site-specific rainfall information in order to calculate peak runoff rates. The pre-project conditions drainage basin parameters were determined through topographic data gathered from topographic surveys performed by Rick Engineering Company in June and July 2017.

The drainage basins for the pre- and post-project conditions were delineated through the analysis of the topographic data and site-specific features. Each drainage basin was analyzed individually, and peak flow rates were compared between pre-project and post-project conditions at the nodes as shown on the provided drainage exhibits in Exhibits 1 and 2.

2.1 Hydrologic Analysis Methodology

The hydrologic analysis was performed in general conformance with the County of San Diego Hydrology Manual. The purpose of the hydrologic analysis was to determine peak flow rates associated with various storm events to then assess the hydraulic capacity of the existing system and the variation in performance, if any, that may result from the implementation of the proposed structural BMPs. The 100-year return frequency is the appropriate flood control design storm for storm drain systems pursuant to the County of San Hydrology Manual for drainage areas less than 0.5 square miles. Rainfall intensity was calculated using the equation in Section 3.1.3.

The Drainage Design Manual specifies that the Rational Method shall be used for hydrologic analysis of watersheds less than one square mile (640 acres). The Rational Method was used for this study, and the Rational Method is as follows:

Rational Method Formula

$$Q = CIA$$

Where:

Q = the peak rate of flow, in cubic feet per second (cfs)
C = a runoff coefficient including the percentage of rainfall which becomes surface runoff
I = the average rainfall intensity for a storm duration pursuant to the time of concentration (Tc) of the contributing drainage area, in inches per hour (in/hr)
A = the drainage area tributary to design point, in acres (acres)

In order to perform the hydrologic analysis; base information for the study area is required. This information includes the existing drainage facility locations and sizes, existing land uses, flow patterns, drainage basin boundaries, and topographic elevations. Drainage basin boundaries and topographic elevations are shown on the drainage exhibits 1 & 2..

Time of Concentration (Tc)

The time of concentration (Tc) value calculated for each drainage basin, for both pre- and post-project conditions, and was determined to be between 2 and 8 minutes. The short Tc is due to the relatively short flow paths within each drainage basin and high percentage of impervious surfaces. In accordance with the San Diego County Hydrology Manual, a minimum Tc value of 5 minutes was utilized for calculation of Tc of less than 5 minutes. The runoff intensity was based on 5 minutes for the majority of the basins.

Criteria

The hydrologic conditions were analyzed in accordance with the County of San Diego's design criteria as follows:

Design Storm:	100-year
Runoff Coefficients:	
90% Impervious	C = 0.87 (Per Table 3-1 of the Hydrology Manual)
Pervious, Soil Type D	C = 0.35
Combination	Area weighted average each calculation
Soil Type:	D
Rainfall Intensity:	Based on time-intensity criteria per County of San Diego equation in section 3.1.3

2.2 Hydrologic Results

Table 1. Summary of Hydrologic Areas

Basin	Pre Project Basin Area (acres)	Pre Project Q100 (cfs)	Basin	Post-Project Basin Area (acres)	Post Project Q100 (cfs)
101	4.30	17.97	100	1.03	4.12
			101	0.66	1.37
			102	0.70	1.14
			103	0.71	0.52
			104	0.47	1.17
			105	0.54	0.67
102	0.16	0.68	106	0.61	1.54
201	0.78	3.26			
202	0.78	3.26	107	0.53	1.65
300	0.12	0.48	108	0.59	1.08
400	0.03	0.06			
500	0.22	0.84			
600	0.19	0.71	109	0.66	1.84
700	0.27	0.96			
Total	6.50	28.22		6.50	15.09

Hydraulics

Pipes conveying the 100-year storm were sized using Normal Depth Calculations. A safety factor of 30% was used to size the pipes. Detailed calculations and sizes for the pipes can be found in Attachment 2. The normal depth equation is:

$$Q = \frac{1.49}{2} AR^{2/3}\sqrt{S}$$

Where:

Q = the peak rate of flow, in cubic feet per second (cfs)
n = Mannings roughness coefficient
P = wetted perimeter (feet)
A = area (square feet)
R = hydraulic radius R=A/P (feet)
S = slope of the energy grade line (feet/feet)

Conclusion

This letter has been prepared in support of the on-site drainage configuration for the Navy Pier Freedom Park Phase IIB project. Due to a decrease in impervious cover, the current project design generates a lesser flow than in the pre-project condition, therefore detention is not required. Normal depth calculations and the Rational Method were used to model the hydraulics and hydrologic characteristics of the site. The proposed runoff will not exceed the capacity of the proposed drainage system.

Please feel free to contact me if you have any questions and/or concerns at (619) 291-0707.

Sincerely,

RICK ENGINEERING COMPANY

Venkat Gummadi
RCE #81958, Exp. 03/24
Principal

VG:JM:vs/WR/Reports/Ph2/DrnStudy/19710-A.001

Enclosures

cc: Noemi Acquino, Port of San Diego
Mr. Nick Dorner, Rick Engineering Company

Attachments:
1. Local Hydrology
2. Hydraulic Calculations

Exhibit 1 – Pre-Construction Drainage Study Map for Phase IIB
Exhibit 2 – Post-Construction Drainage Study Map for Phase IIB

ATTACHMENT 1

Local Hydrology

Rational Method					
DMA ID	**C**	**I**	**Local Area (Acres)**	**Q 100 (cfs)**	**Proposed Pipe Size (inches)**
DMA D.1	0.61	6.59	1.03	4.12	18"
DMA D.2	0.31	6.59	0.66	1.37	12"
DMA D.3	0.25	6.59	0.70	1.14	10"
DMA D.4	0.11	6.59	0.710	0.52	8"
DMA D.5	0.38	6.59	0.470	1.17	10"
DMA D.6	0.19	6.59	0.54	0.67	8"
DMA D.7	0.38	6.59	0.61	1.54	12"
DMA D.8	0.47	6.59	0.53	1.65	12"
DMA D.9	0.28	6.59	0.59	1.08	10"
DMA D.10	0.42	6.59	0.66	1.84	12"

ATTACHMENT 2

Hydraulic Calculations

Navy Pier Freedom Park
J-19710A
September 1, 2023

Preliminary Storm Drain Size

The purpose of this table is to provide an estimated pipe size to convey the 100-year flow rates with a sizing factor.

Manning's n: 0.013

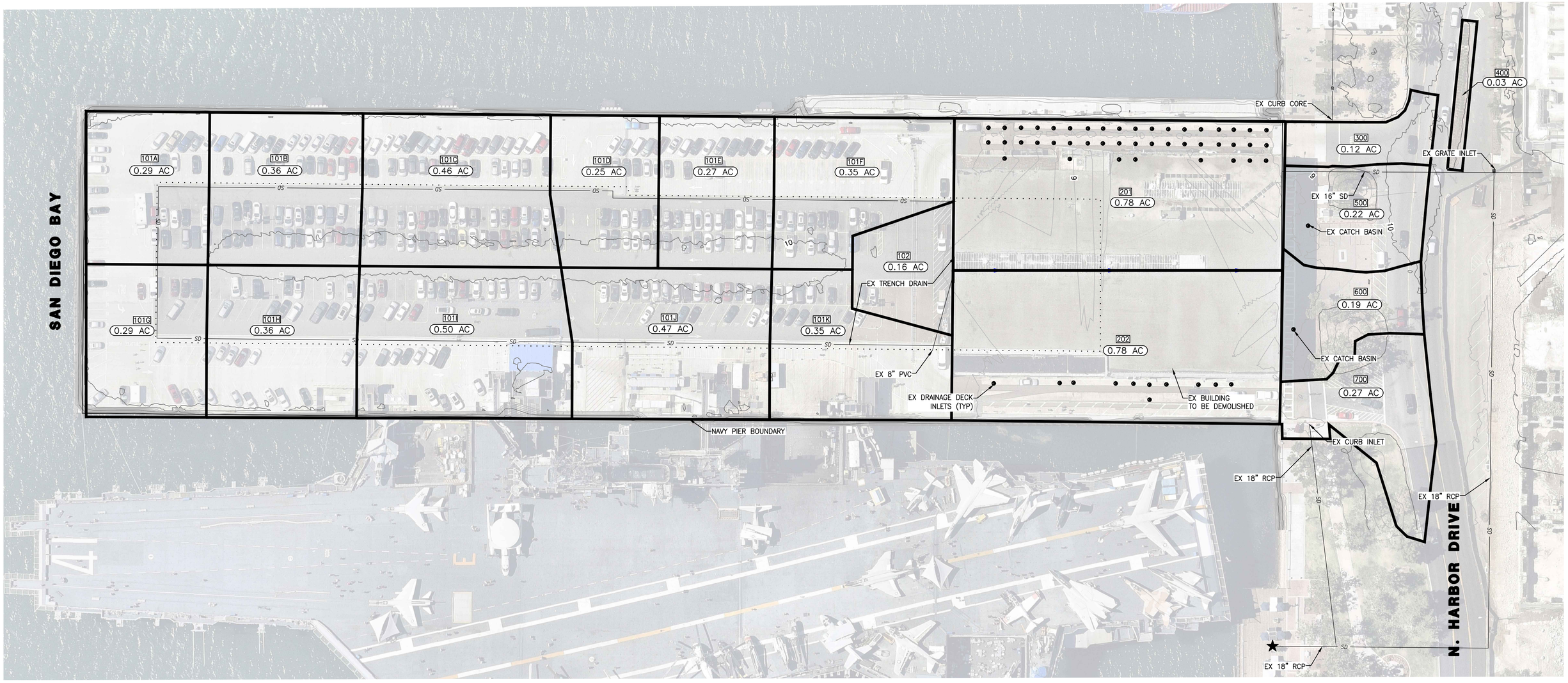
Sizing Factor (%): 30

			Slope at:	0.5%		0.6%		1.8%		3.0%	
DMA ID	Q_{100} (cfs[1])	Q_{100} with Sizing Factor (cfs[1])		Minimum Pipe Size[2] (feet)	Recommended Pipe Size (inches)	Minimum Pipe Size[2] (feet)	Recommended Pipe Size (inches)	Minimum Pipe Size[2] (feet)	Recommended Pipe Size (inches)	Minimum Pipe Size[2] (feet)	Recommended Pipe Size (inches)
DMA D.1	4.1	5.4		1.33	18"	1.29	18"	1.04	18"	0.95	12"
DMA D.2	1.4	1.8		0.88	12"	0.85	12"	0.69	10"	0.63	8"
DMA D.3	1.1	1.5		0.82	10"	0.80	10"	0.64	8"	0.58	8"
DMA D.4	0.5	0.7		0.61	8"	0.59	8"	0.48	6"	0.44	6"
DMA D.5	1.2	1.5		0.83	10"	0.80	10"	0.65	8"	0.59	8"
DMA D.6	0.7	0.9		0.67	8"	0.65	8"	0.53	8"	0.48	6"
DMA D.7	1.5	2.0		0.92	12"	0.89	12"	0.72	10"	0.65	8"
DMA D.8	1.7	2.1		0.94	12"	0.92	12"	0.74	10"	0.67	8"
DMA D.9	1.1	1.4		0.80	10"	0.78	10"	0.63	8"	0.57	8"
DMA D.10	1.8	2.4		0.98	12"	0.95	12"	0.77	10"	0.70	10"

Note:
1. "cfs" = cubic feet per second.
2. Minimum pipe sizes are calculated using the Manning's equation and are based on the flow rates with 30% factor.

EXHIBIT 1

Pre-Project Drainage Study Map



DRAINAGE SUMMARY TABLE

BASIN	TOTAL (FT^2)	IMPERVIOUS (FT^2)	PERVIOUS (FT^2)	DRAINS TO:
101	172,310	172,310	–	TRENCH DRAIN ON PIER
102	7,100	7,100	–	TRENCH DRAIN ON PIER (NODE 102)
201	34,000	34,000	–	CATCH BASINS ON PIER (NODE 701)
202	34,000	34,000	–	CATCH BASINS ON PIER (NODE 701)
300	5,010	5,010	–	EXISTING BMP (NODE 303)
400	1,520	550	970	10–IN STORM DRAIN (NODE 401)
500	9,760	7,760	2,000	8–IN CATCH BASIN (NODE 501)
600	8,470	6,370	2,100	6–IN CATCH BASIN (NODE 601)
700	11,780	8,330	3,450	18–IN STORM DRAIN (NODE 701)

NAVY PIER PLAN VIEW

SCALE: 1" = 40'

NOT FOR CONSTRUCTION – FOR DRAINAGE MAP ONLY

LEGEND

- DRAINAGE BOUNDARY
- 101 CATCHMENT ID
- 1.25 AC DRAINAGE AREA
- 950 EXIST. MAJOR ELEV. CONTOUR
- 948 EXIST. MINOR ELEV. CONTOUR
- SD EXIST. STORM DRAIN
- CURTAIN WALL BOUNDARY
- OUTFALL LOCATION

N

40 20 0 40 80

GRAPHIC SCALE: 1"=40'

NOTES:
1. VERTICAL DATUM: NGVD 29
2. ENTIRE SITE IS HSG D.
3. APPROXIMATE DEPTH TO GROUNDWATER (GW): 5 FEET < GW DEPTH < 10 FEET BASED ON DIFFERENCE BETWEEN GROUND ELEVATIONS AND MEAN HIGH TIDE ELEVATION.

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
rickengineering.com

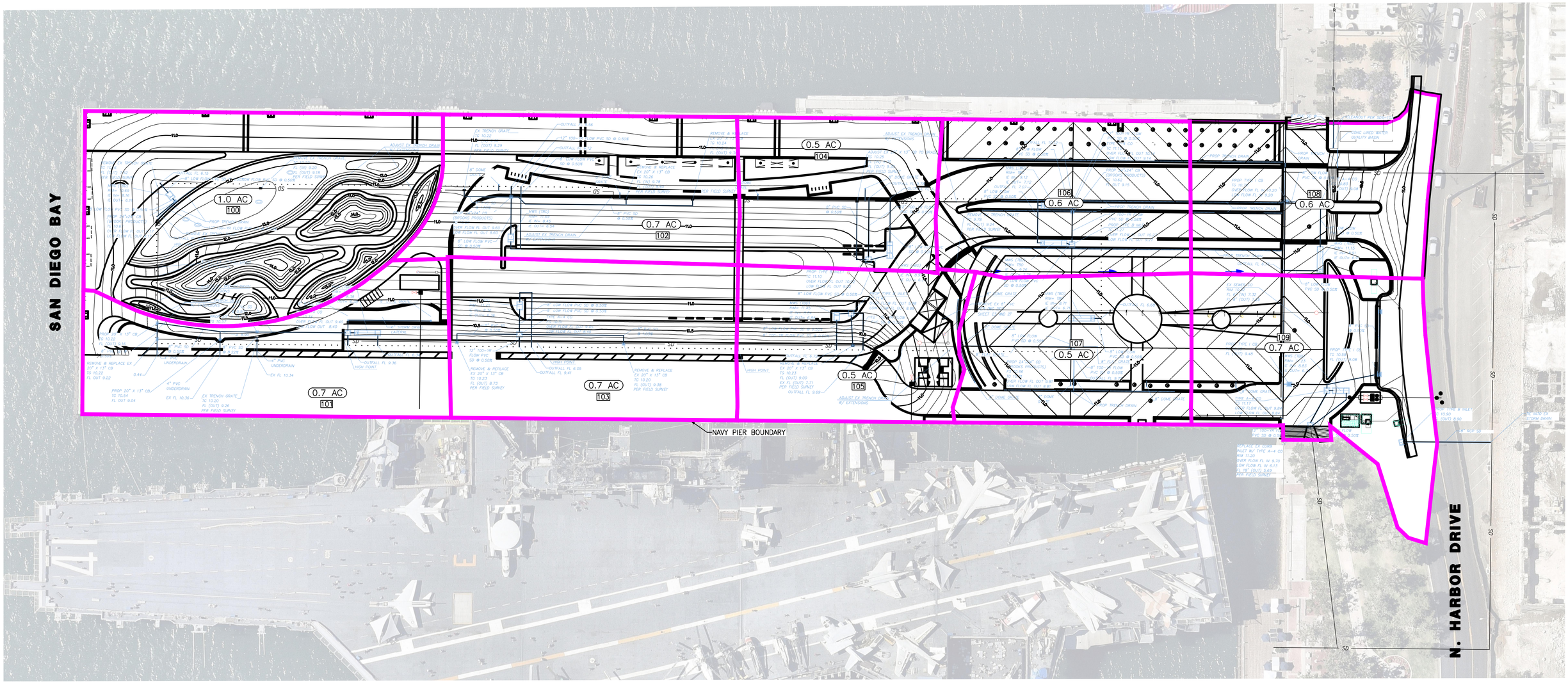
DRAINAGE EXHIBIT
EXISTING CONDITION
NAVY PIER FREEDOM PARK - PHASE 2B

PROJECT NO:	19710	SCALE:	1"=40'
DRAWN BY:	MBM/AMC	DATE:	06/01/2023

\\cp.rickeng.com\projects\C19500\19710_NavyPierFreedomPark\WaterRes\19710_drm_pre.dwg – plotted by: mmacasaddu ON 2023-08-21 @ 14:09 – etbrec_res.ctb – © 2023 Rick Engineering Company

EXHIBIT 2

Post-Project Drainage Study Map



NAVY PIER PLAN VIEW
SCALE: 1" = 40'

DRAINAGE SUMMARY TABLE			
BASIN	TOTAL (FT^2)	IMPERVIOUS (FT^2)	PERVIOUS (FT^2)
100	44,870	13,560	31,310
101	28,750	25,220	3,530
102	30,490	25,740	4,750
103	30,930	30,760	170
104	20,470	18,220	2,250
105	23,520	22,850	670
106	26,570	21,350	5,220
107	23,090	11,510	11,580
108	25,700	23,130	2,570
109	28,750	22,210	6,540

LEGEND

- DRAINAGE BOUNDARY
- 101 CATCHMENT ID
- 1.25 AC DRAINAGE AREA
- 950 PROP. MAJOR ELEV. CONTOUR
- 948 PROP. MINOR ELEV. CONTOUR
- PROP. STORM DRAIN
- CURTAIN WALL BOUNDARY

N

40 20 0 40 80
GRAPHIC SCALE: 1"=40'

NOTES:
1. VERTICAL DATUM: NGVD 29
2. ENTIRE SITE IS HSG D.
3. APPROXIMATE DEPTH TO GROUNDWATER (GW): 5 FEET < GW DEPTH < 10 FEET BASED ON DIFFERENCE BETWEEN GROUND ELEVATIONS AND MEAN HIGH TIDE ELEVATION.

NOT FOR CONSTRUCTION – FOR DRAINAGE MAP ONLY

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
rickengineering.com

DRAINAGE EXHIBIT
PROPOSED CONDITION
NAVY PIER FREEDOM PARK - PHASE 2B

PROJECT NO:	19710	SCALE:	1"=40'
DRAWN BY:	JRM	DATE:	08/03/2023

\\cp.rickeng.com\projects\C19500\19710_NavyPierFreedomPark\WaterRes\19710_drn_post.dwg – plotted by: jmoore ON 2023-08-28 @ 10:53 – ctb:res_ncs.ctb – © 2023 Rick Engineering Company

Appendix J

j. Historic Preservation

1. Letter from State Historic Preservation Officer
2. Cultural Resources Assessment of 1050 North Harbor Drive, San Diego, City of San Diego, California, 2014
3. When to Consult with Tribes Under Section 106 Checklist

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

June 20, 2003

Reply to:USN030523B

Mr. Jan K. Larson, Director of Operations
Commander Navy Region Southwest
Natural Resources Office (Code N45JNW.wm)
33000 Nixie Way, Building 50
San Diego, CA 92147-5199

Re: Conveyance of Navy Pier 11, San Diego, CA

Dear Mr. Larson:

The Navy, the Advisory Council on Historic Preservation (ACHP) and I have been consulting pursuant to 36 CFR 800 in regard to a Navy undertaking that would convey Navy Pier 11 in San Diego to the San Diego Aircraft Carrier Museum (SDACM) for purposes of berthing the ex-Midway. As part of the ongoing consultation in this matter, your letter of June 10, 2003 (received June 16th) proposes that the undertaking under consideration herein is discrete and unrelated to the Broadway Complex project for which a Section 106 Memorandum of Agreement (MOA) was executed in 1990. Pier 11 is a property involved in both undertakings. Pier 11 and Buildings 1 and 12 were identified as a district eligible for inclusion in the National Register of Historic Places (NRHP) pursuant to the section 106 consultation conducted for the Broadway Complex project. The three contributors to this district were deemed not to be individually NRHP eligible.

The Broadway Complex Project MOA accepts the demolition of Buildings 1 and 12. Consequently, the historic district no longer exists and Pier 11 is not an historic property because it is not individually NRHP eligible. To mitigate its loss, the district was recorded to HABS standards.

The Navy originally suggested that its Section 106 responsibilities for the present undertaking could be satisfied by suitably amending the Broadway Complex Project MOA. Subsequent technical discussions among the Navy, the ACHP and my staff concluded that there was an appropriate alternative to amending the Broadway Complex Project MOA. This alternative, and the reasons that justify its use, are correctly set forth in your correspondence.

Having determined, in consultation with the ACHP and this office, that conveyance of Pier 11 to the (SDACM) is a separate undertaking, the Navy has delineated the undertaking's area of potential effects (APE) and has found that there are no historic properties within this APE that will be affected by the undertaking. The Navy has asked me to comment on its finding.

I herewith concur in the Navy's finding that there are no historic properties that will be affected by conveyance of Pier 11 to the SDACM for berthing of the ex-Midway.

The Navy's efforts to bring this section 106 consultation to a successful resolution are appreciated. If you have any questions, please contact Hans Kreutzberg of my staff.

Sincerely,

Dr. Knox Mellon
State Historic Preservation Officer

cc: ACHP

(79)

San Diego Unified Port District
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Cultural Resources Assessment of 1050 North Harbor Drive, San Diego City of San Diego, California

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I. Introduction

A. Purpose

The purpose of this Cultural Resources Assessment is to present a comprehensive document that (1) identifies potential impacts to such resources that might be caused by the proposed project, and (2) recommends mitigation for any such impacts.

B. Project Description

The proposed project is the demolition of the building located at 1050 North Harbor Drive, San Diego (Assessor's Parcel Number 760-012-77). The project site contains a vacant, circa 1932, Class 5, one-story concrete reinforced frame building of approximately 2400 square feet set on concrete piers. The building was most recently used by the Bay Café, which ceased operations in January of 2014. Formerly, floats were attached to this structure to serve the San Diego Harbor Excursions, but that enterprise was relocated to another part of the harbor in 2012. The proposed project will demolish this building, its concrete pad and supporting piles, or demolish only the building, leaving the concrete pad and supporting piles and creating a public access area with seating. Once demolition activities completed, the project would install a guard rail as a safety measure. No replacement building or structure is proposed for the project site.

C. Guidelines for Assessment

Potential historical resources are to be assessed in accordance with the provisions of California Public Resources Code that establish and implement the California Register of Historical Resources. Any property that has been determined eligible for inclusion in the National Register of Historic Places is automatically included in the California Register of Historical Resources. The National Register of Historic Places is the official list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology, engineering and culture. The National Register criteria for evaluation are as follows:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
>
> (a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
> (b) That are associated with the lives of persons significant in our past;
> (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant or distinguishable entity whose components may lack individual distinction; or
> (d) That have yielded, or may be likely to yield, information important in prehistory or history.

In addition, resources that are associated with events that have made a significant contribution to the broad patterns of California's cultural heritage, and resources that represent the work of important creative individuals are also eligible for the California Register. The California Register of Historical Resources is an authoritative guide to be used by local and state agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.

The California Register criteria are as follows:

> Criterion 1 - Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
>
> Criterion 2 – Associated with the lives of persons important to local, California or national history
>
> Criterion 3 – Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
>
> Criterion 4 – Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

With reference to federally owned properties within the project area, Section 106 of the National Historic Preservation Act (NHPA) applies. This Act requires any federal agency with jurisdiction over a federal undertaking to take into account the effects of the agency's undertakings on properties included in or eligible for the National Register of Historic Places and, prior to approval of an undertaking, to allow the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

Section 106 of the National Historic Preservation Act requires the heads of all federal agencies to assume responsibility for the historic properties owned or controlled by such agency. Each federal agency must establish a preservation program that identifies, evaluates, and, when appropriate, nominates properties to the National Register of Historic Places. Properties listed or determined eligible for the National Register must be managed and maintained in a way that considers preservation of their historical, archaeological, architectural or cultural values. The agency's preservation-related activities must be carried out in consultation with other Federal, state, or local agencies, and if appropriate, Native American tribes. The agency's procedures must comply with Section 106. Compliance with Section 106 satisfies the cultural resources requirements of the National Environmental Policy Act (NEPA).

D. Methodology

1. Field Study

The historical field study consisted of a visual inspection of all existing structures in the immediate vicinity of 1050 North Harbor Drive by Marie Burke Lia, J.D. and Kathleen Crawford,

M.A. on January 10, 2014. The subject building's exterior was photographed from all available angles and interior photographs were taken as well. These photographs are included in Appendix A.

2. Archival Research

A wide range of resources were reviewed to determine the existing conditions, historic uses and development of the property and alterations and changes to the building and the surrounding location.

Oral interviews were conducted with Port of San Diego staff, including William C. Miller, Asset Manager, Real Estate; Ralph Miller Gano, Jr., former water taxi operator; and George Palermo, President of Star & Crescent Boat Company, the long term lessee of property. The records of the Port of San Diego were obtained; City of San Diego Building Permits were reviewed; County of San Diego Records were obtained; the files of the San Diego Maritime Museum were consulted; the newspaper files of the *San Diego Union Tribune* were researched for information regarding the subject property; and the historical files and historic photograph collection of the San Diego History Center were accessed for information and historic images of the subject property.

II. Existing Conditions

A. Historic Setting

The Bay Café is located in San Diego's North Embarcadero area, which is a long, narrow strip of land located along the west side of Pacific Highway. The Embarcadero is part of the larger San Diego Unified Port District. The property is located slightly north of Broadway and therefore, falls into two historic areas of San Diego – formerly referred to as "New Town" and "Middletown." The subject area straddles the boundaries of both areas that played a key role in the development of modern San Diego. This section of San Diego's waterfront area did not exist prior to 1914. All of the land area west of Pacific Highway was created by the construction of a bulkhead and the installation of dredge fill between 1914 and 1943.

San Diego Unified Port District Background

The San Diego port area has a long history dating back to the mid-1500s with the first Spanish exploration of the San Diego Bay. In 1911, the California Legislature granted control of the tidelands to the City of San Diego. In 1919, the San Diego Harbor Commission and Harbor Department were established to administer the tidelands. The San Diego Unified Port District was created in 1962 after the California State Legislature passed Senate Bill 41 and the San Diego County Board of Supervisors certified the District.

The San Diego Unified Port District covers 33 miles of waterfront and submerged tidelands along the inner and outer harbor. This territory spans five cities – San Diego, National City, Imperial Beach, Coronado and Chula Vista. The District has landlord and policing authority over these lands, which involves a multitude of services to the public including providing for public

safety, developing and maintaining infrastructure, managing real estate, operating two marine terminals, and ensuring regulatory compliance. The District was charged with promoting fisheries, navigation, recreation and commerce on the tidelands.

The Port is governed by a seven-member Board of Port Commissioners, one commissioner each is appointed by the city councils of Chula Vista, Coronado, Imperial Beach, and National City; and three commissioners are appointed by the San Diego City Council. The Board establishes policies under which the Port's staff, supervised by the Executive Director, conducts daily operations.

In 1964, the citizens approved a $10.9 million bond for capital improvements. Improvements included the development of a new air terminal, preparation for Harbor Island to be leased, and construction of a new cargo terminal at National City. The Port of San Diego administers two marine cargo facilities – the Tenth Avenue Marine Terminal and the National City Marine Terminal. The Tenth Avenue Marine Terminal is a 96-acre multi-purpose, eight-berth facility. Inbound cargo includes refrigerated commodities, fertilizer, cement, break bulk commodities, and forest products. The terminal features an on-dock, state-of-the-art, 300,000 square foot square foot cold storage facility warehousing a variety of fresh produce and other perishables. The National City Marine Terminal is a 125-acre, seven-berth facility operated by Pasha Services, which processes vehicle imports and exports.

In 2009, the U.S. Bureau of Transportation Statistics ranked the Port of San Diego as one of America's top thirty containership ports, bringing in nearly 3,300,000 metric tons of cargo per year. Together with the National City Marine Terminal, the Port is the primary point of entry for Honda, Acura, Isuzu, Volkswagen, Nissan, Mitsubishi and Hino Motors into America. The Port also holds a twenty-year lease with Dole Food Company which brings in much of the country's banana crop.

The Port's main cruise ship facility is located downtown. The main facility is the B Street Pier along North Harbor Drive and contains three berths for cruise ships. Holland America, Carnival Cruises and Royal Caribbean lines use San Diego as a home port. Other cruise lines use the facilities as a port of call. The Port also developed the Broadway Pier to create a second cruise ship pier terminal in 2010.

The Port jurisdiction also includes three shipyards on San Diego Bay. National Steel and Shipbuilding Company (NASSCO), Continental Maritime of San Diego, and Southwest Marine are the three shipyards. NASSCO is the largest new construction shipyard on the west coast of the United States, specializing in auxiliary and support ships for the U.S. Navy and oil tankers and dry cargo carriers for commercial markets.

San Diego Unified Port District History

Information taken from the "Port of San Diego/History and Development, A Brief History of the Development of the Port of San Diego" provided by the San Diego Unified Port District was used as the foundation for the following information.

During the 1500s, the Spanish and Portuguese governments launched major exploratory voyages around the world to form new commercial trade routes and create extensive colonial empires. Juan Rodriguez Cabrillo, a Portuguese sailor and explorer in the employ of the Spanish government, sailed into San Diego Bay on September 28, 1542. No changes came to the San Diego area as a result of this exploratory voyage, but the door had been opened to Spanish development of California in the 1700s. Spain had established a large colonial empire stretching from California to South America in the 1700s and decisions were made by the Spanish crown in the 1760s to establish a military and missionary presence in California. In 1769, the *San Carlos* sailed into San Diego Bay, bringing Father Junipero Serra and Don Gaspar de Portola, the expedition's military leader, and the plans to develop a chain of missions and presidios began in San Diego.

Beginning with the establishment of the Royal Presidio de San Diego along the San Diego River and the Mission San Diego de Alcala, a few miles up the river in Mission Valley, the Spanish crown created a strong presence in San Diego. Eventually a chain of missions and presidios linked Northern California, Southern California, and Baja California to important government centers in Mexico City.

The missions were given vast amounts of land to administer and soon large herds of cattle, sheep, and other livestock, along with locally-produced products, were in production throughout California. The Spanish had established the Manila galleon trade system with ships leaving Spain, traveling to the Philippines, sailing to California and making stops down the west coast to pick up local products and hides and tallow from the cattle industry, then heading to Mexico City for dispersal of the goods. In addition, the whaling industry provided additional products for commercial ventures. By the 1790s, a thriving trade had been established with the newly formed United States of America.

By the 1820s, the Spanish government's plans to establish a thriving commercial operation in California had faded and support for the Presidio waned. Military residents moved down the hill and slowly built homes and businesses in what became known as Old Town.

The development of the Industrial Revolution, the establishment of factory systems needing California products, and the ongoing expansion of the United States across North America led to increased interest in California and its commercial possibilities.

In 1820, two ships from Boston arrived in San Diego Bay, picked up large loads of hides and tallow for the East Coast shoe factories, and created a foundation for a trade system that lasted for over three decades.

Mexico fought for its independence from Spain in the 1820s, taking over Mexico and California and establishing a new system of ranchos and large land grants filled with cattle on the hillsides. In 1834, the mission system was secularized, releasing large amounts of land for additional cattle raising development. Also in 1834, San Diego was granted the status of "pueblo" by the Mexican government. The ports of San Francisco and Monterey were closed in 1838 and San Diego was established as the Customs Port.

The United States entered into a war with Mexico in 1846, resulting in the transfer of California and other Mexican territories to the United States. California quickly became a state in 1850 as the Gold Rush had begun in 1848, drawing over a 100,000 new residents to the territory and allowing it to reach the population requirements for application for statehood. One of the effects of the population influx was the decline of the hide and tallow trade as it became more profitable to sell cattle for meat.

The Old Town area was suffering a certain amount of decline in the 1850s and city leaders were exploring new options regarding the harbor and potential commercial activities. A newcomer to San Diego, William Heath Davis, envisioned a new city further south along the Bay area, and constructed a commercial wharf at the foot of today's Kettner Boulevard in 1850. In 1851, the steamship *Goliath* arrived in San Diego from San Francisco and regular service between the two cities was developed.

In 1869, Alonzo Horton arrived in San Diego from Wisconsin via San Francisco, and planned an entirely new city which was the foundation for modern San Diego. Horton felt that Davis's location and Old Town lacked significant elements to build a prospering city. Wharves were built in Horton's Addition, streets were platted, lots were sold and very soon, a small business and residential community was thriving in the new location.

The city grew and developed under Horton's guidance in the 1870s and by 1885, the Santa Fe Railroad had built a small line from San Diego to Los Angeles. Due to the natural advantages of San Diego's Bay and the lack of any port facilities in Los Angeles at this time, the rail line was designed to move cargo from San Diego to northern cities. San Diego had the only marine terminal in Southern California and was the only port capable of handling large quantities of cargo. This advantage lasted a short time, by 1899 the port of San Pedro was under development.

In 1911, the California Legislature transferred all coastal tidal lands to their respective cities for management and development. In 1912, a million dollar bond issue was passed to finance a dredging project to improve the harbor. More bonds and improvement projects followed in the coming years. In 1915, a 30-foot dredging channel was built along the site of the proposed Broadway pier which was built the next year and extended out to the main channel.

In 1919, the first three-man commission was established to provide direction and management of the harbor areas. In 1926, the B Street Pier, a second general cargo terminal was constructed and a Master Plan for the harbor area was developed.

Major changes were coming to the harbor area after World War I as Congressman William Kettner was informed of the possibility of establishing the Naval Training Center in San Diego. The opening of the Panama Canal in 1915 had made San Diego critically important in the national defense system. Plans had been underway since the 1890s to establish a "Two-ocean" navy, made feasible by the Canal's completion. San Diego was the first American port north of the Mexican border and with its natural harbor, San Diego was ideally positioned to play a key role in the U.S. Navy's future plans for national defense.

By 1919, over 200 acres of tidelands were transferred to the Secretary of the Navy for development by the U.S. Navy. By 1923, the San Diego Naval Training Center was under construction and would play a key role in World War II and into the future.

The city also granted over 100 acres of land and submerged tidelands to the U.S. Navy for development of an additional center at 28th Street. The U.S. Naval Repair Base, now Naval Station, San Diego, grew to over one thousand acres and still plays a key role in the military system of San Diego. This complex serves as the major West Coast logistics base for operating forces of the U.S. Navy.

The Eleventh Naval District Supply Center, one of the largest supply facilities in the U.S. Navy, is still headquartered where it was first established in 1922 – on a site bounded by Broadway and Market Streets and Pacific Highway and Harbor Drive. Envisioned as a single building originally, the complex has expanded to three additional stations with over 200 buildings. Multiple acres were deeded to the Navy in 1933, 1938, and 1940. Additional submerged tidelands were transferred to the Navy for the Navy Pier in 1923 and again for its expansion in 1940.

One of the largest land transfers was the transfer of North Island to the Navy. The land had been granted by Mexican governor Pio Pico to Don Pedro Carillo in 1846. The land grant consisted of North Island, Coronado and the Silver Strand. The land changed hands several times over the years until E.S. Babcock and E. L. Story purchased the property for their planned resort development. Two years later, John D. Spreckels bought the property. North Island was developed by the military as one of the first areas for the development of naval aviation beginning in 1912.

The commercial development of the Port lands was slow during the 1920s and during the years of the Great Depression of the 1930s as the expansion of the Port of Los Angeles at San Pedro drew business away from San Diego. During the years of World War II, the port was virtually closed to all commercial shipping as the facilities were taken over by the military for war-related activities.

In the post-war years, San Diego underwent a dynamic commercial expansion. The Tenth Avenue Marine Terminal was constructed in 1955 with the funds from a bond issue. Two large Class A warehouses were added to the complex in the 1960s as the commercial development had developed to the point where additional facilities were necessary. New Master Plans were developed at regular intervals to keep pace with modern city developments and the ever growing business development.

The Harbor Commission created plans for development of Shelter Island, the yacht basin and other recreational areas to add to the amenities of the entire harbor area. Marinas and shops, boat building and repair facilities, boat sales and rental companies, sail makers, boats used as restaurants, private yacht clubs, fishing piers, boat launching ramps, and extensive landscaping were all developed in the post-war years to add to the recreational value of the waterfront.

In 1962, the California Legislature passed Bill 41, creating today's San Diego Unified Port District, which includes the cities of San Diego, National City, Imperial Beach, Coronado and Chula Vista. Projects to improve the Port District's facilities continue. The National City Marine Terminal's first phase was completed in 1968 and included changes to the wharves to handle new shipments of lumber and additional cargo handling operations. Total renovation of the Broadway Pier was undertaken in 1972. The construction of a passenger platform, customs building, parking spaces, lighting fixtures and landscaped areas converted this cargo pier into an attractive esplanade and cruise-ship facility. In 1970, the first cruise ship to offer scheduled cruises out of San Diego, since the creation of the Port, began making cruises to Mexico.

In 1983, the San Diego Cruise Industry Corporation was formed to San Diego as a cruise destination and homeport. In 1986, the B Street Pier Cruise Ship Terminal was dedicated.

B. History of the North Embarcadero Area

History of New Town

Before 1850, activity in San Diego was centered at the Royal Presidio of San Diego, Old Town located west of the Presidio, and the Mission San Diego de Alcala. Because the Old Town area was geographically constrained by steep hillsides on two sides and the sloughs of San Diego Bay on the other two sides, individuals seeking expansion and business opportunities looked southwest to the tidal flats and open shoreline on San Diego Bay. These individuals formed a partnership and a plan for a New Town near the site of an old Spanish landfall named Punta de los Muertos. The partnership was led by William Heath Davis and it would be his name that was associated with New Town San Diego and its successes and failures (Lia and Brandes 1999:7).

The northern boundary of New Town was Broadway, its eastern boundary was Front Street, and its southern and western boundaries were the tidal flats along the Bay. At this time, the main high tide line ran along Pacific Highway on the west and just below what was then Market Street on the south. Much of the property included in the 160 acre 1850 mapped subdivision of New Town lay below the water line (Lia and Brandes 1999:7).

The San Diego City Council, then known as the Common Council, redefined the city's boundaries to include New Town, and the first improvement Davis constructed was a deep water wharf just south of today's Navy Broadway complex. This enabled ships to off-load cargo and passengers directly instead of the former practice of using lighters to ferry them to shore. This first activity in New Town became its dominant activity through the turn of the century (Lia and Brandes 1999:7-8).

The driving force behind the development of New Town was the intention to link the harbor with anticipated rail lines to the east. However, the realization of the rail line did not occur until later in the century, too late for New Town which never really bloomed during this period (Lia and Brandes 1999:8).

During the Civil War in the early 1860s, the few extant structures in the area were destroyed by Union soldiers, seeking firewood during the winters of 1861-1862. Wharves, warehouses, stores, fences and outbuildings were destroyed. For the most part, the only buildings that survived after the war were scattered military buildings constructed by the U.S. Army in the 1850s (Lia and Brandes 1999:8).

The fortunes of New Town were further diminished after Alonzo Horton's arrival in San Diego in 1869. Horton purchased property to the east of the small settlement along the water. He built a T-shaped wharf at the foot of Fifth Street which immediately attracted the larger ships, bringing a whole new focus to the Bay area (Lia and Brandes 1999:8).

Gradually, commerce and business shifted to Horton's Addition. Construction of stores, small residences, and other buildings offered new business opportunities and during the 1870s, most of the activity was centered in the newly developed area. The 1880s ushered in the "boom" period of San Diego's history with a massive influx of newcomers eager to capitalize on the climate, access to shipping, business opportunities and real estate offerings, all in anticipation of the railroad's arrival. Unfortunately, plans did not work as expected and by 1888, the city underwent a "bust" period, wiping out much of the profits and dreams of the budding entrepreneurs. During the boom period, streets were paved, a sewer system was installed, and several large wharves were built along the waterfront. These wharves became the focal point for goods going out of San Diego for many decades. The lack of rail lines meant that goods could not be transported easily to the wharf area for outgoing shipment so the shipping was primarily one-way at this time. One of the most important wharves was the 1888, 2000-foot long, Spreckels Brothers Wharf, also known as the coal bunker's wharf at the foot of Market Street. The wharf had a zig-zig design and utilized rail cars, steam-driven cable lines, and winches to unload cargos of coal, lumber and cement to build a new city. By 1891, 226 vessels docked and unloaded goods at this important wharf (Lia and Brandes 1999:8).

The 1887 construction of the Santa Fe Depot impacted the business activities of these important wharves. New Town developed into a service area for the wharves and the railroad. Warehouses were constructed along with storage and lumber yards. This was a working area of San Diego and soon the local newspapers were referring to it as a "Shantytown" because the houses were built on stilts. The waterfront community was described as the "poorest, most disorderly and disgraced section of our City" (Lia and Brandes 1999: 9).

By 1906, a warehouse/industrial district had developed that would remain as the principal activity in the area for several decades. The few residences that had existed had been replaced by smaller business buildings related to storage and transportation. The shanties along the waterfront were home to Chinese fishermen, retired longshoremen, laborers, and squatters (Lia and Brandes 1999: 9-10).

At the north end of New Town, along Broadway, the turn of the century brought a new type of waterfront development. Large bathhouses, such as the Tropical Navatorium and the Los Banos were established across from the Santa Fe Depot. Hotels, rented rooms with communal bathrooms, restaurants, saloons, and small businesses were found along Broadway frontage until the 1920s. The impetus for this development west along Broadway to the water was John D. Spreckels, who took over Horton's role as the leading developer in early twentieth century San Diego (Lia and Brandes 1999: 10).

In the first decades of the twentieth century, two major developments were to occur almost simultaneously, which would change the character of New Town and Middletown forever. The first development was the anticipated opening of the Panama Canal in 1915. Because San Diego would be the first American port to be reached by the increased trade activities generated by the Canal, the City leaders wanted the waterfront to be of high quality and offering the finest services. The waterfront was to be a showcase for what San Diego could offer the international business community. The waterfront was cleaned up, shanties removed, and a variety of plans to improve the area were considered (Lia and Brandes 1999: 10).

The other key development in 1911 was the petitioning of San Diego to the State legislature for the granting of tidelands to the City for improvement. The bill authorizing this transfer required that the City make improvements by dredging, filling, and constructing bulkheads within the tideland areas. The nature of the dredging and filling process buried the shanties, piers, wharves and other structures located north and south along the waterfront with dredged fill (Lia and Brandes 1999: 11).

The project to advance the shoreline westward 400 feet was begun in 1914. Fill activities began along the west side of Pacific Highway, north of Broadway to Date Street. During the following twenty-nine years, the balance of the shoreline was filled in. The method of filling was to first construct a wooden retaining wall with a base below low tide level. The wall rose to approximately ten feet above mean sea level. Dredged sediment slurry was then pumped from the open bay to shoreward of the wall, leaving dredged sediment as fill. After the filling in the southern area was complete by 1918, docks were extended in some locations seaward from the top of the bulkhead wall, thereby forming the ultimate wharf for shipping. The final filling of the project area's waterfront resulted in the present configuration of the waterfront and Harbor Drive was constructed in 1943 (Lia and Brandes 1999: 10).

Beginning in 1919, and continuing in several phases thereafter, the City of San Diego deeded approximately four city blocks to the U.S. Navy. Due to the opening of the Panama Canal and the decision to create a "two-ocean" Navy, San Diego became a critically important part of this federal plan championed by President Theodore Roosevelt. The U.S. Navy came to San Diego in the late 19th century and continued to expand its presence, making large-scale contributions to

the area's economy and development over the twentieth century. The four blocks deeded to the U.S. Navy were at the northwestern edge of Newtown between Broadway and Market Street, and Pacific Highway and the bulkheads to the west. This newly created land mass became the site of the Navy's Broadway Complex (Lia and Brandes 1999: 11).

The only remaining historical resources remaining from the New Town era are Pantoja Park, dedicated by William Heath Davis in 1851, and named for Don Juan Pantoja y Arriaga who mapped the Bay in 1782; the site of the Military Barracks on Block 40 of Horton's Addition and Rosario Hall, a structure relocated to Centre City East and modified in the 1920s (Lia and Brandes 1999: 11).

History of Middletown

Historically, the Middletown community was located between historic Old Town and historic New Town and includes areas to the west and south of Interstate 5. Middletown contained a mix of single-family and multi-family development, along with a variety of commercial uses. The street system is generally laid out in a grid pattern, running parallel to Interstate 5. The single-family and multi-family development on the western slopes of the community conforms well to the natural topography.

In 1849, the California legislature incorporated San Diego as a City. One of the first acts of the new San Diego City Council was to approve maps of San Diego and its tidelands. At the same time, the pueblo lands were being divided among buyers, mostly for the purpose of speculation. Between downtown San Diego and Old Town, lying to the west of Balboa Park, is a long, narrow strip of low hills and tidal flats which was named "Middletown."

The second half of the 1880s marked the start of Middletown's growth with the construction of some rooming houses built close to the downtown area between 1887-1890. During this period, workers for local government, construction workers, and middle-class downtown workers took up residence below Front Street, except upon the ridges where large and impressive home sites were taken up by the more affluent. In 1880, permanent homes began to appear in the Middletown area with the first thresholds of Italian fishermen and their families.

Today, this area is part of the Downtown San Diego Community Plan Area and is identified as the Columbia neighborhood of downtown. The Downtown Community Plan (formerly the Centre City Community Plan) finds that Columbia's distinguishing characteristic is its waterfront orientation. Subsequent to filling of the area west of Pacific Highway, the area housed the Santa Fe Depot, municipal warehouses and Lane Field, the original home of the Padres. Today Columbia is a diverse neighborhood with office buildings, hotels, residential development and museums that benefit from the proximity to today's waterfront development.

III. Cultural Resources Assessment of Subject Property

A. Field Survey Results/Architectural Description

The subject building, the Bay Café structure, is located at 1050 North Harbor Drive in the downtown waterfront area of the City of San Diego. The building is sited at the edge of the water on dredged tidelands fill property under the jurisdiction of the San Diego Unified Port District.

The building is a one-story, rectangular shaped, asymmetrical in appearance, Art Moderne style commercial building. The building is sited on concrete piers that extend 25 feet into the bedrock below the surface of the water. The piers continue as the support columns of the interior areas of the building. The building has multiple entrances into the storage, kitchen, bar and restaurant areas. The entrances include single metal or metal and glass doors. A large circular window is present at the midpoint of the east façade, the main elevation. The window is flanked by stepped glass block panels. Flat roof sections project outward from the main mass of the building on either side of the large round window. Canvas awnings with signage cover areas of the windows.

The building contains metal staircase at the north and south ends of the structure, giving access to the rooftop deck area. The east elevation contains Art Moderne curved horizontal detailing and vertical detailing with pilasters with decorative molding. A tower section with a front gable roof projects above the main roofline in the center of the building. The west elevation contains large metal framed, fixed pane and casement windows and an exterior metal and glass door in the restaurant area of the building.

Building Alterations

South Elevation - As illustrated in the historical photographs, the south elevation originally contained two large multi-pane horizontal windows with 15 lites each and one vertical multi-pane window with 6 lites. The original south elevation is in place in the 1980 photograph of the building. Today those windows have been eliminated and a large, blue metal staircase extends from the ground to the new roof deck. Access to this staircase is controlled by a full height security gate. Therefore, the south elevation has lost its original physical integrity.

East Elevation - As illustrated in the historical photographs, the front and east elevation had a level parapet fronting a flat roof with a built up horizontal signage element identifying the primary tenants. In the 1980 photograph, the flat roof and parapet remain but no built up signage is visible above the parapet, instead the tenant signage is painted on the face of the parapet. Today, a tower section with a front gable roof has been added that projects above the main roofline in the center of the building and new metal railings top the parapet to accommodate the new roof deck. All of this elevation's decorative elements have been highlighted with color to emphasize the building's new appearance. A comparison of the 1980 front elevation with current photos establishes that this elevation has lost its original physical integrity.

North Elevation - As illustrated in the historical photographs, the north elevation was a flat surface with two medium sized windows and a doorway. That elevation appears to be intact in the 1980 photograph. Today that elevation has been altered by a large, blue metal staircase that extends from the doorway at the east end of this elevation to the new roof deck. Access to this staircase is controlled by a full height security gate. Therefore, the south elevation has lost its original physical integrity.

West Elevation - As illustrated in the historical photographs, the west elevation originally contained doorways on the north and south ends leading to boarding ramps connected to floats. This elevation also contained 7 multi-pane windows of various sizes between the two doorways. The flat roof with the built up horizontal signage element identifying the primary tenants was present. Today this elevation contains only two large multi-pane windows and only one doorway at the north end. The new tower section added to the front of the building is visible. Therefore, the west elevation has also lost its original physical integrity.

Further significant alterations took place in March 2013 when all of the structural components associated with its former maritime uses, including the access ramps and floats, were removed after the Harbor Tours operation had earlier been relocated one block south, leaving the building as an isolated shell supported by piers with no maritime related functions. The building continued to operate as the Bay Café until January 2014.

Archival Research Results

The San Diego County Assessor's Office Commercial-Industrial Building Record estimates a construction date of 1932 for a Class 5, one-story, concrete reinforced frame building set on concrete piers. The building has a flat roof and a painted concrete interior. The Record indicates the building measured 30' x 80' with an office and snack bar of 2400 square feet. The floats attached to the structure comprised 5500 square feet. Note: The Assessor's Building Record and all other public records found date from 1986, when this property was first assessed as a leasehold interest. The property is also illustrated on the Assessor's Parcel Map.

The Record also documents a variety of changes to the structure. In 1995, a fire Repair permit was recorded with a value of $56,000. A Declaration of New Construction Report to the County Assessor was filed in August 1995 by business owner George Palermo, documenting the fire damage. In 1996, a Bar Permit application was filed with a value of $18,000. A permit to convert a roof patio storage roof to an outdoor café was issued in 1997.

City of San Diego Building Permit Records were located for the property. The permits date from 1986 and no earlier building permits were located during the research phase of the project.

April 1986 - Restaurant - Star & Crescent Boat Co. Inc. Owner - Permit A45770; Plan File Number F38481

June 1995 - Remodel and Repair Fire Burnout Restaurant - George Palermo
Plan File Number A102450-95; Unreasonable Hardship Exemption to Disabled Access Requirements; Permit Number B201847-95 Valuation $55,000. Upgrade Restrooms

October 1995 - Convert Storage Room to Outdoor Bar Permit Number B200567-96, Plan File Number A107681-95

The Sanborn Company Fire Insurance Maps track the evolution of the property. The 1921 Sanborn map does not indicate the presence of the subject building. The 1950 map shows the subject building and two rectangular shaped floats of differing sizes that are located side by side and extend directly west into the water of the harbor. The property is described on this map as the U.S. Navy Landing and Water Taxi Depot.

The Chain of Title for the property is limited to its recorded Leases. In 1986, the property was leased by the San Diego Unified Port District to the Star & Crescent Boat Company. In January 1987, a Merger Agreement was recoded between the Star & Crescent Boat Company and San Diego Harbor Excursions Inc. In March 1987, the lease between the Star & Crescent Boar Company and the San Diego Unified Port District was amended with Amendment #1. The lease between the two parties was further amended in October 1989. A Notice of Completion was filed in October 1995 for the Bay Café. An additional Notice of Completion was filed for the Bay Café in April 1996.

The San Diego City Directories list the following occupants of the subject property located at 1050 North Harbor Drive.

Year	Occupant
1934	Harbor Water Taxi Co. Matheson, J.K. boar livery Under Water Taxi Co.
1936	Harbor Water Taxi Co. Matheson, J.K. boat livery Smith, H.E. confy United Water Taxi Co.
1938-40	Beisser Morris locksmith Ghio SC confy Harbor Water Taxi Co. United Water Taxi Co.
1942-44	United Water Taxi Co.
1947-48	Harbor Water Taxi Co. United WaterTaxi Co.
1950	Beisser MN locksmith Ghio Stephen restaurant

	Harbor Water Taxi Co. United Water Taxi Co.
1951-60	Ghio Steven C. restaurant Harbor Excursion Boats United Water Taxi Co.
1961	Ghios Popcorn Stand Harbor Excursion Boars United Water Taxi Co.
1962-64	Ghios Popcorn Stand United Water Taxi Co. boats
1966-70	Ghios Snack Bar United Water Taxi Co. boats
1971-73	Ghios Snack Bar
1974-76	Shore Snack Bar Glorietta Boat-ique Gift Shop San Diego Harbor Excursions

Historical Photographs of the property were located at the San Diego History Center. These photographs illustrate all elevations of the building and the views from the west and south illustrate the floats and access ramps associated with it from its original construction through the 1980s. (Although one early photograph is dated 1929, this is believed to be an inaccurate date in light of other research data indicating an early 1930s construction date.) Historical Aerial photographs were located and they illustrate the related floats and access ramps that were part of this building's maritime functioning.

All of the above described research results are included, in the order of their reference, in Appendix B to this Report.

B. History of Property

The green and white Art Moderne style structure at 1050 North Harbor Drive had been the home of an enterprise that served the community of San Diego, both civilian and military, for the decades preceding, during, and following World War II. Although ferry service from the downtown piers of San Diego to Coronado had been available for some time, it was not until 1916, according to the San Diego *Union-Tribune*, that water taxis, a more flexible and faster means of crossing the bay, became available. The notion of taking a small, speedy boat from a downtown pier at the foot of Broadway, to either Coronado or to a Navy vessel out in 'the stream,' fulfilled an obvious need. The design of the boats was created by an unknown marine architect who lived in San Diego. This particular niche in the local maritime transportation market existed until the construction of the San Diego-Coronado Bay Bridge in 1969.

Prior to the early 1930s, more than one option existed for passengers desiring a water taxi. Various water taxi services had been available starting in 1916, but in 1925, the various owners banded together to form the United Water Taxi Company. In 1933, the United Water Taxi Company was granted a franchise to operate in the Bay by the Harbor Commission.

The San Diego Union-Tribune, August 22, 1969, offered the following comment from the Company's attorney regarding the building:

> ... A few months more than ten years later, crews of the Works Progress Administration completed the terminal that looks like a sawed off building block with a hot dog stand in the middle. 'While thousands will miss the regular taxi runs, few will miss the terminal. About the best description for it is dirty WPA Gothic...'

Although a definitive construction date for the building cannot be determined, this comment implies that it was constructed in 1935. In 1954, the Company was granted a Certificate of Conveyance and Necessity by the California Public Utilities Commission.

According to the San Diego City Directories for 1934 - 1970, the United Water Taxi Company shared occupancy of the structure with at least two other tenants or lessees, including the Harbor Water Taxi Company, and, at various times, a confectionary, popcorn stand and snack bar, run by S. C. Ghio.

According to Ralph Gano Miller, retired San Diego attorney and son of one of the men who formed United Water Taxi, the 40' boats used as water taxis primarily served the function of delivering Navy personnel to and from their ships and the docks of downtown San Diego. The boats were trim little vessels with a canvas tarpaulin stretched over the open areas for a little bit of comfort on cold foggy nights on the water. Prior to the advent of the Second World War, shipping in the stream relied on the water taxis, which were a little less expensive to ride than the ferry boats. The water taxis were known as "nickel snatchers" and were preferred to the ferries which had fixed destinations at each point of operation. Transportation to the ships was not available by ferry so the water taxis filled the need. Many times the taxis had to take sailors who had imbibed too much to their ships, but they proudly claimed they never lost a sailor. Navy ships arriving at San Diego Bay might have utilized their own crews placed in launches from the ships themselves for official business, but when on shore leave, it seems, the water taxis were the vessel of choice for sailors, anxious to explore the offerings of lower Broadway and enjoy their time in San Diego. Many extra water taxis were added to the fleet during the World War II years as many Navy ships filled the harbor.

With the outbreak of war in 1941, the water taxis were relied upon, perhaps even more. The United States Navy, historically known to have been under prepared for war, took over the operation of some of United Water Taxi Company's fleet of boats. The best boats were needed, and the Company made them available. During the WWII, a blackout had been imposed on shipping in San Diego bay, and there are accounts of the water taxis having to move through foggy conditions, without lights, avoiding the nets which the Navy protectively placed around their shipping. One article from the San Diego *Union-Tribune* related how

> the war brought constant runs to the fleet. . . .At night we had to run

> without lights because of the blackout. We tried to let the Coast Guard know where we were but it got confusing as we dodged through the nets to the ship docking places (San Diego *Union-Tribune*, August 24, 1969; B 1:3-5).

During the post-war decades, the military presence in San Diego grew in response to the Cold War. Activities on North Island required civilian workers as well as Navy personnel. Civilians also made use of United Water Taxi's boats when traveling between North Island and the mainland.

On 'Navy Day,' a day sponsored by the Navy in order for families and civilians to visit and see their country's naval vessels, people were taken to ships anchored in the bay for 'open house' types of activities (San Diego History Center photographic archives, photo. # UT 84: 27116.1) These civilians and U.S. Navy family members stepped aboard one or another of the boats provided by the United Water Taxi Company, at their docks just north of Broadway Pier, along the Embarcadero, at 1050 North Harbor Drive.

By the 1960s, it had been determined that a bridge between Coronado and San Diego was needed. Questions regarding the nature of the water taxi 'franchise' were raised. News articles from the *Union-Tribune* provide the history of negotiations between the State of California, the Port of San Diego and the United Water Taxi Company. In March, 1969, a U-T article stated that "The state is seeking an injunction to stop operation of San Diego's water taxis on grounds they do not have a legal franchise to operate" (San Diego *Union-Tribune*, March 19, 1969; B 1:6-7). Then manager of United Water Taxi, Arthur Peterson, was quoted in the same article explaining that the water taxis were " . . . still a necessity for the thousands of Navy personnel who do not have cars and need to travel between the city and the North Island Naval Air Station."

About five months later, in August of the same year, the newspaper carried an article that major conversions of the water taxi operations were under consideration.

> A $400,000 plan to transform the homely 'water bugs' of the United Water Taxi Service into a fleet of gleaming, glass-topped tourist boats will be considered Tuesday by the Unified Port District Commission (San Diego *Union-Tribune*, August 22, 1969; B 1:1-3).

The article went on to describe the particulars of the plan; which were to be the financial responsibility of the water taxi boat owners. Two days later, news of the Port's initial rejection of the plan was carried (San Diego *Union-Tribune*, August 24, 1969; B 1: 3-5). Other options still seemed to exist, principally the running of harbor excursions, using converted water taxis having the addition of glass topped covers, for the tourist trade. The cost, however, of the conversion of even one of the boats was quoted at 'more than $17,000" (San Diego *Union-Tribune* October 18, 1969; B 1:1-2). The difference in fares for those sailors and civilians who continued to ride the water taxis "by the thousands each week," would be twenty cents: a water taxi cost a quarter, the city buses forty-five cents.

Coverage of this story continued into November of 1969. Although there were attempts at finding a continued niche for the fleet of United Water Taxi, with the coming of the Coronado Bay Bridge, and the need for tolls charged for its use to pay for the its construction, service was to be terminated at midnight on November 21, 1969 (San Diego *Union-Tribune*, November 20, 1969; B 1:2-3).

The subject property has been leased to the Star & Crescent Boat Company by the Port District since 1986. The former water taxi building was used for this Company's San Diego Harbor Tours business from 1986 until recently. During the post-1986 period, the building was expanded and converted into the Bay Café's restaurant and bar facilities as described in the Building Permits discussion above. In October of 2012, the Harbor Tours operation moved to a new location one block south and, in March of 2013, all of the floats and access ramps serving the maritime uses of this building were removed. The building operated as the Bay Café restaurant until January 2014. Today, the building stands as an empty shell with no commercial services offered from the site.

C. Historical Resource Potential

1. North Embarcadero Area

The North Embarcadero Area contains a small but important number of historical resources. Three of these resources have been listed on the National Register of Historic Places. The listed resources include two vessels located at the San Diego Maritime Museum on North Harbor Drive, the *Berkeley* and *Star of India*; and the San Diego County Administration building at 1600 Pacific Highway. By virtue of their National Register status, these resources are also listed on the California Register of Historical Resources. The proposed project will not impact any of these identified resources.

Three other resources included in the North Embarcadero area were once determined eligible for listing on the National Register of Historic Places. These resources are: Buildings 1 and 12 of the Naval Supply Center command of the Navy Broadway Complex and the Navy Pier, across from that Complex. During a 1990 Section 106 consultation conducted for the Broadway Complex, these three structures were identified as a historic district eligible for inclusion in the National Register, but were not considered individually eligible. During that consultation, the potential for future adverse effects was also considered and it was determined that a Historic American Building Survey (HABS) would be sufficient to mitigate adverse effects to this district and its components. The HABS documentation was completed and accepted by the National Park Service in 1996. At the result, the historic district designation was vacated and none of the structures are considered historic properties under Section 106. In 2003, when the conveyance of the Navy Pier to the San Diego Aircraft Museum for the purpose of berthing the ex-Midway was under consideration, the State Historic Preservation Officer confirmed by letter to the Commander of the Navy Region Southwest that these three structures were not National

Register eligible. Therefore, no historical resources are present in the vicinity of the Navy Broadway Complex or Navy Pier.

2. Integrity of Subject Property

As an initial step for determining the significance of a property under local, state or federal criteria, it is necessary to assess whether the property has integrity. Integrity is the ability of a property to convey and maintain its significance. A property must not only be shown to be significant under the established criteria, it must also have integrity.

Application of the guidelines for finding Integrity

In the overall process of evaluating a potential historic resource, the historic and architectural integrity of the subject property must be considered to reach a final conclusion as to the property's potential historic and architectural significance. There are two important principles for understanding Integrity:

1. Integrity is the authenticity of a historical resource's physical integrity clearly indicated by the retention of characteristics that existed during the resource's period of significance.

2. Integrity relates to the presence or absence of historic materials and character defining features.

In order to retain historic integrity, a property must possess several, and usually most, of the seven key aspects of integrity, which are location, design, setting, materials, workmanship, feeling and association.

Location: *Location is the place where the historic property was constructed or the place where the historic event occurred.* The subject building has remained in its original location since its original, early 1930s construction date. Therefore, the property retains its location element for integrity purposes.

Design: *Design is the combination of elements that create the form, plan, space, structure, and style of a property.* The commercial building has not retained most of its key elements of original design. The building is in good condition but has undergone alterations over the decades as it evolved from a water taxi depot to a bar and restaurant with harbor excursion tours. All of the elevations have been substantially altered as discussed above and all of the floats and access ramps necessary for its historical maritime functions have been removed. Therefore, the building has not retained its design element for integrity purposes.

Setting: *Setting is the physical environment of a historic property.* The building is located within a mixed use maritime commercial waterfront that was first developed in the 1870s and primarily used by the local fishing industry. This waterfront is today dominated by cruise ships, restaurants and tourism venues and the maritime infrastructure surrounding the building has

been eliminated. Therefore, the building has not retained its setting element for integrity purposes.

Materials: Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. The materials used do not reflect the early 1930s period of construction. All of the building's elevations have been altered over the years and modern materials have replaced the original materials. The floats and access ramps materials that facilitated its original functions have been removed. Therefore, the building does not retain the materials element for integrity purposes.

Workmanship: Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. The workmanship demonstrated in the construction of the building is apparent from the materials analysis. The original workmanship has been superseded by the series of alterations and the removal of the maritime functional elements. Therefore the building has not retained its integrity of workmanship.

Feeling: Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

The subject building has remained in its original location but has been altered by significant changes that have altered its historic appearance. The loss of its floats and access ramps prevents the property from expressing its aesthetic or historic sense of its period of significance as a water taxi depot. Therefore, the building has not retained its feeling element for integrity purposes.

Association: Association is the direct link between an important historic event or person and a historic property. The property has been determined to have been directly linked to local historically significant events. The building served as the site of the United Water Taxi service that provided a valuable service for the military and the city from the 1930s through the 1960s. Consequently, the building has an associative element for integrity purposes.

Integrity Conclusion:

Integrity is the authenticity of a historical resource's physical integrity clearly indicated by the retention of characteristics that existed during the resource's period of significance. The building has not retained the physical characteristics that enabled it to operate as a maritime water taxi service during its period of significance. Integrity relates to the presence or absence of historic materials and character defining features. The building has lost its historic maritime materials and character defining features. The building has retained only two of the seven aspects of Integrity, location and association, which means it has lost its original historical integrity.

3. Cultural/Historical Resources Regulation in California

Pursuant to the California Public Resources Code, §21084, a resource that has been formally listed or formally determined eligible for the California Register of Historical Resources is conclusively presumed to be a "historical resource" under CEQA. Consequently, the issue of whether a potential cultural/historical resource is present on the subject property is dependent upon whether any existing structure is eligible for listing on the California Register of Historical Resources.

4. Eligibility for listing on the California Register of Historical Resources

Pursuant to California Code of Regulations, §4852(b), the criteria for evaluating the significance of historical resources requires that the resource be significant at the local, state or national level under one or more of the following four criteria.

> Criterion 1 - A property may be considered eligible for the California Register if it is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

The subject property was associated with local maritime history between the 1930s and the 1960s by the provision of water taxi services to members of the community, the military and tourists. This form of public/private transportation made a contribution to the broad patterns of local maritime history for three decades.

In order for a property to be determined eligible for the local, state or national register it must not only be shown to be significant under the established criteria, it must also have integrity. Integrity is the authenticity of a historical resource's physical integrity clearly indicated by the retention of characteristics that existed during the resource's period of significance. The subject property's period of significance was the 1930a through the 1960s, when it provided the unique service of water taxis to traverse the Bay. The physical characteristics that existed during that period, and that were mandatory for the functioning of the water taxi service, were the floats and the access ramps that no longer exist.

If a property's only significance is related to a unique service that was provided for specific period of time, and the functional physical elements of the property that enabled that service to function no longer exist, the property has not retained the physical integrity that allows it to be recognized under Criterion 1 or any other California Register criteria.

> Criterion 2 - A property may be considered eligible for the California Register if it is associated with the lives of persons important to local, California, or national history.

Historical research has not determined that this property was associated with any persons important in local, state or national history. Therefore the property does not meet this criterion.

> Criterion 3 - A property may be considered eligible for the California Register if it embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of a master or possesses high artistic values.

Historical research has determined that this building was developed in the early 1930s in the Art Moderne architectural style. However, the alterations to the building in the ensuing decades have reduced or, in some cases, eliminated the original Art Moderne features in order to modernize the building. The conversion of the roof deck into a bar eliminated the Art Moderne parapet as did the addition of the front gabled tower element that now dominates the façade. Therefore the building no longer represents the Art Moderne style or period of construction, and it would not qualify for listing on the California Register under this criterion.

> Criterion 4 – A property may be considered eligible for the California Register if it has yielded or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The subject property was constructed on piers resting on bedrock at the edge of a waterfront consisting of dredged fill. It could not yield information important to the prehistory or history of the local area, California, or the nation.

California Register Eligibility Conclusion: The subject property is not eligible for listing on the California Register under Criteria 2. 3 or 4 because it lacks all attributes that are required for listing under those Criteria. The subject property is not eligible for listing under Criterion 1 because it has lost the physical characteristics that existed during its period of significance and that were mandatory for its historical functioning as a water taxi depot.

5. Cultural Resources Assessment Conclusion

The property that is the subject of this Cultural Resources Assessment is the existing building at 1050 North Harbor Drive. The research and analysis conducted for the purposes of this Assessment have concluded that no historical cultural resource is present on this property. Consequently, no potential impacts to historical cultural resources will occur with the implementation of this project and no mitigation for impacts to historical cultural resources is required of the project.

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State of California, California Code of Regulations, *Type of Historical Resources and Criteria for Listing on the California Register of Historical Resources,* Section 4852.

Cultural Resources Assessment

1050 North Harbor Drive

Appendix A

Current Photographs

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1050 Broadway, San Diego, Ca 92101
View North/South Façade
January 2014

1050 Broadway, San Diego, Ca 92101
View North/South and East Façades
January 2014

1050 Broadway, San Diego, Ca 92101
View North/East Façade
January 2014

1050 Broadway, San Diego, Ca 92101
View Northwest/East Façade/Façade Detail
January 2014

1050 Broadway, San Diego, Ca 92101
View North/East Façade
January 2014

1050 Broadway, San Diego, Ca 92101
View West/East Façade/Window Detail
January 2014

1050 Broadway, San Diego, Ca 92101
View West/EAst Façade/Façade Detail
January 2014

1050 Broadway, San Diego, Ca 92101
View Southwest/East Façade/Façade Detail
January 2014

1050 Broadway, San Diego, Ca 92101
View West/East Façade/Wall Detail
January 2014

1050 Broadway, San Diego, Ca 92101
View Northwest/East Façade
January 2014

1050 Broadway, San Diego, Ca 92101
View South/East Façade
January 2014

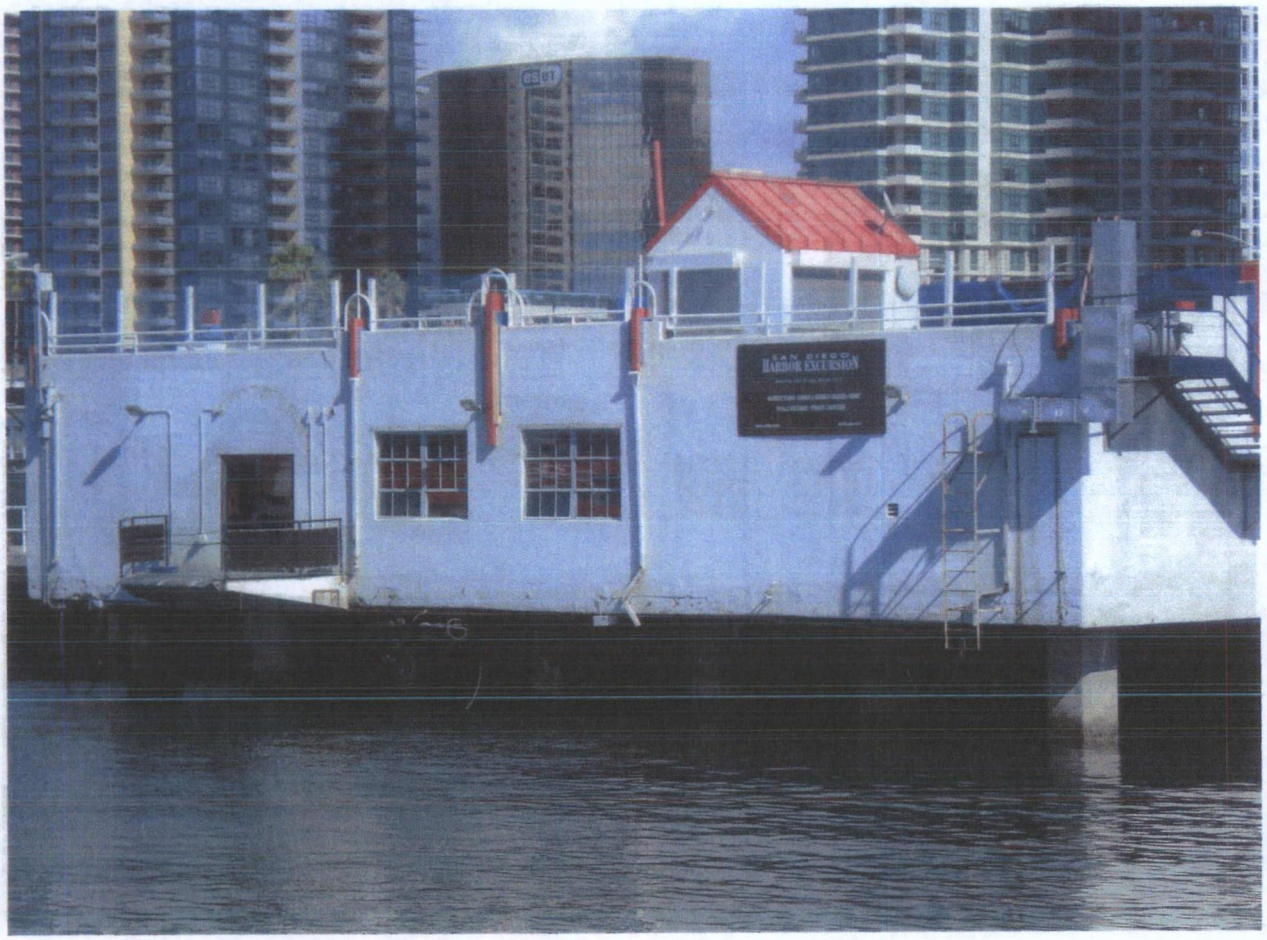
1050 Broadway, San Diego, Ca 92101
View West/North Façade
January 2014

1050 Broadway, San Diego, Ca 92101
View Southwest/North Façade
January 2014

1050 North Harbor Drive, San Diego, Ca 92101
View South/North Façade
January 2014

1050 North Harbor Drive, San Diego, Ca 92101
View Northeast/South and West Façades
January 2014

1050 North Harbor Drive, San Diego, Ca 92101
View Northeast/West Façade
January 2014



Cultural Resources Assessment

1050 North Harbor Drive

Appendix B

Archival Research Results

Assessor's Building Record

COMMERCIAL-INDUSTRIAL BUILDING RECORD

Account No. _____ Parcel No. 60-12-77

ASSESSOR, SAN DIEGO COUNTY

NAME Star & Crescent Boat Co ADDRESS 1050 Harbor Dr SHEET 1 OF 1

CLASS & SHAPE	FRAME	TRUSSES	EXT. FINISH	ROOF	LIGHTING	FRONT
S	X Concrete Reinf.	Light / Heavy; Wood / Steel	Stucco	Flat	Standard	Type
Stories 1	Steel	Span Spaced	Metal	Shed	Below Standard	
Bsmt Mezz	No Frame	FLOORS	Veneer	Arch		Glass in
USE / DESIGN	WALLS	Concrete	Wood	Gable	FIXTURES	Metal / Wood
Garage	Wood	Wood	Glass	Wood	Fluorescent	Glass Doors
Store	Brick	Sub-Floor	Unfinished	Metal	Incandescent	Auto / No.
X Office	Conc. Blk	Elevation	X Pt Conc	Concrete	Quality	Bulkhead
Factory	Metal			ROOF COVER	Quantity	Back Trim
Warehouse	Tilt Up	FOUNDATION	WINDOWS	Composition	PLUMBING	Lighting
	Pilasters	Concrete Reinf.	X Metal	X Built-Up	11 Fixtures	Drop Ceiling
	Party	Masonry	Wood	Metal	Quality	Disp. Platform
	X Conc	X conc Piers			Sprinklers / Quality	

INTERIOR CONSTRUCTION

NUMBER OF ROOMS						MATERIALS					
Desc.	B	M	1	2	3	FLOORS	GD	WALLS	GD	CEILING	GD
All						Vinyl		pt conc		PL	
Office											
Lobby											
Hall											
Bath											
Restroom											

SPECIAL FEATURES

ITEM	NO.: CAPACITY	MATERIAL OR TYPE	QUALITY
Air Cond.			
Doors			
Sky-Lites			
Elevator			

7600127700

CONSTRUCTION RECORD

Permit No.	Permit For	Amount	Date	EFFEC. YEAR	APPR. YEAR	NORMAL % GOOD Age	Rem. Life	Table	%	RATING (E,G,A,F,P) Cond.	Arch. Attr.	Func. Plan	Ade-quacy	Wkm-ship
	office & snack bar addn		1968	1982	1972	40	20	OR 60	63					
SD582417	FIRE REPAIR	36000	6/95	1932	1980	48	12	OR 60	49					
SD682006	BAR	18000	2/96		1981	49	7	OR 40	39					
					1984	52	10	OR 45	37					

Appraiser and Date		JB Becker 4-11-80		Jamestic 3-12-80		LK 6-17-81		DB 3681		CBAOT 3/97					
UNIT	AREA/ UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
office & snack bar	2400	35.00	52720	46.40	108960			60.00	144000						
FLOATS	5500	5.80	32160	13.00	71500			20.00	110000						
Ticket Booth	21	1000	2000	—	—										
97 PATIO & BAR										P.A.	+15,000				
						180460									
						x1.10									
										97 TOT	+15,000				
TOTAL			86940		180460	198506									
NORMAL % GOOD			63		47	39			37						
R.C.L.N.D.			54772		88425	77417			93980						
CHECKED															
REVIEWED															

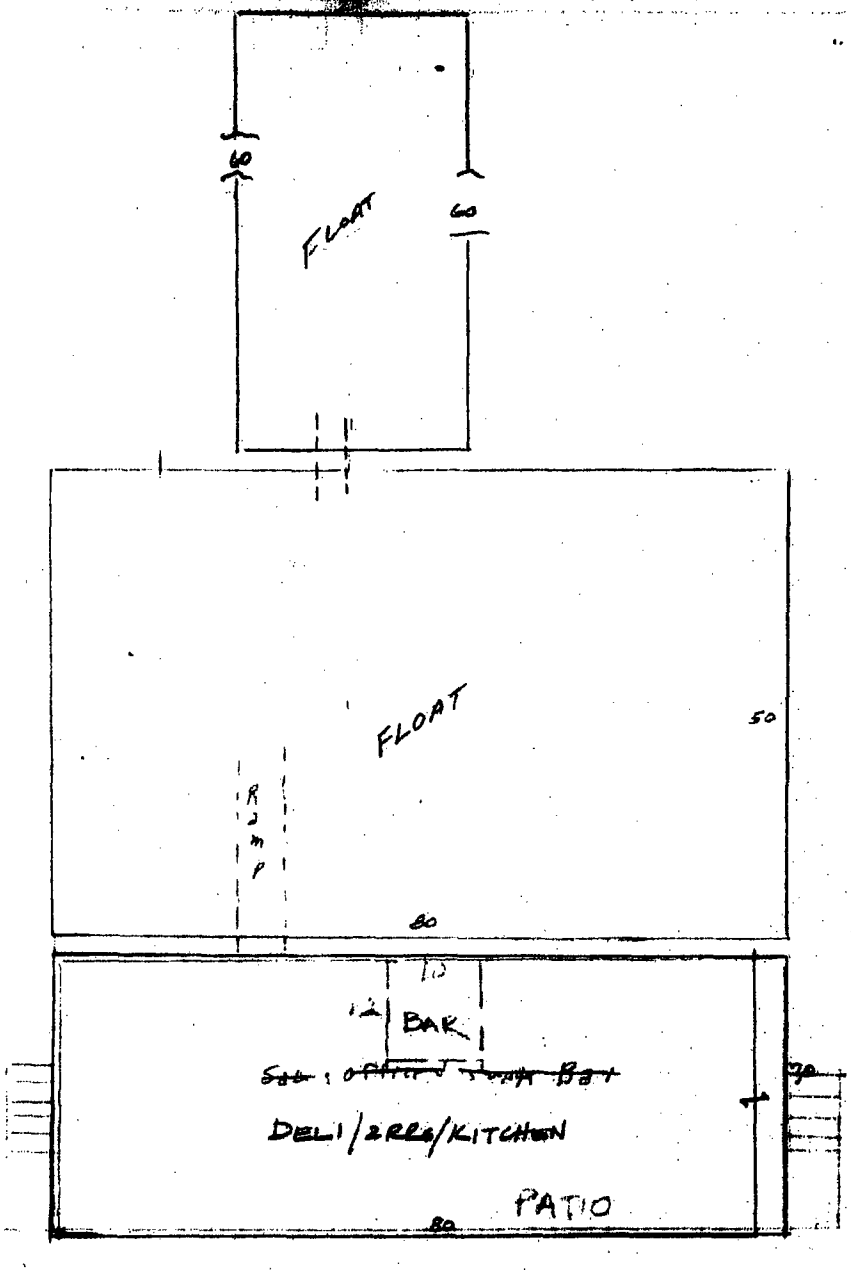
BR COM

D416

DEC 2 1997

DEC 31

Scale: 1" = -Ft.



MISCELLANEOUS STRUCTURES

STRUCTURE	FOUND.	FLOOR	CONST.	EXT.	ROOF	DIM.	AREA/UNIT

COMPUTATIONS

FLOATS

25 x 84 = 2100

20 x 60 = 1200

18 x 40 = 720

4020 #

@ $18.75 = 25.40

+ PILING = 20.00

45.40

OFFICE AREA

30 x 80 = 2400 #

FLOATS:

50 x 80 = 4000 #

25 x 60 = 1500 #

5500 #

REMARKS: (1 only the South float was by time of permit: $18.72

(3) 97 PERMIT - CONVERT ROOF PATIO STORAGE ROOM TO OUTDOOR BAR; CB 3/97

ENTER DATE

RECEIVED
AUG 02 1995
Assessor-Cont.

GREGORY J. SMITH
San Diego County Assessor
1600 Pacific Hwy, San Diego, CA. 92101
(619) 531-5761

July 18, 1995

DECLARATION OF NEW CONSTRUCTION OF TENANT IMPROVEMENTS AND RENTAL INFORMATION

[redacted] PERMIT # 1600012-23-00

PROPERTY ADDRESS
[redacted]
ISSUE DATE 06-15-95 AREA PI
PERMIT # SD-5-B-201847

Star + Cresent Boat Company
1511 Marine Way
Coronado CA 92118

FOR ASSISTANCE CALL 531-5761

CORRECT ABOVE MAILING ADDRESS IF NECESSARY

COMPLETE AND RETURN THIS FORM WITHIN 15 DAYS

This office has been notified that a building permit has been issued for the property identified above. Section 441D of the Revenue and Taxation Code requires that taxpayers make available information as requested by the Assessor.

Please forward if improvement installed by tenant. REPORT EACH TENANT ON A SEPARATE FORM (Duplicate this form if necessary). This report is subject to audit.

A. COST INFORMATION

Brief Description	Owner's Contribution	Tenant's Contribution
AMOUNT $120,000 - (See below)	$120,000	$ 0

DATE OF COMPLETION EST. AT 9-10-95 T.I. AREA BUILT OUT 2,400 SQ. FT.

Do any of the new tenant improvements replace existing tenant improvements? yes If so, indicate _____

B. RENTAL INFORMATION

Lessee N/A
Suite # _____ Square Feet Leased _____ Monthly Rent _____
Lease Dates: Start _____ End _____ Renewal Options _____
Rent concessions given? (Describe) _____

Expenses paid by	Tenant	Owner	(Circle One)
Maintenance	T	O	
Insurance	T	O	
Real Property Taxes	T	O	
Utilities	T	O	
Janitorial	T	O	
Other	T	O	

REMARKS: Had A Fire - Replaced Damage By Fire

A Deputy Assessor may contact you for additional information if necessary.

I declare, under penalty of perjury, that this statement, including any accompanying schedules and financial statements, is true and complete to the best of my knowledge and belief.

SIGNATURE OF OWNER OR AGENT	PLEASE PRINT NAME	DATE
[signature]	George Alegre	8-1-95

STREET ADDRESS	CITY	ZIP CODE	PHONE (8:00am - 5:00pm)
1050 N. HARBOR DR	SAN Diego	92101	522-6159

REL 17C (07/94)

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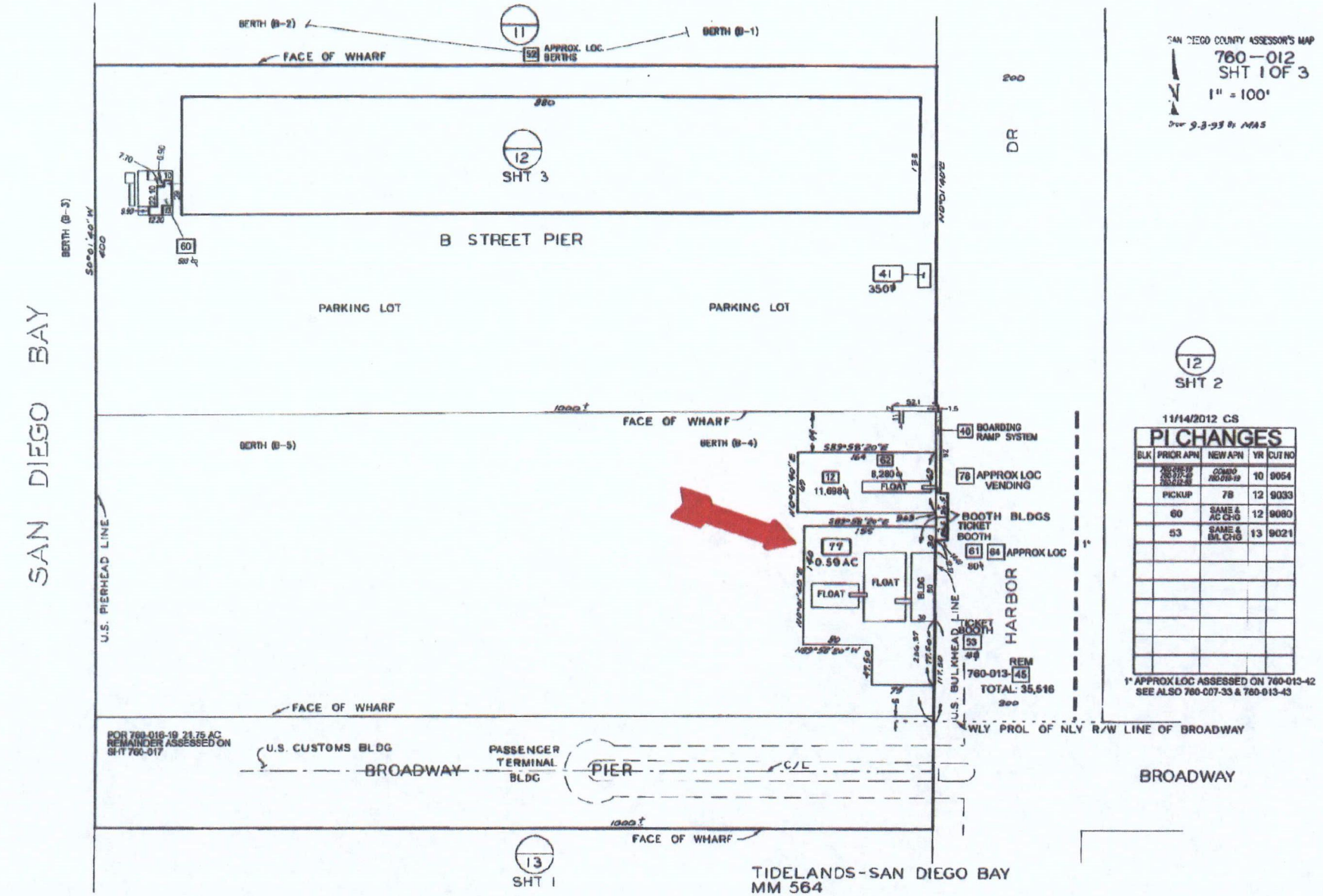
OFFICIAL RECORDS, GREGORY J. SMITH, SAN DIEGO RECORDER/COUNTY CLERK

Current Parcel Map

08



THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR PARCELS MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES

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Building Permits

12 12 2002

CITY OF SAN DIEGO — BUILDING PERMIT APPLICATION

PROJECT ADDRESS: 1050 North Harbor Dr

DIST. NO.: 1 | CENSUS TRACT NO.: 99.02 | PERMIT NUMBER: A45776

COORD. INDEX NO.: 701-1716 | PLAN FILE NO.: F38481

ADDRESS: 1060 NORTH HARBOR DRIVE

LEGAL DESCRIPTN — LOT: SEE ATTACHED SHEET | BLOCK | SUBDIVISION NAME: Tidelands | UNIT NO

EXISTING USE: B-2 | PROPOSED USE: A-3

CONDITION OF SOIL AT PROJECT: ☐ UNDISTURBED ☐ COMPACTED FILL ☐ LOOSE FILL

DESCRIPTION OF PROPOSED WORK: RESTAURANT

APPLICANT

NAME: STAR & CRESCENT BOAT CO INC | TEL NO: 238-1000

ADDRESS: 570 N. HARBOR DRIVE | ZIP CODE: 92101

ARCHITECT

NAME: The Collings Co. Inc.

ADDRESS: 30121 Hillside Terrace | TEL NO: 714-660-7799

CITY: San Juan Capo G. | ZIP CODE: 92675 | 714-661-1634

ENGINEER

STATE LIC. NO: 420598 | CLASS: B | CITY LIC. NUMBER: RL 16358

CONTRACTOR

NAME: MICHAEL WILKES | LIC. NO: C 7990

ADDRESS: 2821 PRESIDIO DR | TEL NO: 299-6890

CITY: SAN DIEGO CA | ZIP CODE: 92110

BUILDING INSPECTION DEPARTMENT — THIS PERMIT AUTHORIZES ONLY THE WORK NOTED

CITY TREASURER VALIDATION

SERV. SIZE: 2" | METER SIZE: 1½" | CREDIT | WATER | SEWER

SEWER CONN.: EX | ☒ SEE ATT. RECPT.: 68794 | CSD BY:

USE ZONE: UNZ | COASTAL ZONE: ☐ YES ☒ NO | DEV. PERMIT NO.: | NO. OF BAR SINKS | DWELL UNITS

HILLSIDE REVIEW: ☐ YES ☒ NO | PLANNED DISTRICT: ☐ YES ☒ NO | BEDROOMS: S 1 2 3 4

AGREEMT. NO. | VARIANCE NO.

LICENSED CONTRACTORS DECLARATION: I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my licence is in full force and effect

Contractor's Signature: E Collings

OWNER-BUILDER DECLARATION: I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500).)

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale.)

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License Law.)

☐ I am exempt under Sec _____ B&P C for this reason

Owner's Signature

WORKER'S COMPENSATION DECLARATION: I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab. C.)

Policy No.: E 8677 | Insurance Company: Fireman's Fund | Expiration Date: 4-25-87

Applicant's Signature: Michael Wilkes

CERTIFICATE OF EXEMPTION FROM WORKERS' COMPENSATION INSURANCE: I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Owner's or Contractor's Signature

CONSTRUCTION LENDING AGENCY: I hereby affirm that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C.)

Lender's Name

Lender's Address

APPLICANT

NAME: JONATHAN SEGAL

ADDRESS: 2821 PRESIDIO DR | CITY: SAN DIEGO CA | ZIP CODE: 92110

I certify that I have read this application and state that the above information is correct, and that I am the owner or the duly authorized agent of the owner. I agree to comply with all city and state laws relating to building construction. I hereby authorize representatives of the City of San Diego to enter upon the above mentioned property for inspection purposes. If, after making the Certificate of Exemption, from the Worker's Compensation provisions of the Labor Code I should become subject to such provisions, I will forthwith comply in the event I do not comply with the Workmen's Compensation, this permit shall be deemed revoked.

SIGNATURE: Jonathan Segal | DATE: Nov 25 '86

☐ CONTRACTOR ☐ OWNER ☐ AGENT FOR CONTRACTOR ☒ AGENT FOR OWNER

FUND & ACCT.		NO. UNITS	PER UNIT	ACCOUNT ITEM TOTAL
	VALUATION OF WORK		192000.—	192000.—
100 73411	PLAN CHECK FEE		353.21	
	SUPPL. PLAN CHECK FEE			
100 73412	BUILDING PERMIT FEE			* 597.74
63010 9022	STATE FEE			13.44
41506 77565	SEWER FEE			
41500 77530	WATER FEE			3315.00
73423	PARK FEE			
HOLD ORDER NO.				

*PENALTY FEE(S) ADDED AS PROVIDED BY MUNICIPAL CODE

TOTAL FEES DUE: 3926.18

WORK TO BE DONE: ☐ NEW ☒ ALTER ☐ MOVE ☐ ADD'N. ☐ REPAIR ☐ DEMO. ☐ REC ☒ R-RES. ☐ OCC. CH.

TYPE CONST'N	NO. STORIES	OCCUP. GROUP
V 1hr	2	A3

BUILDING AREA: 2400 | TOTAL FLOOR AREA: 4800

SPEC. INSP. REQ'D FOR: ☐ CONCRETE ☐ MASONRY ☐ WELD HS BOLTS ☐ SOILS ☐ PILE DRIVE ☐ OTHER

SPRINKLERS REQD FOR

DATE PLANS SUBMITTED: 11/27/85

PLAN CHECK RECEIPT NO.: 464134

PLAN CHECK RECPT AMT $: 353.21

W/ CH. PLAN CHECK FEE SIGNATURE RELATED TO TITLE 24 REQUIRMTS

OCCUP. CARD PREPARED BY PLAN CHK: YES ☐ NO ☐

PLANS CHECKED: Gudsun KC | DATE: 12-3-85

PLANS APPROVED | DATE: 4/14/86

APPLICATION APPROVAL — SIGNATURE OF BUILDING INSPECTOR, DEPUTY: 4/14/86

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City of San Diego
Permit Services Division
Development Services Department
Permit Center • 1222 First Ave. • MS-301
San Diego, CA 92101
(619) 236-6270

H.O. 3424 P.O. 3504.95

VAL $96K

Permit Application

M70163-95

E502155-95

Permit Type: ☒ Combination ☒ Building ☐ Mobile Home ☐ Electrical ☐ Plumbing & Gas ☐ Mechanical ☐ Demolition/Relocation/Remove Building ☐ Signs

Job Site Address: *Include Building or Suite No.* 1050 N. HARBOR DR

Plan File No. *For City Use Only* A1-1450.05

Lot No. | Block No. | Subdivision Name | Unit No. | Map No.

Parcel No. | Parcel Map No. | Assessor's Parcel No.

Existing Use RESTAURANT | Condition of Soil at Site: ☒ Undisturbed ☐ Compact Fill ☐ Loose Fill

Description of Work REMODEL & REPAIR FIRE BURNOUT RESTAURANT | Total Floor Area 3400

Designer Name IKEDA - GHIO | Address 500 POMONA AVE

City CORONADO | State CA | Zip Code 92118 | Telephone 437-0211 | License Number C-5557

Applicant Name *Please check one* ☐ Contractor ☐ Agent for Contractor ☐ Owner ☒ Agent for Owner
DAVID GHIO

Address 500 POMONA AVE | City CORONADO | State CA | Zip Code 92118 | Telephone 437-0211

Property Owner/Lessee/Tenant Name *Please check one* ☐ Owner ☐ Lessee or Tenant
CRESCENT BOAT COMPANY

Address 1551 MARINE WAY | City CORONADO | State CA | Zip Code 92118 | Telephone 522-6159

Contractor Name

Address | City | State | Zip Code | Telephone

State License No. | License Class | City Business Tax No.

Owner/Contractor's Declaration: I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

Signature | Title | Date

Owner/Workers' Compensation Declaration: I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for workers' compensation as provided by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☒ I have and will maintain workers' compensation, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier PACIFICARE INSURANCE Co. Policy No. CE9610360 Expiration Date 3-1-96

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California, and if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Signature [signature] Date 6-15-96

Failure to secure workers' compensation coverage is unlawful, and shall subject an employer to criminal penalties and civil fines up to one hundred thousand dollars ($100,000), in addition to the cost of compensation, damages as provided for in Section 3706 of the Labor Code, interest, and attorney's fees.

Owner/Builder Declaration: I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5, Business and Professions Code): I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale). I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for the projects with a contractor(s) licensed pursuant to the Contractors' License Law).

Signature [signature] Date 6-15-95

THE CITY OF

SAN DIEGO

BUILDING INSPECTION DEPARTMENT
1222 FIRST AVENUE, M.S. 301 • SAN DIEGO, CALIFORNIA 92101 - 4153
619-236-6270

PROJECT ADDRESS: 1050 N 4th HARBOR DR PLAN FILE NO. A 10450-25

OWNER - BUILDER VERIFICATION

Attention: Property Owner

An owner-builder permit application bearing your name and (X) your signature ( ) your agent's signature has been filed for (X) Building ( ) Electrical ( ) Plumbing/Gas ( ) Heating/Air Conditioning ( ) Sign construction work at the above address.

Please review the accompanying OWNER-BUILDER INFORMATION LETTER pertaining to your responsibilities as an owner-builder before providing the information requested below. Return this completed form as soon as possible. The permit will not be issued until this verification is completed and received in this office.

PROPERTY OWNER: PLEASE PROVIDE INFORMATION REQUESTED BELOW

1. I (X) have ( ) have not signed an application for a (X) Building ( ) Electrical ( ) Plumbing/Gas ( ) Heating/Air Conditioning ( ) Sign permit.
2. I intend to personally perform ALL of the labor for this project: ( ) YES (X) NO (If Yes, proceed to Item 6; if No, answer Item 3 or 4 below.)
3. I will personally perform part of the work, but have hired the following ( ) person(s) or ( ) firm(s) to supervise and/or provide the work indicated in Item 5 below.
4. I have hired the following ( ) person(s) or ( ) firm(s) to perform ALL of the proposed work indicated in Item 5 below.
5. The person(s) and/or firm(s) listed have been hired to perform the work indicated:

NAME OF PERSON(S) OR FIRM(S) HIRED FOR THIS PART OF WORK	ADDRESS OF PERSON / FIRM TELEPHONE NO. / CONTR. LICENSE NO.	DESCRIBE TYPE & EXTENT OF WORK TO BE DONE BY THIS PERSON/FIRM
2/23/22	/	
	/	
	/	
	/	

Property Owner's Signature: [signature]

Print Name: GEORGE VALENTE

Date: 6-15-22

FOR BLDG. INSP. DEPT. USE ONLY

Building Permit #

Electrical Permit #

Plbg/Gas Permit #

Htg/Air Cond. Permit #

Sign Permit #

City of San Diego
Plan Check Services Division
Development Services Department
Permit Center • 1222 First Ave., MS-401
San Diego, CA 92101
(619) 236-6250

Application for Unreasonable Hardship Exception to Disabled Access Requirements

Please print legibly or type.

Project Address: 1050 N. HARBOR DRIVE	Plan File Number: A107681-95
Owner: SAN DIEGO HARBOR EXCURSION	Telephone *Include Area Code*: (619) 522-6159
Applicant: DAVID GHIO	Telephone *Include Area Code*: (619) 437-0211

It is requested that the above named project be granted an exception from the requirements of the State of California Title 24 accessibility, as specifically noted below.

A. Section 3112A General Exception Applicable to existing buildings where total valuation of all construction performed at this tenant space over the last three years does not exceed the valuation threshold amount. The specific accessibility features that create a hardship may be exempted but not all the accessibility features. The area of alteration itself must fully comply.

Valuation Threshold Amount
$ 80,710
Will Change in Feb., 1996

Access Features

Item *Provide description below*	Does this feature meet the latest edition of Title 24?	If not, is this feature going to be made accessible as part of this permit?	If so, cost of making feature accessible? *Attach documentation*
1. Path of travel to entrance	YES		$
2. Entrance	YES		$
3. Path of travel within building/facility to area of remodel	YES		$
4. Elevator	NO	NO	$
5. Sanitary facilities	NO	YES	$ 14,670.00
6. Public Telephones *If provided*	YES		$
7. Drinking fountains *If provided*	NOT PROVIDED		$
8. Other (Parking, etc.) *Specify*	YES		$

Total cost of access features provided (A) $ 14,670.00

Total cost of construction of this project and all other work performed over the last 3 years in this tenant space (B)* $ 73,350.00

Percentage of total cost of project (20% minimum): *(A÷B) x 100* % 20 %

Description of access features to be provided
EXISTING EXTERIOR STAIRS, (UPGRADE RESTROOMS)
(ELEVATOR NOT PROVIDED COST $60,000.00)

Alterations performed over the last three years in this tenant space*

Permit Number	Date	Valuation	Was 20% of cost of project spent on access features?
B201847-95	6-15-95	55,000.00	NO

*Include cost of other work performed over the last 3 years in total valuation B after project has already been expanded on access features (provide documentation). Attach copy of approved Unreasonable Hardship Permit.

This information is available in alternative formats for persons with disabilities.
To request this information in alternative format, call (619) 236-6708 or (619) 236-6274 (TDD).
DSD-2125 (3-95)

156 B/ZONE C. PDP1 AUTH FAA HT

City of San Diego
Permit Services Division
Development Services Department
Permit Center • 1222 First Ave. • MS-301
San Diego, CA 92101
(619) 236-6270

F 57 575-96
P 80 1255-96
B 200567-96

Permit Application

201-1716

1. Permit Type: Combination X Building Mobile Home Electrical Plumbing & G Mechanical Demolition/Relocation/Remove Building Signs

2. Project Address: *Include Building or Suite No.* 1050 N. HARBOR DR

Plan/File No. *For City Use Only* AIO 1681-95

Lot No. Block No. Subdivision Name TIDELANDS Unit No. Map No.

Parcel No. #1 Parcel Map No. MM564 Assessor's Parcel No. 760-012-77

Existing Use RESTAURANT/BAR. Condition of Soil at Site: ✓ Undisturbed ☐ Compact Fill ☐ Loose Fill

Description of Work CONVERT STORAGE RM TO OUTDOOR BAR Total Floor Area 3400 #'

3. Engineer Name TEEDA - GHIO Address 500 POMONA AVE

City CORONADO State CA Zip Code 92118 Telephone 437-0211 License Number C5557

4. Applicant Name *Please check one* ☐ Contractor ☐ Agent for Contractor Owner ✓ Agent for Owner

DAVID GHIO

Address 500 POMONA AVE City CORONADO State CA Zip Code 92118 Telephone 437-0211

5. Property Owner/Lessee Tenant Name *Please check one* ☐ Owner ☐ Lessee or Tenant

SAN DIEGO HARBOR EXCURSION

Address 1050 N. HARBOR DR. City SAN DIEGO State CA Zip Code Telephone 522-6159

6. Contractor Name RAWSON Construction

Address 2015 Via Rancho Pkwy City Escondido State CA Zip Code 92029 Telephone (619) 740-5991

State License No. 396292 License Class B City Business Tax No.

Licensed Contractor's Declaration: I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

Signature Richard J. Fawn Title OWNER Date 2-23-96

7. **Workers' Compensation Declaration**: I hereby affirm under penalty of perjury one of the following declarations:

☐ a. I have and will maintain a certificate of consent to self-insure for workers' compensation as provided by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☒ b. I have and will maintain workers' compensation, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Insurance Company State Fund Policy No. 229-96 0006954 Expiration Date 1-1-97

(This section need not be completed if the permit is for one hundred dollars ($100) or less)

☐ c. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California, and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Signature Richard J. Fawn Date 2-23-96

Warning: Failure to secure workers' compensation coverage is unlawful, and shall subject an employer to criminal penalties and civil fines up to one hundred thousand dollars ($100,000), in addition to the cost of compensation, damages as provided for in Section 3706 of the Labor Code, interest, and attorney's fees.

8. **Owner-Builder Declaration**: I hereby affirm that I am exempt from the Contractor's License Law for the following reason [Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9, commencing with Section 7000, of Division 3 of the Business and Professions Code) or that he is exempt therefrom, and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500)]:

☐ I, the owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. However, if the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale.)

☐ I, the owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and contracts for such projects with contractor(s) licensed pursuant to the Contractor's License Law.)

☐ I am exempt under Section _____ B&P C. for this reason:

Signature Date

9. **Construction Lending Agency**: I hereby affirm that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C.)

Lender's Name Lender's Address

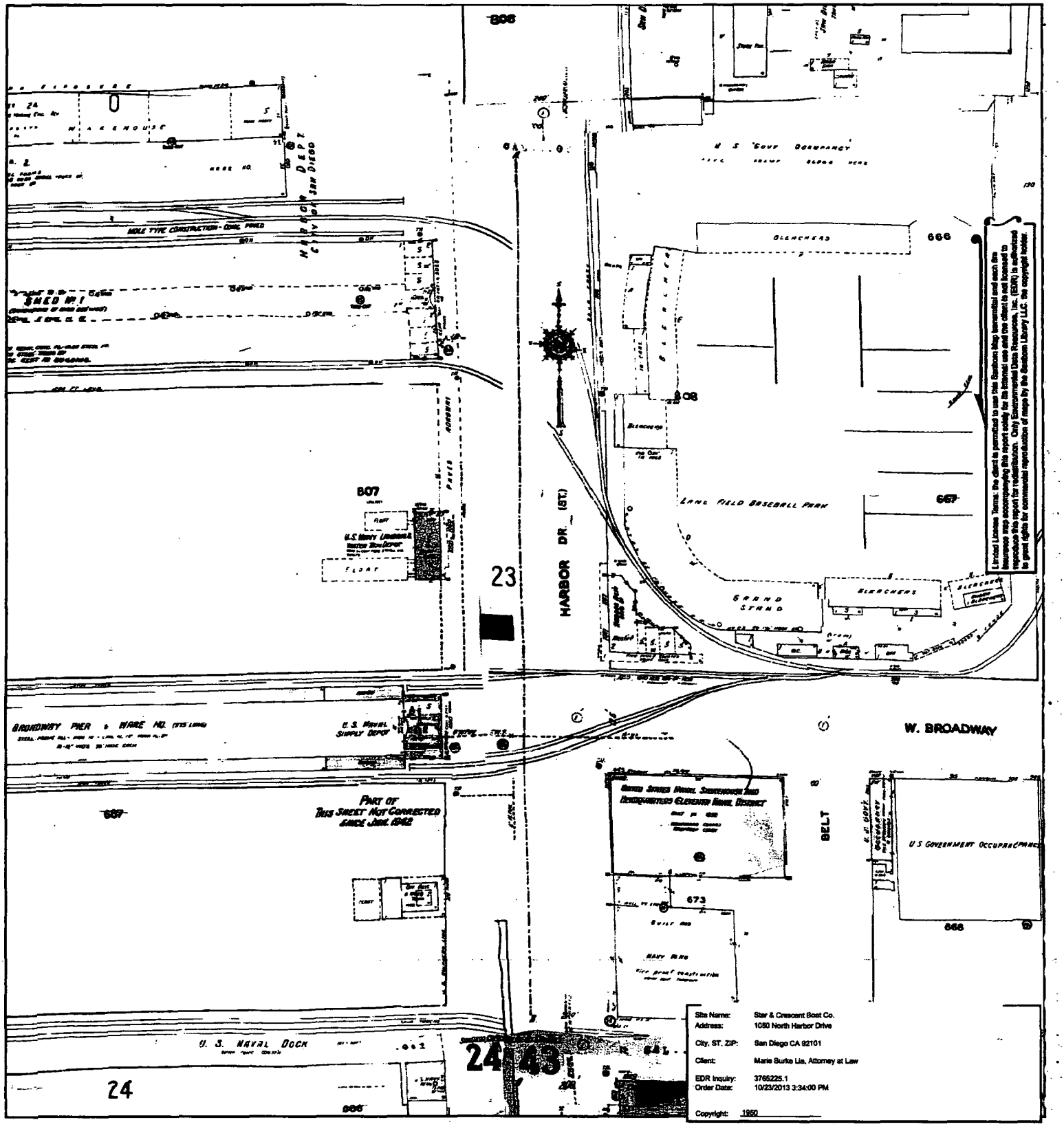
10. **Applicant's Signature**: I certify that I have read this application and state that the above information is correct, and that I am the owner or the duly authorized agent of the owner and I agree to comply with all city and state laws relating to building construction. I hereby authorize representatives of the City of San Diego to enter upon the above-mentioned property for inspection purposes. I am making this application as the owner of the property, or my employees with wages as their sole compensation will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does the work himself or through his own employees, provided that such improvements are not intended or offered for sale. However, if the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale.) I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for the permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9, commencing with Section 7000) of Division 3 of the Business and Professions Code or that he is exempt therefrom, and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500)): In addition, I understand that in the event that I am not exempt from the Contractor's License Law, the permit shall be deemed revoked at the time work is started. I certify that I have read this application and state that the above information is correct. I agree to comply with all city ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above mentioned property for inspection purposes. I am the owner or authorized agent to act on the owner's behalf. I understand that the plot plan shall be used and retained by the City of San Diego and may be made available to the public for inspection. I understand that the submittal of this application and all other required documents does not guarantee that I will receive a permit, and that additional information may be required.

Signature Date 10-19-95

This information is available in alternative formats for persons with disabilities.
To request this information in alternative format, call (619) 236-7703 or (619) 236-6979 (TDD)
DS-3032 (Rev. 1-95)

Sanborn Maps

1950



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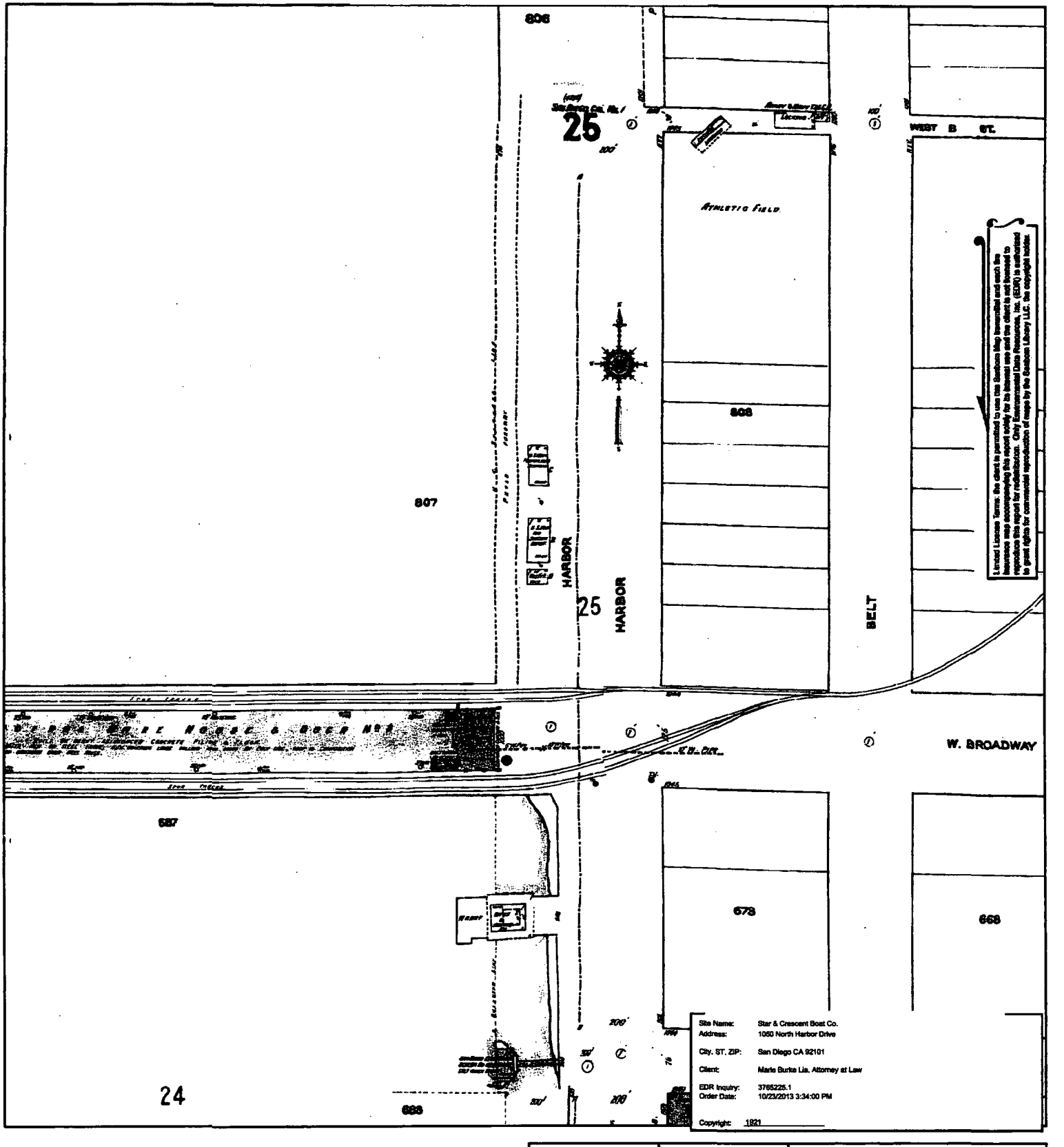
1921



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Chain of Title

California Lot Book, Inc.

dba California Title Search Co.

P.O. Box 9004
Rancho Santa Fe, CA 92067
(858) 278-8797 Fax (858) 278-8393
info@lotbook.com
WWW.LOTBOOK.COM

Chain of Title Report

Marie Burke Lia
427 C Street, #416
San Diego, Ca 92101

CTS Reference No.: 1113263
Your Ref. No.: 1067

Title Search Through: October 16, 2013

Property Address: 1050 N Harbor Dr.
San Diego, CA 92101

Assessor's Parcel No.: 760-012-77-00

Assessed Value: $1,798,260

Exemption: None

Property Characteristics

Use: Store Building

Improvements:

Short Legal Description

COMMENCING AT THE POINT OF INTERSECTION OF THE U.S. BULKHEAD LINE, AS SAID U.S. BULKHEAD LINE WAS ESTABLISHED FOR THE BAY OF SAN DIEGO, AS FURTHER DESCRIBED.

California Lot Book, Inc., dba California Title Search Co.
CTS Reference No.: 1113263

Chain of Title
(March 20, 1986 through October 16, 2013)

1. Abstract of Lease

Lessor:	San Diego Unified Port District
Lessee:	Star & Crescent Boat Company
Recorded:	March 20, 1986, Recorders File No. 86-107533

2. Agreement of Merger and Amendment and Restatement of Articles of Incorporation

First Party:	San Diego Harbor Excursions, Inc.
Second Party:	Star & Crescent Boat Company
Recorded:	January 22, 1987, Recorders File No. 87-34310

3. Abstract of Lease Amendment No. 1

Lessor:	San Diego Unified Port District
Lessee:	Star & Crescent Boat Company
Recorded:	April 10, 1987, Recorders File No. 87-193360

4. Abstract of Lease Amendment No. 2

Lessor:	San Diego Unified Port District
Lessee:	Star & Crescent Boat Company
Recorded:	October 12, 1989, Recorders File No. 89-552577

5. Notice of Completion

Recorded:	October 9, 1995, Recorders File No. 95-453071

6. Notice of Completion

Recorded:	April 23, 1996, Recorders File No. 96-200243

– End of Report –

****

Please be advised that this is not Title Insurance. The information provided herein reflects matters of public record which impart constructive notice in accordance with California Insurance Code 12340.10. Note that we are not a Title Insurance Company, and that no express or implied warranty as to the accuracy or completeness of the information provided herein is granted. Our work has been performed under short time constraints with a quick turn around, and is based in part on the use of databases outside of our control. The recipient hereby acknowledges that California Lot Book, Inc. assumes no liability with respect to any errors or omissions related to the information provided herein. Also note that this search has been performed without the benefit of a Statement of Identification from the property owners, and if a search was performed for liens recorded against owner names, we cannot be sure that the information provided relates to the actual property owners, or is complete with respect to the property owners. In any event, our liability is limited to the amount of fees collected for the information provided herein.

****

City Directory

SAN DIEGO CITY DIRECTORY

1050 North Harbor Drive
San Diego, CA 92132

Year	Occupant
1934	Harbor Water Taxi Co. Matheson J K boat livery Uniter Water Taxi Co.
1936	Harbor Water Taxi Co. Matheson J K boat livery Smith H E confy Uniter Water Taxi Co.
1938-40	Beisser Morris Locksmith Ghio S C confy Harbor Water Taxi Co. United Water Taxi Co.
1942-45	United Water Taxi Co.
1947-48	Harbor Water Taxi Co. United Water Taxi Co.
1950	Beisser M N locksmith Ghio Stephen Restaurant Harbor Water Taxi Co. United Water Taxi Co.
1951-60	Ghio Steve C. Restaurant Harbor Excursion Boats United Water Taxi Co.
1961	Ghios Popcorn Stand Harbor Excursion Boats United Water Taxi Co.
1962-64	Ghios Popcorn Stand United Water Taxi Co. Boats
1966-70	Ghio's Snack Bar United Water Taxi Co. Boats
1971-73	Ghio's Snack Bar
1974-76	Shore Snack Bar Glorietta Boat-Ique Gift Shop San Diego Harbor Excursions

Historical Photographs

11593

1929

San Diego History Center Photograph
View of west and south facades
1050 North Harbor Drive #11593

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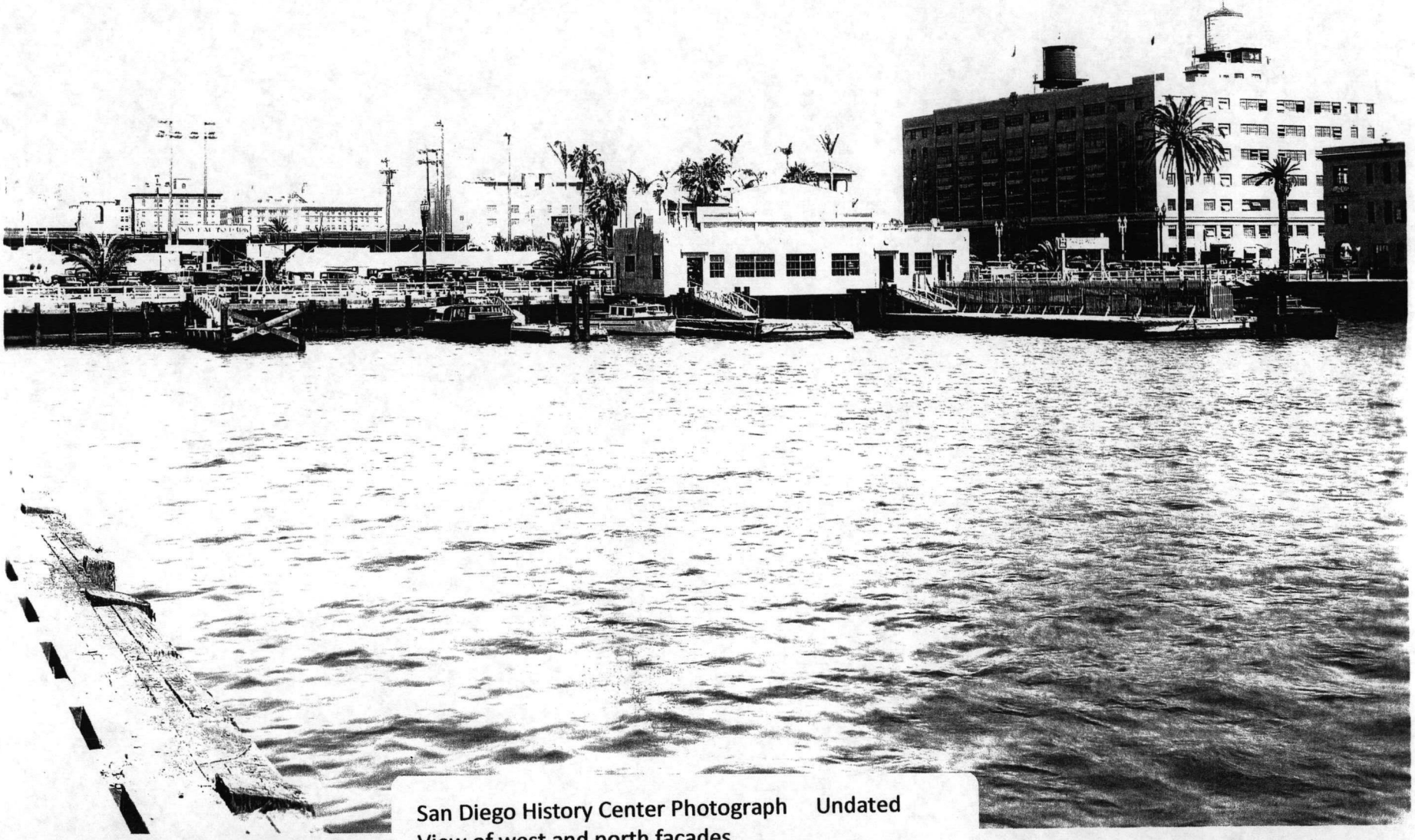
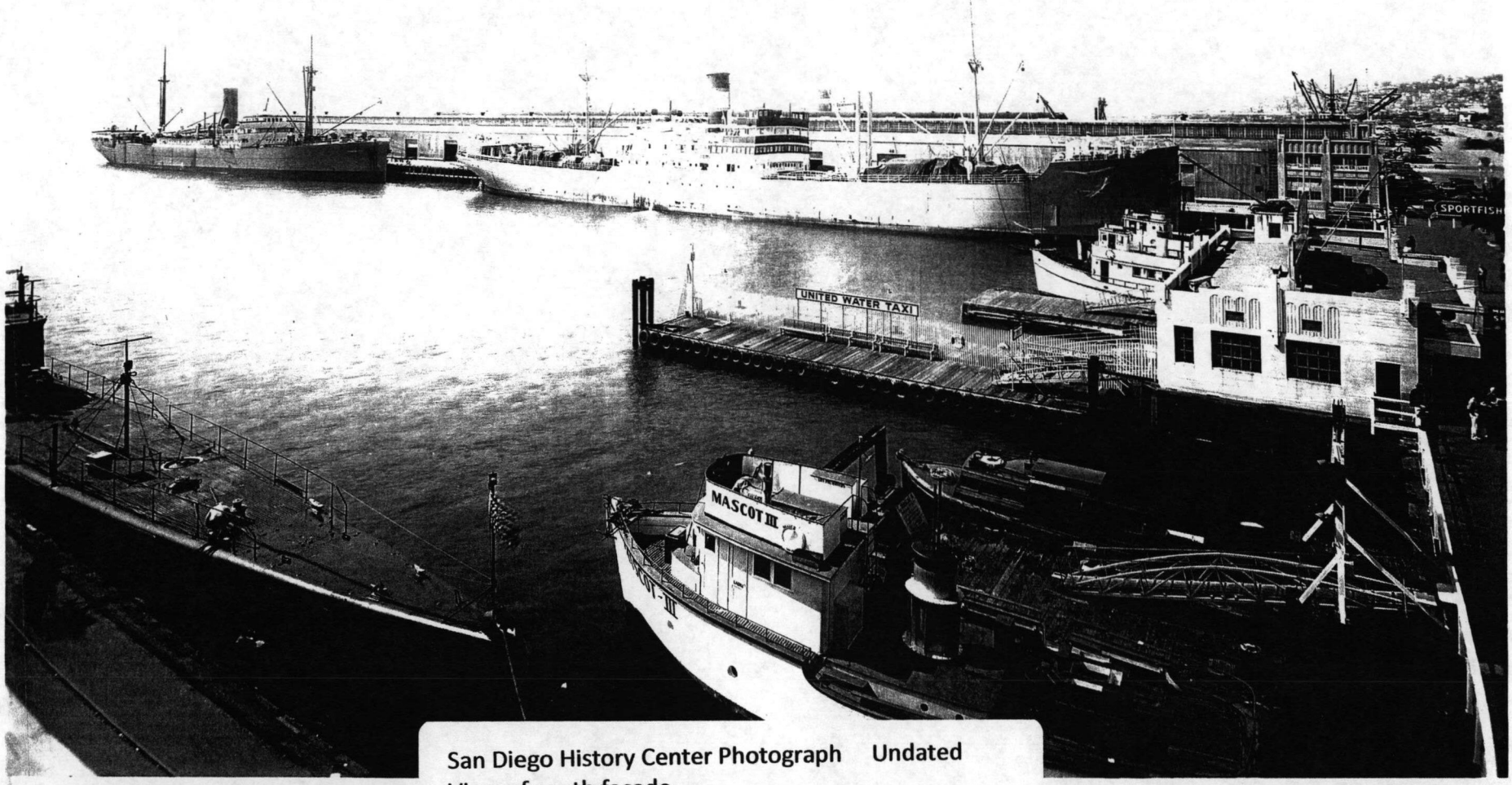
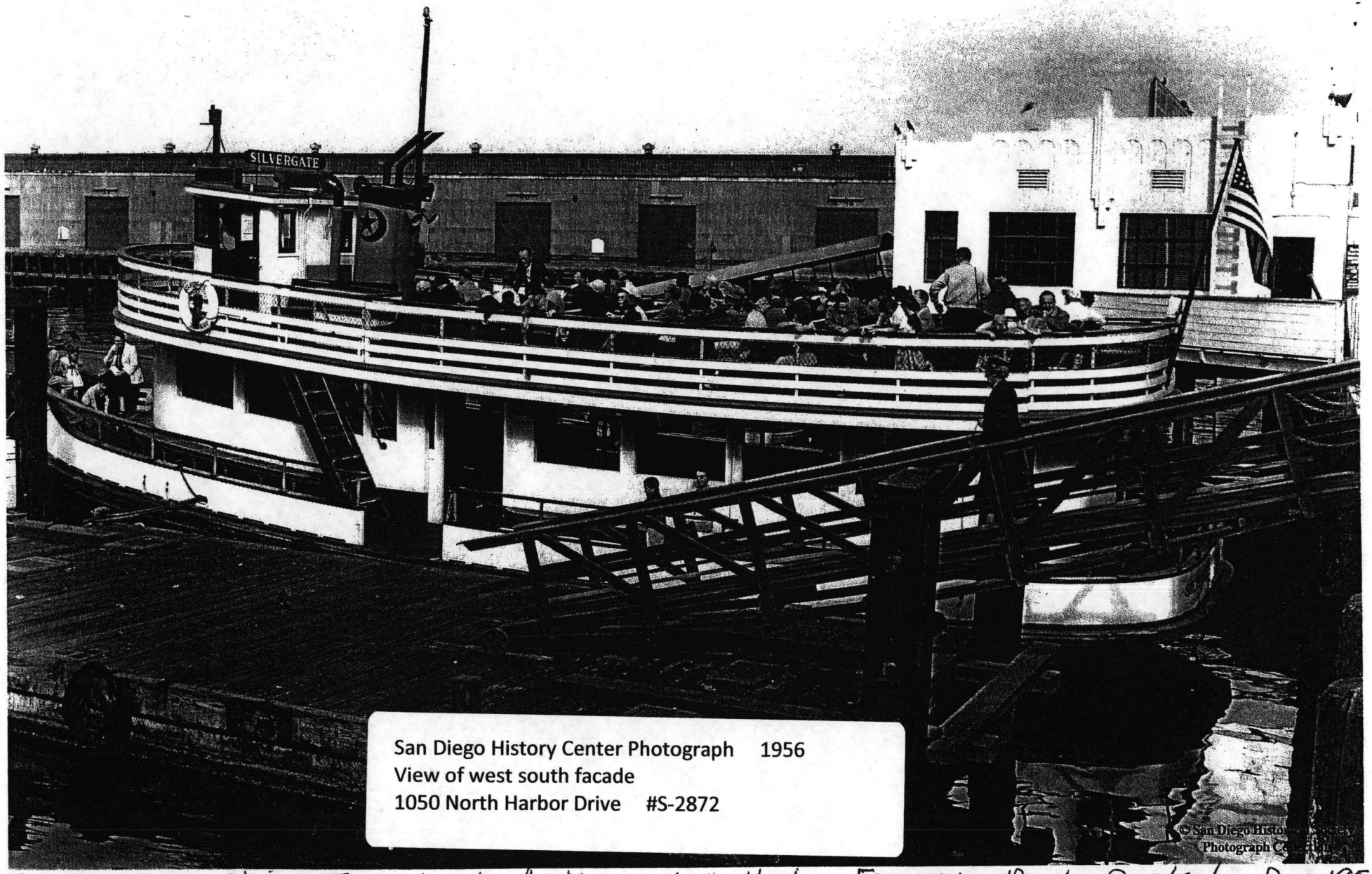


San Diego History Center Photograph Undated
View of west and north facades
1050 North Harbor Drive #84:14998-4674



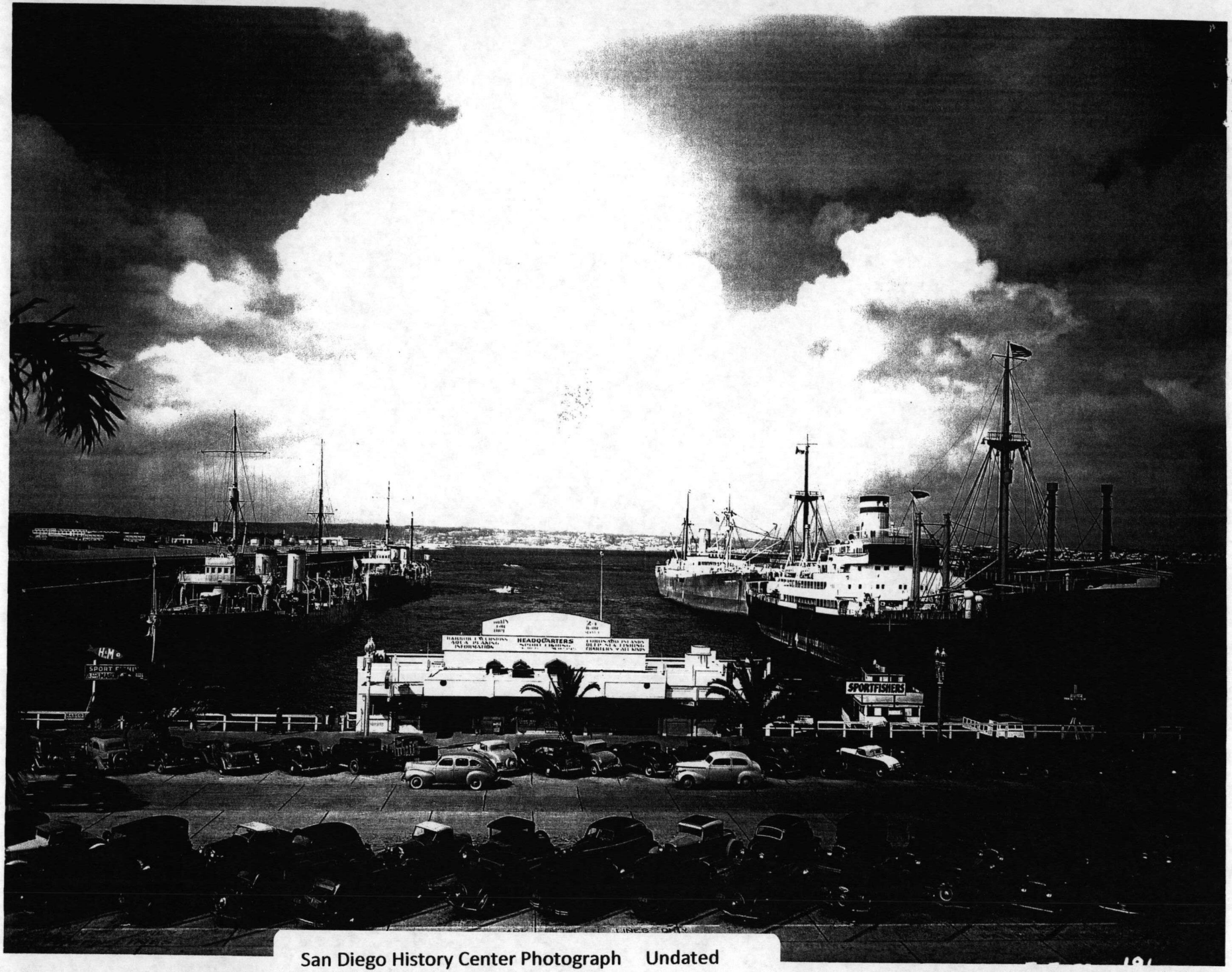
San Diego History Center Photograph Undated
View of south facade
1050 North Harbor Drive #84:14998-4671



San Diego History Center Photograph 1956
View of west south facade
1050 North Harbor Drive #S-2872

© San Diego Histo... Society
Photograph Co...

S-2872 Ships-Ferry boats, "Silvergate" Harbor Excursion Boat Docked Dec. 195



San Diego History Center Photograph Undated
View of east facade
1050 North Harbor Drive #84:14998-4703

Pier

62558

PAGE

San Diego History Center Photograph 1980
View of east facade
1050 North Harbor Drive #80:7701

80:7701

10/9/80

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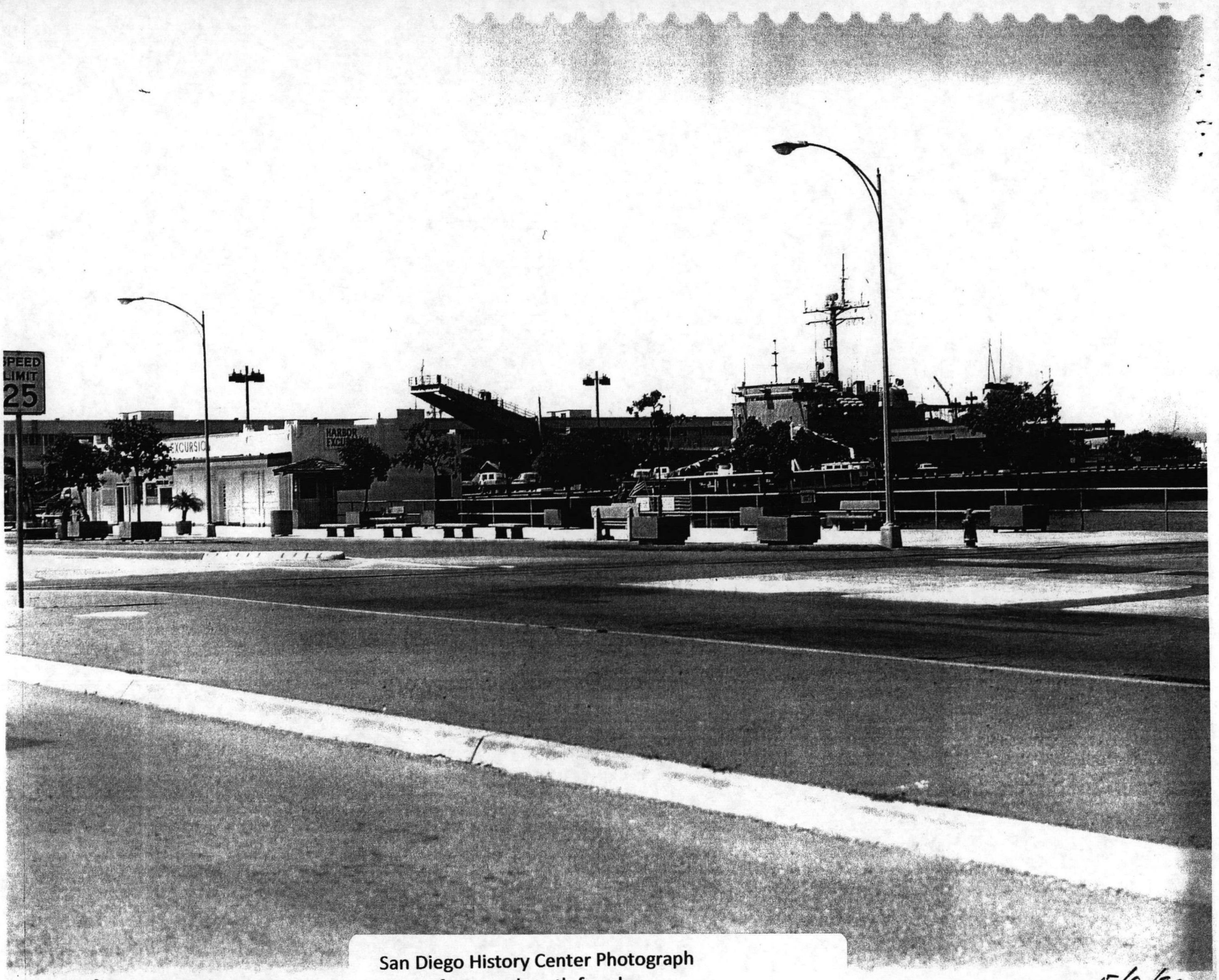

San Diego History Center Photograph
View of east and north facades
1050 North Harbor Drive #80:3606

80: 3606

5/9/80

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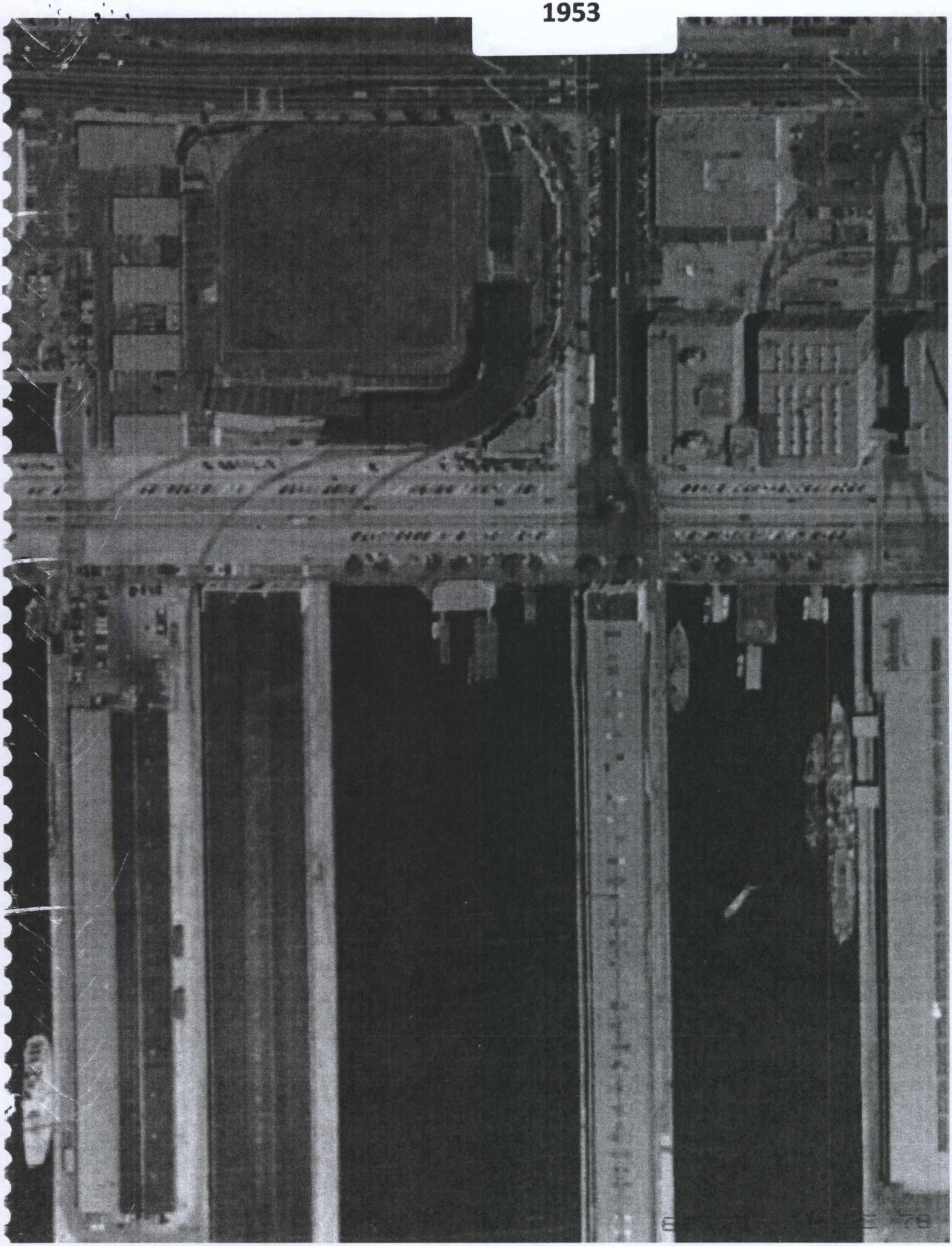
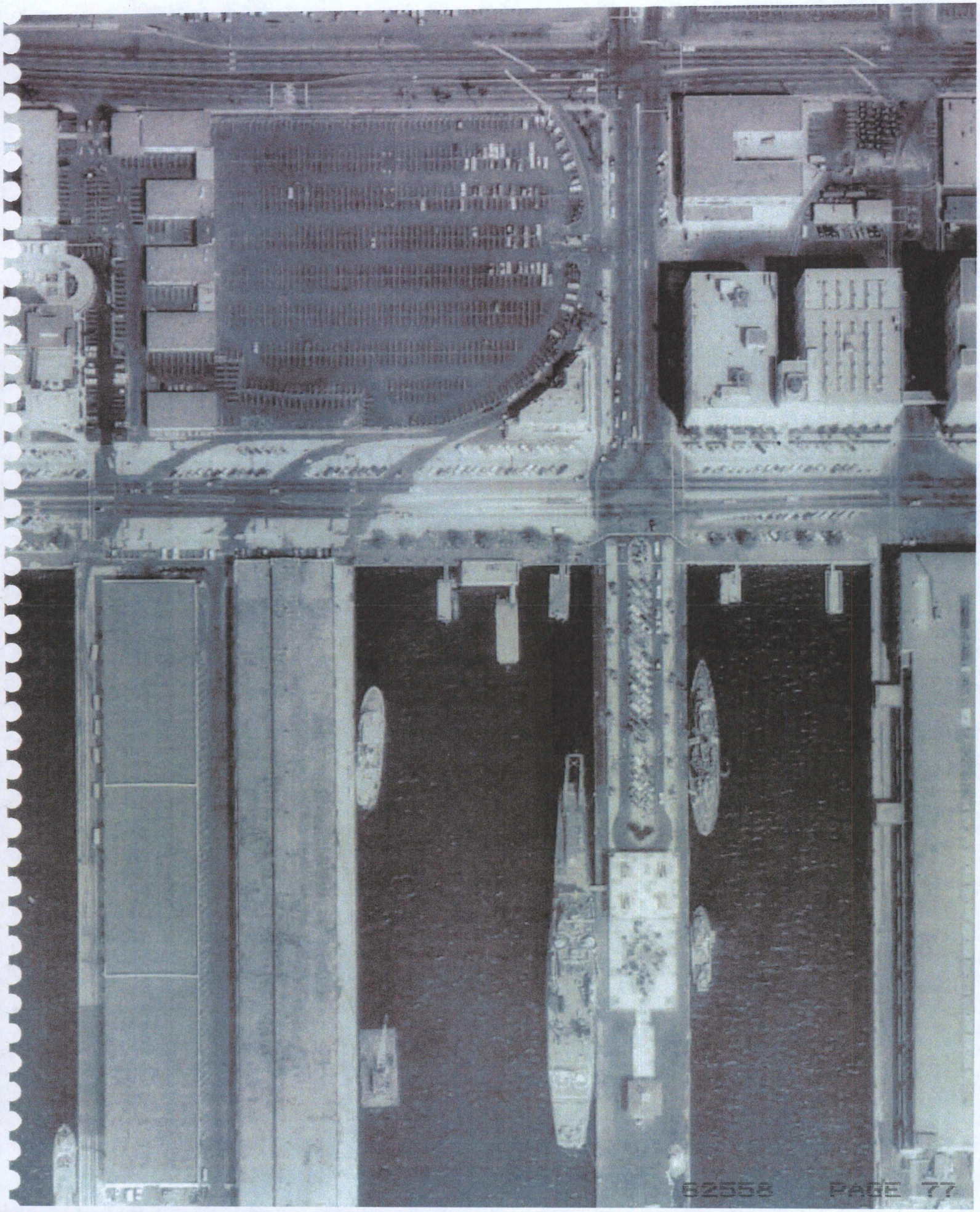
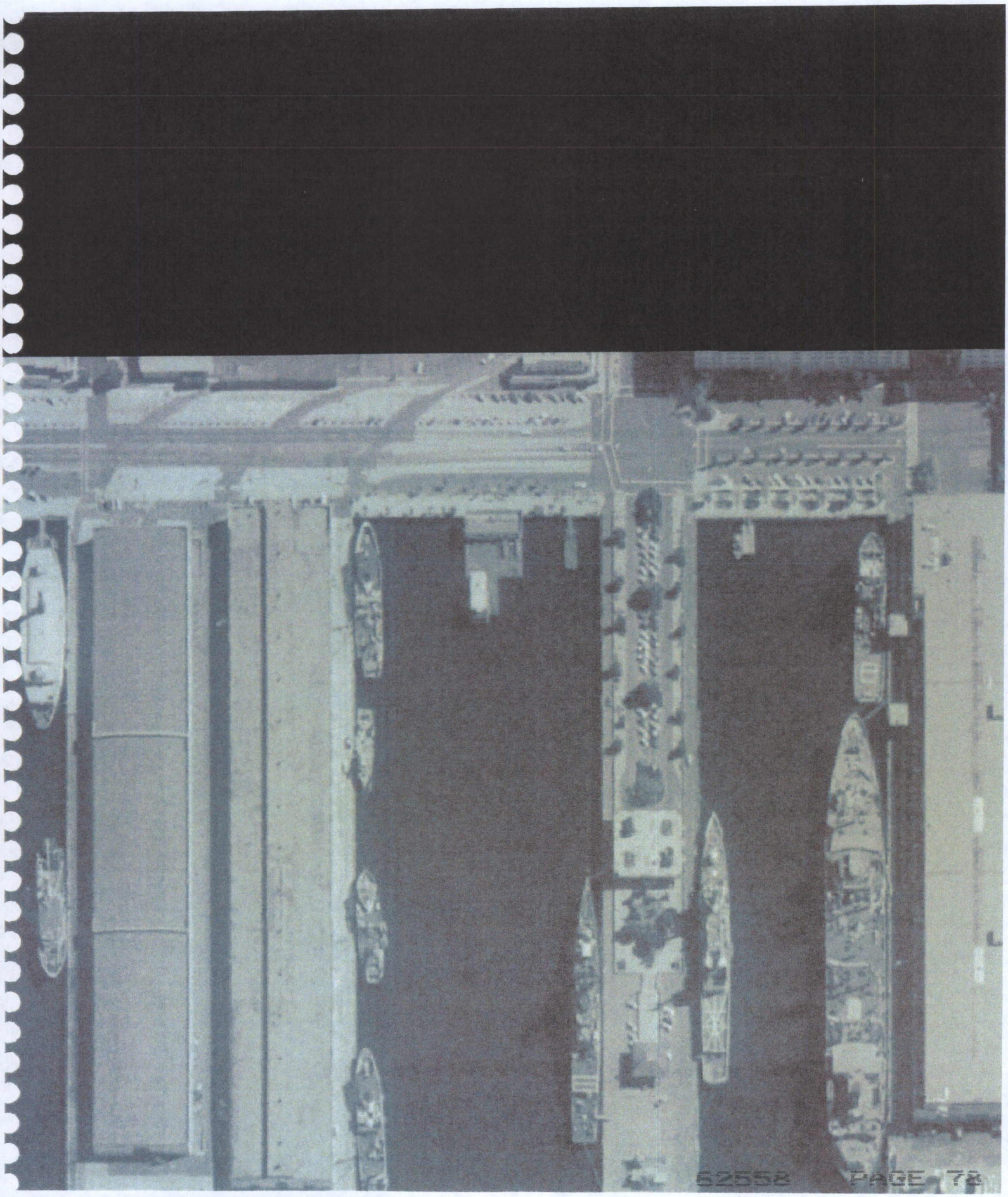
Aerial Photographs

1953



1972




52558
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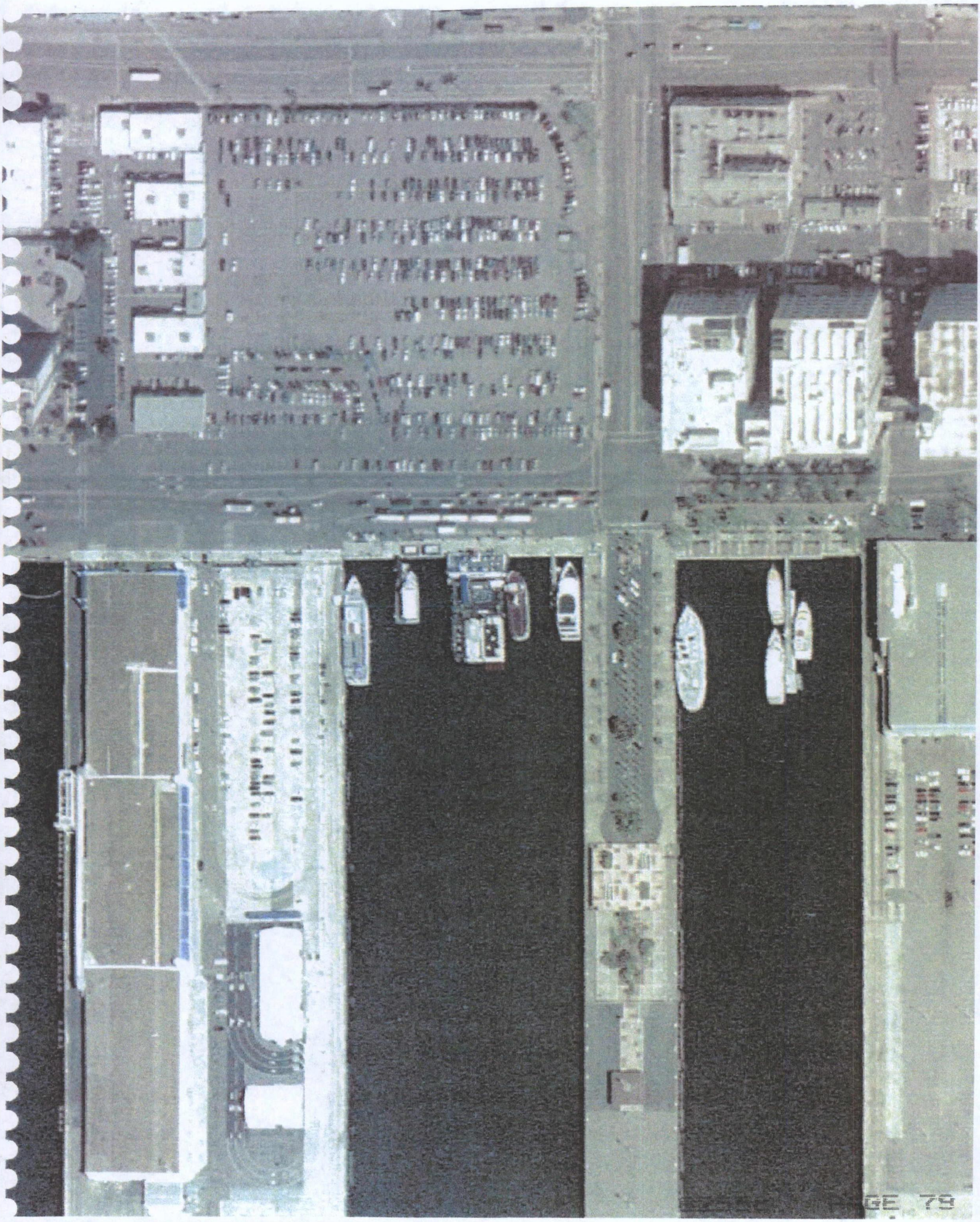

GE 79

Appendix K

k. Noise Abatement and Control

1. National City Bayfront Projects & Plan Amendments Final Environmental Impact Report, Volume 4 of 6, dated September 2022

Appendix L

I. Sole Source Aquifers

1. EPA Map of Sole Source Aquifers
2. Sole Source Aquifer Map

US EPA ARCHIVE DOCUMENT

Campo-Cottonwood Sole Source Aquifer

Designated Area

Notes and Explanation:

The Campo-Cottonwood Sole Source Aquifer was designated under the authority of Section 1424(e) of the Safe Drinking Water Act, Federal Register Citiation-49 FR 2948, Publication Date - 01/24/84. Please contact US EPA Region 9 (Jamelya Curtis, 415-972-3529) for assistance in determining place locations with respect to the project review area.

Map Status and Disclaimer:

Please note that this working map is a computer representation compiled by the Environmental Protection Agency (EPA) from sources which have supplied data or information that may not have been verified by the EPA. This data is offered here as a general representation only, and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

Legend

- Designation Boundary
- Highways
- Major Roads
- Streams
- Tribal Lands
- Cities, Towns

Descanso
Descanso Junction
Los Terrenitos
Guatay
Cuyapaipe
La Posta
Manzanita
La Posta
Live Oak Springs
Campo
Manzanita
Campo
Tierra del Sol
Doghouse Junction
Potrero
Campo
MEXICO

0 1.5 3 6 9 12 Miles

N W E S

EPA Region 9 GIS Center

WTR0801656.4 Oct. 2008

US EPA ARCHIVE DOCUMENT

Ocotillo-Coyote Wells Sole Source Aquifer

Designated Area

Notes and Explanation:

The Ocotillo-Coyote Wells Sole Source Aquifer was designated under the authority of Section 1424(e) of the Safe Drinking Water Act, Federal Register Citiation-61 FR 47752, Publication Date - 09/10/86. Please contact US EPA Region 9 (Jamelya Curtis, 415-972-3529) for assistance in determining place locations with respect to the project review area.

Map Status and Disclaimer:

Please note that this working map is a computer representation compiled by the Environmental Protection Agency (EPA) from sources which have supplied data or information that may not have been verified by the EPA. This data is offered here as a general representation only, and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

Legend

- Designation Boundary
- Highways, Major Roads
- Streets
- Streams
- Cities, Towns

SAN DIEGO

IMPERIAL

Ocotillo

Coyote Wells

Mortero Palms

Boulder Park

CALIFORNIA

MEXICO

Ocotillo-Coyote Wells Sole Source Aquifer

0 1 2 4 6 8 Miles

N W E S

EPA Region 9 GIS Center

WTR0801656.5 Oct. 2008

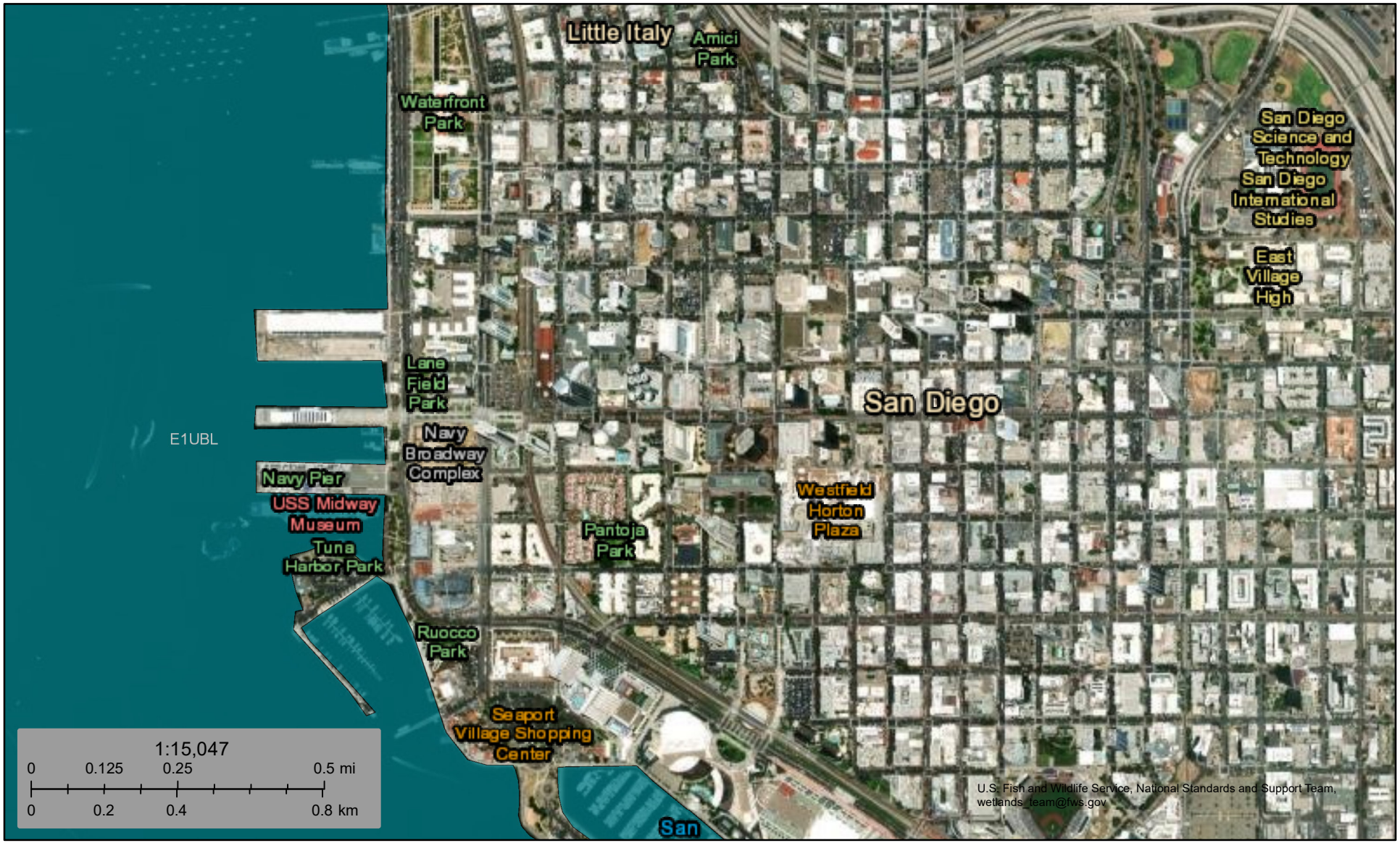
Appendix M

m. Wetlands Protection

1. USFWS National Wetlands Inventory Navy Pier
2. USFWS National Wetlands Inventory Navy Pier

U.S. Fish and Wildlife Service
National Wetlands Inventory

Navy Pier Wetland Inventory



July 18, 2023

Wetlands

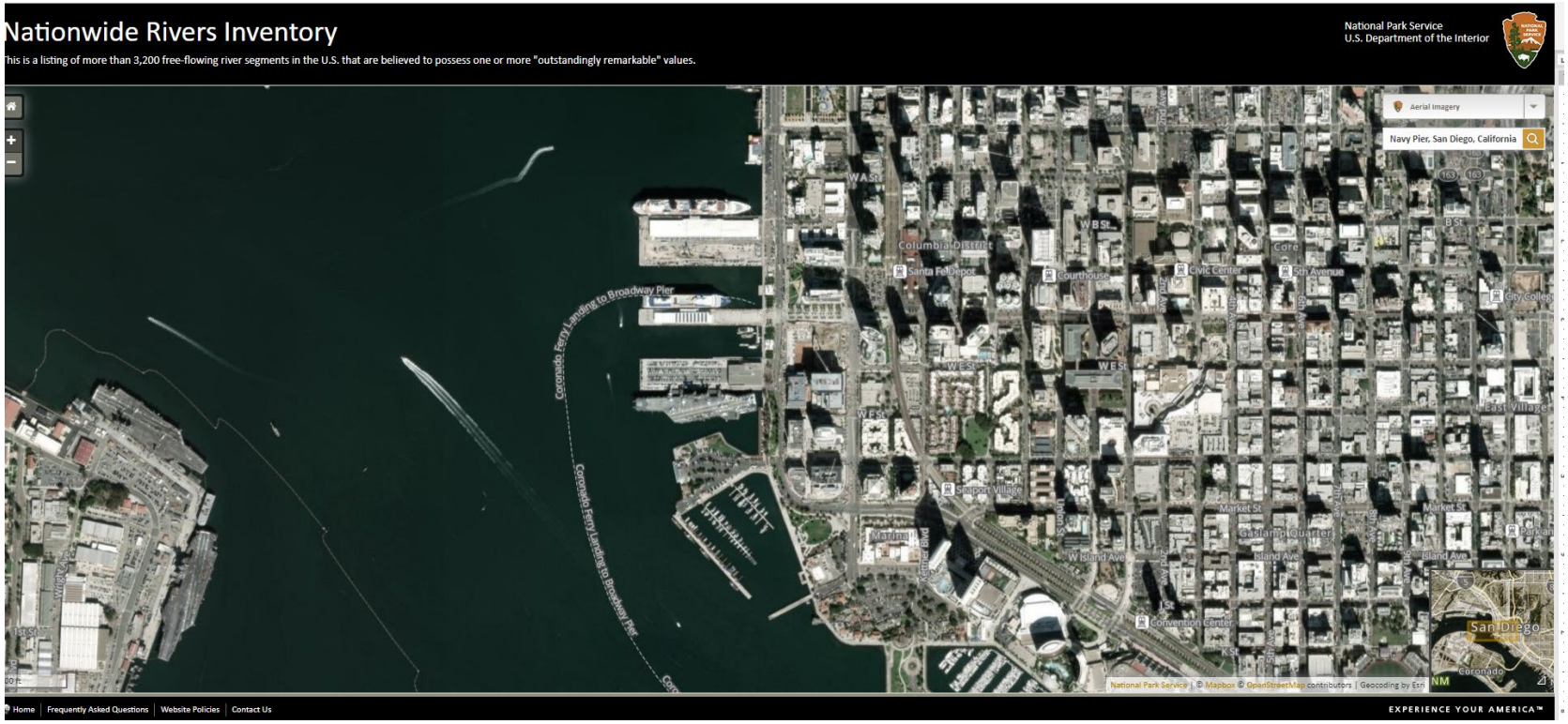
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix N

n. Wild and Scenic Rivers

1. Nationwide Rivers Inventory
2. Nationwide Rivers Inventory - Navy Pier


Nationwide Rivers Inventory
This is a listing of more than 3,200 free-flowing river segments in the U.S. that are believed to possess one or more "outstandingly remarkable" values.
National Park Service
U.S. Department of the Interior
Aerial Imagery
Navy Pier, San Diego, California
Coronado Ferry Landing to Broadway Pier
Columbia District
Santa Fe Depot
Courthouse
Civic Center
5th Avenue
Gaslamp Quarter
Convention Center
Seaport Village
Marina
East Village
San Diego
Coronado
National Park Service | © Mapbox © OpenStreetMap contributors | Geocoding by Esri
Home | Frequently Asked Questions | Website Policies | Contact Us
EXPERIENCE YOUR AMERICA™

Appendix O

o. Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design

1. Land Use: Draft Port Master Plan Update
    i. Draft PMPU Land Use Map Navy Pier

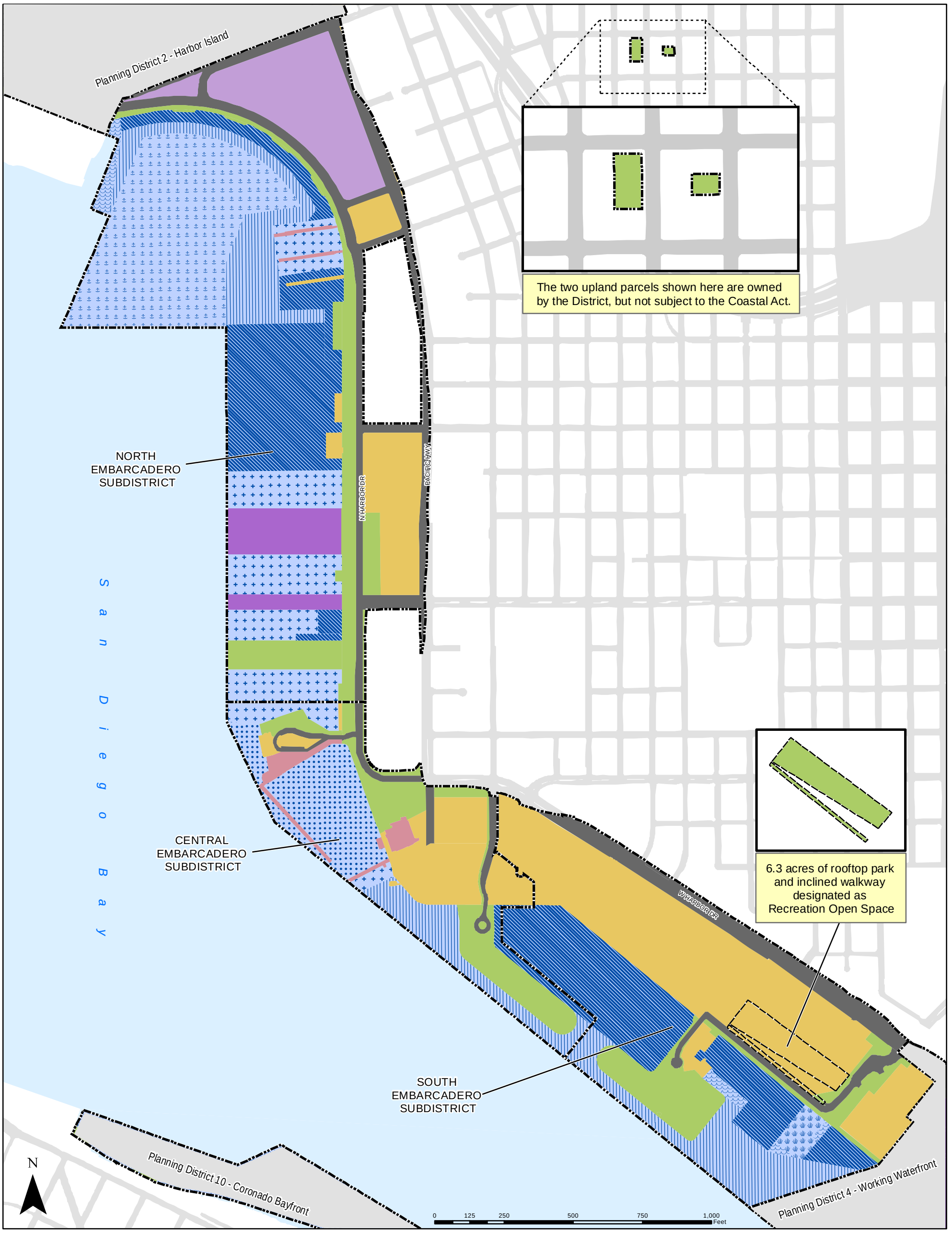
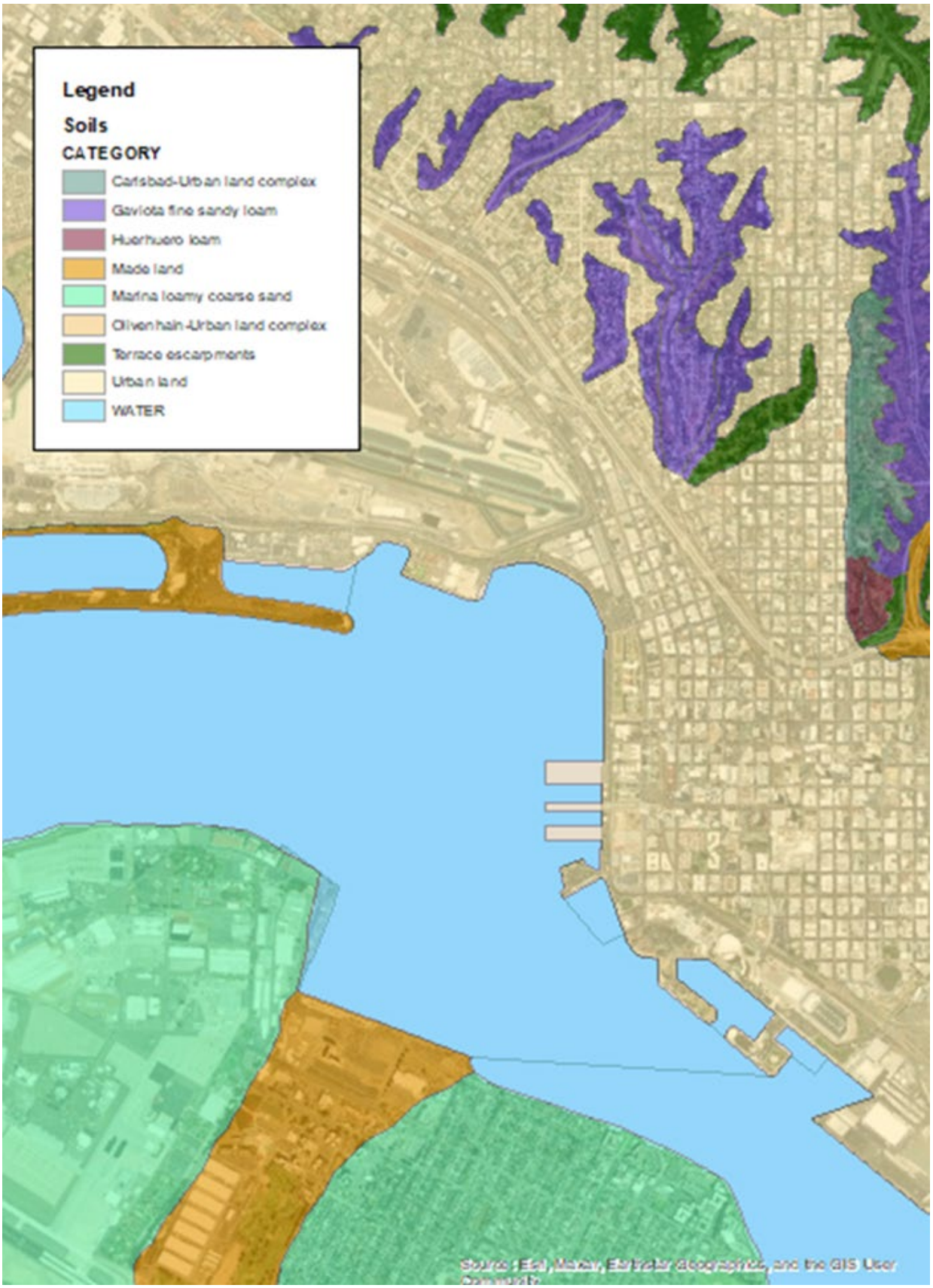


FIGURE PD3.2 **EMBARCADERO PLANNING DISTRICT: WATER AND LAND USES**

Appendix P

p. Soil Suitability / Slope / Erosion / Drainage / Stormwater Runoff

1. Soils: https://casoilresource.lawr.ucdavis.edu/gmap/
    i. Navy Pier Soil Type
2. Stormwater Runoff:
    i. Construction and Pollution Prevention Plan for the Navy Pier Freedom Park Phase IIA Headhouse Demolition, April 2023


Legend
Soils
CATEGORY
Carlsbad-Urban land complex
Gaviota fine sandy loam
Huerhuero loam
Made land
Marina loamy coarse sand
Oliven hain-Urban land complex
Terrace escarpments
Urban land
WATER

PORT OF SAN DIEGO
STORMWATER QUALITY MANAGEMENT PLAN
FOR PRIORITY DEVELOPMENT PROJECT (PDP)

PROJECT NAME: NAVY PIER FREEDOM PARK – PHASE IIA HEADHOUSE DEMOLITION
PROJECT NUMBER: 6-16-0258
PROJECT ADDRESS: NAVY PIER, SAN DIEGO, CA 92132

DATE: APRIL 26, 2023

CA CIVIL ENGINEER STAMP AND SIGNATURE:

PREPARED FOR:
PORT OF SAN DIEGO
3165 PACIFIC HIGHWAY
SAN DIEGO, CA 92101

PREPARED BY:
RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110-2596

PLEASE PROTECT OUR ENVIRONMENT
SAN DIEGO BAY WATERSHED

Unified Port of San Diego

Page intentionally blank

TABLE OF CONTENTS

Acronym Sheet
PDP SWQMP Preparer's Certification Page
PDP SWQMP Project Applicant Certification Page
Construction Change Record
Project Vicinity Map
FORM I-1 Applicability of Permanent, Post-Construction Storm Water BMP Requirements
FORM I-2 Project Type Determination Checklist (Standard Project or PDP)
FORM I-3B Site Information Checklist for PDPs
FORM I-4 Source Control BMP Checklist for All Development Projects
FORM I-5 Site Design BMP Checklist for All Development Projects
FORM I-6 Summary of PDP Structural BMPs
Attachment 1: Backup for PDP Pollutant Control BMPs
- Attachment 1a: DMA Exhibit
- Attachment 1b: Tabular Summary of DMAs and Design Capture Volume Calculations
- Attachment 1c: Harvest and Use Feasibility Screening (when applicable)
- Attachment 1d: Categorization of Infiltration Feasibility Condition (when applicable)
- Attachment 1e: Pollutant Control BMP Design Worksheets / Calculations

Attachment 2: Backup for PDP Hydromodification Control Measures
- Attachment 2a: Hydromodification Management Exhibit
- Attachment 2b: [Not Applicable]
- Attachment 2c: Geomorphic Assessment of Receiving Channels
- Attachment 2d: Flow Control Facility Design

Attachment 3: Structural BMP Maintenance Plan
- Attachment 3a: Structural BMP Maintenance Information
- Attachment 3b: Draft Maintenance Agreement (when applicable)

Attachment 4: Copy of Plan Sheets Showing Permanent Storm Water BMPs
Attachment 5: Project Closeout Documentation
- Attachment 5a: Copy of Review and Acceptance of SWQMP from Adjacent Jurisdiction (when applicable)
- Attachment 5b: SWQMP Changes During Construction (when applicable)
- Attachment 5c: Port of San Diego Verification Closeout Form

ACRONYM SHEET

BMP	Best Management Practice
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NRCS	Natural Resources Conservation Service
PDP	Priority Development Project
PE	Professional Engineer
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWQMP	Storm Water Quality Management Plan

PDP SWQMP PREPARER'S CERTIFICATION PAGE

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition
Permit Application Number: 6-16-0258

PREPARER'S CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of storm water best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the PDP requirements of the Port of San Diego BMP Design Manual, which is a design manual for compliance with local Port of San Diego and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2015-0100) requirements for storm water management.

I have read and understand that the Port of San Diego has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the Port of San Diego BMP Design Manual. I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP SWQMP by the Port of San Diego is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.

, R.C.E. #70649, Exp. 06/23

_____

Engineer of Work's Signature, PE Number & Expiration Date

Jayne Janda-Timba

_____

Print Name

Rick Engineering Company

_____

Company

April 21, 2023

_____

Date

Engineer's Seal:

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PDP SWQMP PROJECT APPLICANT CERTIFICATION PAGE

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition
Permit Application Number: 6-16-0258

PROJECT APPLICANT'S CERTIFICATION

This PDP SWQMP has been prepared for the Port of San Diego by Rick Engineering Company (RICK). The PDP SWQMP is intended to comply with the PDP requirements of the Port of San Diego BMP Design Manual, which is a design manual for compliance with local Port of San Diego and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. 2013-0001, as amended by Orders No. R9-2015-0001 and No. R9-2015-0100) requirements for storm water management.

The undersigned, while it owns the subject project, is responsible for the implementation of the provisions of this plan. This includes:

- **Installation of storm water BMPs,**
- **Verification of installed BMPs pursuant to the Port of San Diego's project closeout procedures,**
- **Maintenance of BMPs annually or more frequently when necessary to maintain BMP capacity,**
- **Annual verification of BMP maintenance pursuant to the Port of San Diego's maintenance documentation/verification requirements.**

If the undersigned transfers its interests in the property, its successor-in-interest shall bear the aforementioned responsibility to implement the best management practices (BMPs) described within this plan, including ensuring on-going operation and maintenance of structural BMPs. A signed copy of this document shall be available on the subject property into perpetuity.

Signature 1: Pre-Construction *Project applicant's signature is required prior to approval of the SWQMP.*		
Project Applicant's Signature:		
Print Project Applicant's Name: Ernesto Medina	Company Name: San Diego Unified Port District	Date:

Signature 2: Post-Construction *Project applicant's signature is required for project closeout.*		
Project Applicant's Signature:		
Print Project Applicant's Name: Ernesto Medina	Company Name: San Diego Unified Port District	Date:

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CONSTRUCTION CHANGE RECORD

During construction of the project, any changes that affect the design of storm water management features must be reviewed and approved by the Port of San Diego. This might include changes to drainage patterns that occurred based on actual site grading and construction of storm water conveyance structures, or substitutions to storm water management features. The storm water management design must be revisited to ensure the revised project layout and features meet the requirements of the BMP Design Manual and the MS4 Permit.

Design changes must be reviewed and approved by the Engineer of Record and the Port of San Diego prior to continuing construction.

Use this Table to keep a record of changes that occur during construction.

Construction Change Number	Date of Approval	Summary of Changes

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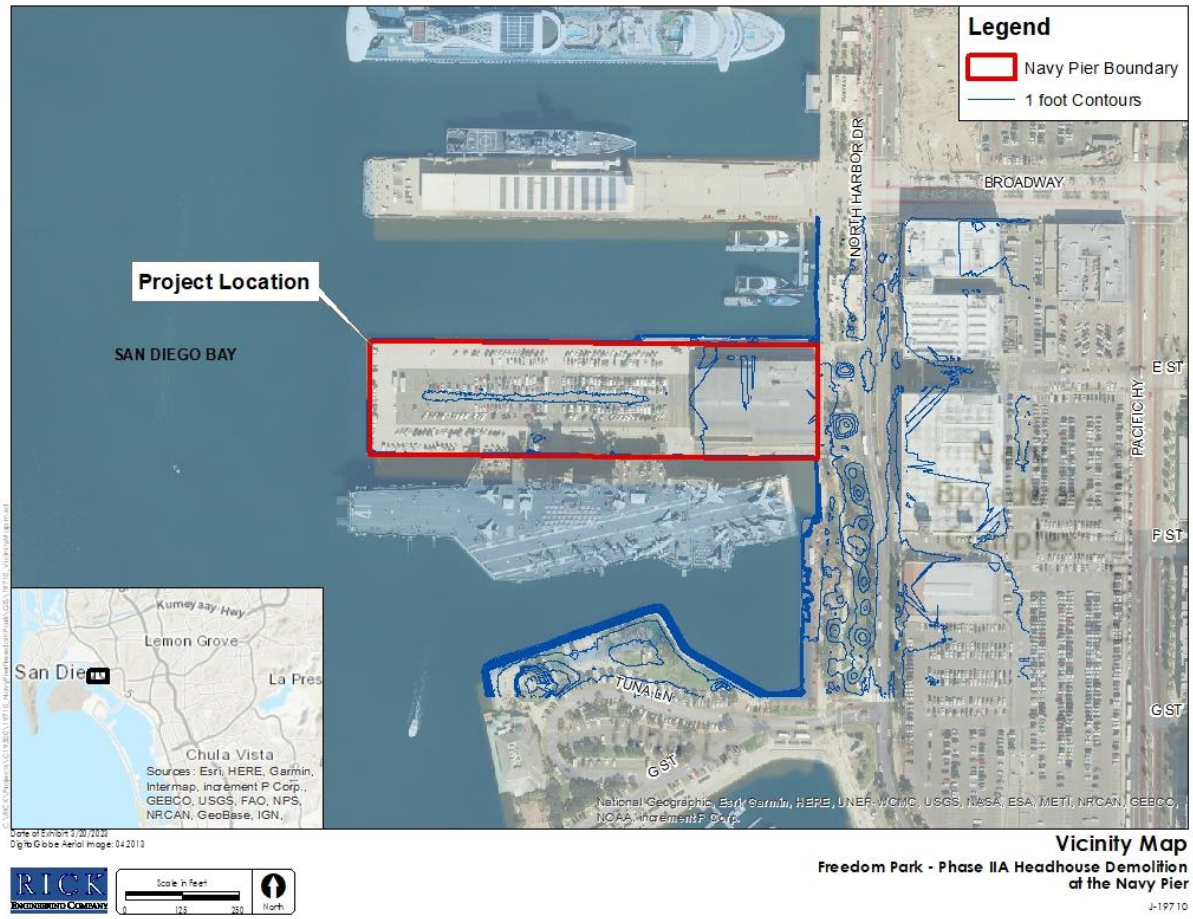
PROJECT VICINITY MAP

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition
Permit Application Number: 6-16-0258



Vicinity Map Checklist

The Vicinity Map must identify:

☒ Major roadways, geographic features or landmarks

☒ Site perimeter

☒ Geographic features

☒ General topography

☒ Downstream receiving water body

☒ Scale

☒ North arrow

Applicability of Permanent, Post-Construction Storm Water BMP Requirements **(Storm Water Intake Form for all Development Permit Applications)**	**Form I-1**

Project Identification

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition	
Permit Application Number: **6-16-0258**	Date: April 26, 2023
Project Address: Navy Pier, San Diego, CA 92132	

Determination of Permanent, Post-Construction Requirements

The purpose of this form is to identify permanent, post-construction requirements that apply to the project. This form serves as a short summary of applicable requirements, in some cases referencing separate forms that will serve as the backup for the determination of requirements.

Answer each step below, starting with Step 1 and progressing through each step until reaching "Stop". **Upon reaching a Stop, do not complete further Steps beyond the Stop.**

Refer to Port BMP Design Manual sections and/or separate forms referenced in each step below.

Step	Answer	Progression
Step 1: Is the project a "development project"? See Section 1.3 of the BMP Design Manual for guidance.	☒Yes	Go to Step 2.
	☐ No	Stop. Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.
Discussion / justification if the project is not a "development project" (e.g., the project includes *only* interior remodels within an existing building):		
Step 2: Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, see Section 1.4 of the BMP Design Manual *in its entirety* for guidance, AND complete Form I-2, Project Type Determination.	☐ Standard Project	Stop. Only Standard Project requirements apply, including Standard Project SWQMP.
	☒PDP	Standard and PDP requirements apply, including PDP SWQMP. Go to Step 3.
	☐ Exception to PDP definitions	Stop. Standard Project requirements apply, and any additional requirements specific to the type of project. Provide discussion and list any additional requirements below. Prepare Standard Project SWQMP.

Form I-1 Page 2		
[Step 2 Continued from Page 1] Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		
Step 3 (PDPs only). Is the project subject to earlier PDP requirements due to a prior lawful approval? See Section 1.10 of the BMP Design Manual for guidance.	☐ Yes	Consult the Port of San Diego to determine requirements. Provide discussion and identify requirements below. Go to Step 4.
	☒ No	BMP Design Manual PDP requirements apply. Go to Step 4.
Discussion / justification of prior lawful approval, and identify requirements (*not required if prior lawful approval does not apply*):		
Step 4 (PDPs only). Do hydromodification flow control requirements apply? See Section 1.6 of the BMP Design Manual for guidance.	☐ Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification flow control (Chapter 6). Stop.
	☒ No	Stop. PDP structural BMPs required for pollutant control (Chapter 5) only. Provide brief discussion of exemption to hydromodification control below.
Discussion / justification if hydromodification control requirements do <u>not</u> apply: The project discharges directly into the San Diego Bay and is therefore exempt from Hydromodification Management Plan (HMP) requirements.		
Note: No potential critical coarse sediment yield areas have been identified within Port of San Diego jurisdiction. Therefore when hydromodification management requirements apply, only the flow control requirements apply.		

Applicability of Construction Phase Storm Water Requirements **(Storm Water Intake Form for all Development Permit Applications)**	**Form I-1b**

Project Identification

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition	
Permit Application Number: **6-16-0258**	Date: April 26, 2023
Project Address: Navy Pier, San Diego, CA 92132	

Determination of Requirements

The purpose of this form is to identify construction phase storm water requirements that apply to the project.

If the answer to question 1 below is "Yes", your project is subject to the General Construction Activities Permit and will be required to submit Permit fees, a completed Notice of Intent to comply with the Permit and submit a **Storm Water Pollution Prevention Plan (SWPPP) for Projects Greater Than 1 Acre** to the Port. If the answer to question 1 below is "No", but the answer to question 2 or 3 is "yes", you must prepare a Port Construction BMP Plan for projects less than 1 acre. If the answer to questions 4 or 5 is "Yes" then BMPs will be required but a document submittal will not be required. If every question below is answered "No", no additional storm water documentation is required.

Would the project meet any of these criteria during construction?		
1. Will this project include clearing, grading, disturbances to ground such as stockpiling, or excavation that results in soil disturbances of at least one acre total land area?	☒Yes	☐ No
2. Does the project propose pavement resurfacing, grading or soil disturbance greater than 100 square feet?	☒Yes	☐ No
3. Will the project occur over or within a receiving water?	☒Yes	☐ No
4. Would storm water or urban runoff have the potential to contact any portion of the construction area, including washing and staging areas?	☒Yes	☐ No
5. Would the project use any construction materials that could negatively affect water quality if discharged from the site (such as paints, solvents, concrete, and stucco)?	☒Yes	☐ No

Note: The Port requires the use of Port SWPPP and Construction BMP Plan templates. The templates are available on the Port website http://www.portofsandiego.org/environment/stormwater/838-swppp-templates.html or, to request a copy, please contact Planning & Green Port at (619) 686-6254.

Project Type Determination Checklist			Form I-2
Project Information			
Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition			
Permit Application Number: **6-16-0258**			Date: April 26, 2023
Project Address: Navy Pier, San Diego, CA 92132			
Project Type Determination: Standard Project or Priority Development Project (PDP)			
The project is (select one): ☐ New Development ☒ Redevelopment			
The total proposed newly created or replaced impervious area is: __49,697___ ft^2 (_1.14___) acres			
Is the project in any of the following categories, (a) through (f)?			
Yes ☐	No ☒	(a)	New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes ☒	No ☐	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes ☒	No ☐	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (Standard Industrial Classification (SIC) code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

Form I-2 Page 2			
Yes ☒	No ☐	(d)	New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). *Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees. See BMP Design Manual Section 1.4.2 for additional guidance.*
Yes ☐	No ☒	(e)	New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.
Yes ☒	No ☐	(f)	New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction. *Note: See BMP Design Manual Section 1.4.2 for additional guidance.*

Does the project meet the definition of one or more of the Priority Development Project categories (a) through (f) listed above?

☐ No – the project is not a Priority Development Project (Standard Project).

☒ Yes – the project is a Priority Development Project (PDP).

The following is for redevelopment PDPs only:

The area of existing (pre-project) impervious area at the project site is: _247,057 __ ft^2 (A)
The total proposed newly created or replaced impervious area is _49,697_ ft^2 (B)
Percent impervious surface created or replaced (B/A)*100: _20.1_ %
The percent impervious surface created or replaced is (select one based on the above calculation):

☒ less than or equal to fifty percent (50%) – only new impervious areas are considered PDP

OR

☐ greater than fifty percent (50%) – the entire project site is a PDP

<table>
<tr><th colspan="3">Site Information Checklist For PDPs</th><th>Form I-3B (PDPs)</th></tr>
<tr><td colspan="4">Project Summary Information</td></tr>
<tr><td colspan="2">Project Name</td><td colspan="2">Navy Pier Freedom Park – Phase IIA Headhouse Demolition</td></tr>
<tr><td colspan="2">Project Address</td><td colspan="2">Navy Pier, San Diego, CA 92132</td></tr>
<tr><td colspan="2">Permit Application Number: 6-16-0258</td><td colspan="2"></td></tr>
<tr><td>Project Hydrologic Unit
Select One:</td><td>Project Hydrologic Area
Select One:</td><td colspan="2">Project Hydrologic Subarea
Select One When Applicable:</td></tr>
<tr><td rowspan="5">☒ Pueblo San Diego 908</td><td>☐ 908.10 Point Loma</td><td colspan="2"></td></tr>
<tr><td rowspan="2">☒ 908.20 San Diego Mesa</td><td colspan="2">☒ 908.21 Lindbergh</td></tr>
<tr><td colspan="2">☐ 908.22 Chollas</td></tr>
<tr><td rowspan="2">☐ 908.30 National City</td><td colspan="2">☐ 908.31 El Toyon</td></tr>
<tr><td colspan="2">☐ 908.32 Paradise</td></tr>
<tr><td rowspan="2">☐ Sweetwater 909</td><td rowspan="2">☐ 909.10 Lower Sweetwater</td><td colspan="2">☐ 909.11 Telegraph</td></tr>
<tr><td colspan="2">☐ 909.12 La Nacion</td></tr>
<tr><td rowspan="2">☐ Otay 910</td><td>☐ 910.10 Coronado</td><td colspan="2"></td></tr>
<tr><td>☐ 910.20 Otay Valley</td><td colspan="2"></td></tr>
<tr><td colspan="2">Port Parcel Area
(total area of Parcel(s) associated with the project)</td><td colspan="2">_5.67_ Acres (_247,057__ Square Feet)</td></tr>
<tr><td colspan="2">Area to be Disturbed by the Project
(Project Area)</td><td colspan="2">_1.14_ Acres (_49,697__ Square Feet)</td></tr>
<tr><td colspan="2">Project Proposed Impervious Area
(subset of Project Area)</td><td colspan="2">_1.14_ Acres (_49,697__ Square Feet)</td></tr>
<tr><td colspan="2">Project Proposed Pervious Area
(subset of Project Area)</td><td colspan="2">_0_ Acres (_0__ Square Feet)</td></tr>
<tr><td colspan="4">Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Parcel Area.</td></tr>
</table>

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Description of Existing Site Condition
Current Status of the Site (select all that apply): ☒ Existing development ☐ Previously graded but not built out ☐ Demolition completed without new construction ☐ Agricultural or other non-impervious use ☐ Vacant, undeveloped/natural Description / Additional Information:
Existing Land Cover Includes (select all that apply): ☐ Vegetative Cover ☐ Non-Vegetated Pervious Areas ☒ Impervious Areas Description / Additional Information:
Underlying Soil belongs to Hydrologic Soil Group (select all that apply): ☐ NRCS Type A ☐ NRCS Type B ☐ NRCS Type C ☒ NRCS Type D
Approximate Depth to Groundwater (GW): ☐ GW Depth < 5 feet ☒ 5 feet < GW Depth < 10 feet ☐ 10 feet < GW Depth < 20 feet ☐ GW Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

☐ Watercourses

☐ Seeps

☐ Springs

☐ Wetlands

☒ None

Description / Additional Information:

Form I-3B Page 3 of 10

Description of Existing Site Drainage Patterns

How is storm water runoff conveyed from the site? At a minimum, this description should answer:
(1) whether existing drainage conveyance is natural or urban;
(2) Is runoff from offsite conveyed through the site? if yes, quantify all offsite drainage areas, design flows, and locations where offsite flows enter the project site, and summarize how such flows are conveyed through the site;
(3)Provide details regarding existing project site drainage conveyance network, including any existing storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels; and
(4) Identify all discharge locations from the existing project site along with a summary of conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.

Describe existing site drainage patterns:

Site is urban and comprised of an existing 3-story building covering approximately 48,000 square feet. The roof has a centrally located pitch that results in half the building draining to the north and half to the south. Drainage from the building and adjacent pier pavement is collected in a number of scupper drains that drain vertically to the San Diego Bay below. The total drainage area is approximately 1.56 acres (the building is divided into two subbasins of approximately 0.78 acres each.)

Form I-3B Page 4 of 10
Description of Proposed Site Development
Project Description / Proposed Land Use and/or Activities: For Phase 2A, the surface improvements will include demolishing the Former Head House Building and paving of the pier in the demolished area. It is anticipated that the subsequent phase PDP SWQMP will be approved prior to the completion of the demolition activities and will supersede this PDP SWQMP and propose pollutant control measures to treat the entire pier area, including the Phase 2A area. However, if for some reason the subsequent phase is not implemented as anticipated, Phase 2A proposes interim measures including a thin layer of asphalt to be placed on the demolished (paved) area to create a slope towards the middle interior of the pier which will convey stormwater runoff east towards a proprietary biofiltration unit. The compliance strategy concept is shown on the DMA Exhibit in Attachment 1. If implementation is required, civil sheets will be developed at that time to support the proposed concept presented.
List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features): The paved area of the pier in the building demolished area will be impervious and is based on an interim condition.
List/describe proposed pervious features of the project (e.g., landscape areas): Phase 2A of this project does not propose pervious features.

Does the project include grading and changes to site topography?

☒ Yes

☐ No

Description / Additional Information: The project proposes to demolish an existing building. It is anticipated that the subsequent phase PDP SWQMP will be approved prior to the completion of the demolition activities and will supersede this PDP SWQMP and propose pollutant control measures to treat the entire pier area, including the Phase 2A area. However, if for some reason the subsequent phase is not implemented as anticipated, Phase 2A proposes interim measures including a thin layer of asphalt to be placed on the demolished (paved) area to create a slope towards the middle interior of the pier which will convey stormwater runoff east towards a proprietary biofiltration unit. The compliance strategy concept is shown on the DMA Exhibit in Attachment 1. If implementation is required, civil sheets will be developed at that time to support the proposed concept presented.

Form I-3B Page 5 of 10

Description of Proposed Site Drainage Patterns

Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

☒ Yes

☐ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre- and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Describe proposed site drainage patterns:

Currently stormwater runoff from the building is conveyed into numerous scupper type drains that are plumbed vertically through the pier deck and discharge into the San Diego Bay below. The scupper drains are to be protected in place during demolition. To convey stormwater into pollutant control measures, the drainage pattern will be slightly altered to drain inwards towards the interior of the pier via AC pavement, then along a proposed ribbon gutter and into a proposed curb inlet that will convey stormwater through a proposed 18-inch storm drain to a flow-based biofiltration BMP unit, before discharging into the San Diego Bay after treatment. The Phase 2A improvements outlined are a part of an interim condition and will be superseded by the approval of any subsequent phase's plans.

The compliance strategy concept is shown on the DMA Exhibit in Attachment 1. If implementation is required, civil sheets will be developed at that time to support the proposed concept presented.

Form I-3B Page 6 of 10

Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply):

☒ On-site storm drain inlets

☐ Interior floor drains and elevator shaft sump pumps
☐ Interior parking garages
☐ Need for future indoor & structural pest control

☐ Landscape/Outdoor Pesticide Use

☐ Pools, spas, ponds, decorative fountains, and other water features
☐ Food service

☒ Refuse areas

☐ Industrial processes
☐ Outdoor storage of equipment or materials
☐ Vehicle and Equipment Cleaning
☐ Vehicle/Equipment Repair and Maintenance
☐ Fuel Dispensing Areas
☐ Loading Docks
☐ Fire Sprinkler Test Water
☐ Miscellaneous Drain or Wash Water

☒ Plazas, sidewalks, and parking lots

Description / Additional Information:

Form I-3B Page 7 of 10

Identification and Narrative of Receiving Water and Pollutants of Concern

Describe flow path of storm water from the project site discharge location(s), through urban storm conveyance systems as applicable, to receiving creeks, rivers, and lagoons as applicable, and ultimate discharge to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable):

Stormwater runoff from the existing building is collected in several scupper drains that drain vertically to the San Diego Bay below. The roof of the existing building is centrally pitched, resulting in half the building draining towards the north and the other half towards the south before being collected in scupper drains on each side.

List any 303(d) impaired water bodies within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant
San Diego Bay	PCBs (Polychlorinated biphenyls) Mercury PAHs (Polycyclic Aromatic Hydrocarbons)	Bacteria, Dissolved Copper, Lead, Zinc
San Diego Bay Shoreline, Vicinity of B St and Broadway Piers	Benthic Community Effects Sediment Toxicity Indicator Bacteria	Bacteria, Dissolved Copper, Lead, Zinc

Identification of Project Site Pollutants*

***Identification of project site pollutants is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs (note the project must also participate in an alternative compliance program unless prior lawful approval to meet earlier PDP requirements is demonstrated)**

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6):

Pollutant	Not Applicable to the Project Site	Expected from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			
Pesticides			

Form I-3B Page 8 of 10

Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

☐ Yes, hydromodification management flow control structural BMPs required.

☐ No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☒ No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA for the watershed in which the project resides.

Note: No potential critical coarse sediment yield areas have been identified within Port of San Diego jurisdiction. Therefore, when hydromodification management requirements apply, only the flow control requirements apply.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

The project discharges directly to the San Diego Bay, which is an hydromodification management exempt waterbody.

Form I-3B Page 9 of 10
Flow Control for Post-Project Runoff*   ***This Section only required if hydromodification management requirements apply**
List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.
Has a geomorphic assessment been performed for the receiving channel(s)?   ☐ No, the low flow threshold is 0.1Q2 (default low flow threshold)   ☐ Yes, the result is the low flow threshold is 0.1Q2   ☐ Yes, the result is the low flow threshold is 0.3Q2   ☐ Yes, the result is the low flow threshold is 0.5Q2   If a geomorphic assessment has been performed, provide title, date, and preparer: Discussion / Additional Information: (optional)

Form I-3B Page 10 of 10
Other Site Requirements and Constraints
When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.
Optional Additional Information or Continuation of Previous Sections As Needed
This space provided for additional information or continuation of information from previous sections as needed.

Source Control BMP Checklist for All Development Projects (Standard Projects and Priority Development Projects)	Form I-4

Project Identification

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition

Permit Application Number: **6-16-0258**

Source Control BMPs

All development projects must implement source control BMPs SC-1 through SC-6 where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided.

Source Control Requirement	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	☒ Yes	☐ No	☐ N/A
Discussion / justification if SC-1 not implemented:			
SC-2 Storm Drain Stenciling or Signage	☒ Yes	☐ No	☐ N/A
Discussion / justification if SC-2 not implemented:			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒ N/A
Discussion / justification if SC-3 not implemented: Site will not have outdoor material storage areas.			
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒ N/A
Discussion / justification if SC-4 not implemented: Site will not have outdoor work areas.			

Form I-4 Page 2 of 2			
Source Control Requirement	**Applied?**		
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☒ Yes	☐ No	☐ N/A
Discussion / justification if SC-5 not implemented:			
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)	**Applied?**		
☒ On-site storm drain inlets	☒ Yes	☐ No	☐ N/A
☐ Interior floor drains and elevator shaft sump pumps	☐ Yes	☐ No	☒ N/A
☐ Interior parking garages	☐ Yes	☐ No	☒ N/A
☐ Need for future indoor & structural pest control	☐ Yes	☐ No	☒ N/A
☐ Landscape/Outdoor Pesticide Use	☐ Yes	☐ No	☒ N/A
☐ Pools, spas, ponds, decorative fountains, and other water features	☐ Yes	☐ No	☒ N/A
☐ Food service	☐ Yes	☐ No	☒ N/A
☒ Refuse areas	☒ Yes	☐ No	☐ N/A
☐ Industrial processes	☐ Yes	☐ No	☒ N/A
☐ Outdoor storage of equipment or materials	☐ Yes	☐ No	☒ N/A
☐ Vehicle and Equipment Cleaning	☐ Yes	☐ No	☒ N/A
☐ Vehicle/Equipment Repair and Maintenance	☐ Yes	☐ No	☒ N/A
☐ Fuel Dispensing Areas	☐ Yes	☐ No	☒ N/A
☐ Loading Docks	☐ Yes	☐ No	☒ N/A
☐ Fire Sprinkler Test Water	☐ Yes	☐ No	☒ N/A
☐Miscellaneous Drain or Wash Water	☐ Yes	☐ No	☒ N/A
☒ Plazas, sidewalks, and parking lots	☒ Yes	☐ No	☐ N/A

Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for all "No" answers shown above.
The items listed are N/A will not occur at the project site (i.e., proposed project is a parking lot).

Site Design BMP Checklist for All Development Projects (Standard Projects and Priority Development Projects)	Form I-5

Project Identification

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition

Permit Application Number: **6-16-0258**

Site Design BMPs

All development projects must implement site design BMPs SD-1 through SD-8 where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided.

Site Design Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-1 not implemented: No natural drainage pathways existing at the project site.			
SD-2 Conserve Natural Areas, Soils, and Vegetation	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-2 not implemented: No natural area, soils, or vegetation exist at the project site.			
SD-3 Minimize Impervious Area	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-3 not implemented: Pervious area will not be incorporated in this phase of the project as the primary focus of this phase is the demolition of the existing building and pavement of the pier in the demolished area.			
SD-4 Minimize Soil Compaction	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-4 not implemented: There are no uncompacted areas with the project limits.			
SD-5 Impervious Area Dispersion	☐ Yes	☒ No	☐ N/A
Discussion / justification if SD-5 not implemented: Dedicated pervious area is a typical dispersion component for this site design BMP and impervious area dispersion locations could not be identified in the project focus area as the project currently does not have pervious area and will not be proposing any for this Phase 2A interim condition. As such, impervious area dispersion was not selected for implementation for this project.			

Form I-5 Page 2 of 2			
Site Design Requirement	**Applied?**		
SD-6 Runoff Collection	☐ Yes	☒ No	☐ N/A
Discussion / justification if SD-6 not implemented: Permeable pavement is not a feasible implementation option due to this location being an area with unsuitable soil conditions for runoff collection strategies. As such, runoff collection was not selected for implementation for this project.			
SD-7 Landscaping with Native or Drought Tolerant Species	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-7 not implemented: There is not an opportunity for landscape design.			
SD-8 Harvesting and Using Precipitation	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-8 not implemented: The proposed project, demolition of the existing building and pavement of the pier in the demolished area, will not have opportunity to feasibly harvest and utilize precipitation, and this site design BMP was not selected for this project.			

Summary of PDP Structural BMPs	Form I-6 (PDPs)

Project Identification

Project Name: Navy Pier Freedom Park – Phase IIA Headhouse Demolition

Permit Application Number: **6-16-0258**

PDP Structural BMPs

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the Port BMP Design Manual). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the local jurisdiction at the completion of construction. This may include requiring the project applicant or project applicant's representative and engineer of record to certify construction of the structural BMPs (see Section 1.12 of the BMP Design Manual). PDP structural BMPs must be maintained in perpetuity and the local jurisdiction is required to confirm the maintenance (see Section 7 of the BMP Design Manual).

Use this form to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (page 3 of this form) for each structural BMP within the project (copy the BMP summary information page as many times as needed to provide summary information for each individual structural BMP).

Given the large impervious cover over soils categorized as "manmade" (i.e., areas created by using dredge materials as fill) and limited demand for harvest and use, capture and use or retention type BMPs are not feasible options for improving water quality at the Navy Pier. See Attachment 1c (Form I-7) for the feasibility assessment worksheet. Infiltration was evaluated per Attachment 1d (Form I-8), but due to high groundwater, full or partial infiltration is not feasible.

As such, Conech Engineered Solutions' (hereafter referred to as Contech) MWS Linear, or equivalent device, was the selected proprietary compact biofiltration unit for implementation based on its footprint requirements, life cycle, maintenance requirements, and enhanced treatment abilities for its below grade alternative. The sizing and design of non-standard biofiltration BMPs (e.g., the proposed Contech Modular Wetland System [MWS] Linear) for a PDP will be in conformance with the District's BMP Design Manual. Proprietary biofiltration BMPs like the MWS are typically designed as flow-based BMPs (i.e., a constant treatment capacity with negligible storage volume) and required to capture and treat 80 percent of the average annual runoff and include a 1.5 scaling factor to meet the pollutant treatment performance standard. Please note that hydromodification management is not required because the project site discharges directly to the San Diego Bay, an enclosed embankment.

(Continue on page 2 as necessary.)

Form I-6 Page 2 of 7

(Page reserved for continuation of description of general strategy for structural BMP implementation at the site)

The preferred structural BMP design incorporates a gravity system and conforms to design and sizing criteria outlined in the BMP Design Manual. The resulting structural BMP design includes a special order MWS-L-8-20, with an adjusted treatment capacity of 0.33 cfs and a media depth of 2 feet. The total area treated is approximately 1.2 acres and the treatment flow rate is 0.32 cfs.

The proposed MWS is designed with vegetation and to comply with Appendix F of the BMP Design Manual. The MWS vault bio wetland media achieves pollutant load reduction through the biological process of precipitation, binding, and accumulation, and these processes are consistent with pollutant load reduction processes of vegetated biofiltration basins. As such, the MWS bio wetland media provides biological processes meeting the criteria for BF-3 in the BMP Design Manual. A periodic replacement of the bio wetland media is called for in the O&M plan, and the removal of the media will result in the bound/accumulated toxins being removed from the system, and the installation of new media will ensure that the biological processes in the system are sustained for the life of the system.

As discussed above, the project is proposing a flow-based compact biofiltration proprietary device. Due to site constraints, the average annual retention criteria detailed in the Model BMP Design Manual will not be achieved. The project is limited to work within the pier area where retention is not practical. This phase will result in an interim condition and during subsequent phases (the ultimate redevelopment of the pier), opportunities for the project to satisfy the average annual retention criteria will be sought after and assessed.

The compliance strategy concept is shown on the DMA Exhibit in Attachment 1. If implementation is required, civil sheets will be developed at that time to support the proposed concept presented.

Form I-6 Page 4 of 7 (Copy as many as needed)

Structural BMP Summary Information
(Copy this page as needed to provide information for each individual proposed structural BMP)

Structural BMP ID No. BMP 1

Construction Plan Sheet No. TBD

Type of structural BMP:

☐ Retention by harvest and use (HU-1)
☐ Retention by infiltration basin (INF-1)
☐ Retention by bioretention (INF-2)
☐ Retention by permeable pavement (INF-3)
☐ Partial retention by biofiltration with partial retention (PR-1)
☐ Biofiltration (BF-1)
☐ Biofiltration with Nutrient Sensitive Media Design (BF-2)
☒ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F
☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below)
☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below)
☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below)
☐ Detention pond or vault for hydromodification management
☐ Other (describe in discussion section below)

Purpose:

☒ Pollutant control only
☐ Hydromodification control only
☐ Combined pollutant control and hydromodification control
☐ Pre-treatment/forebay for another structural BMP
☐ Other (describe in discussion section below)

Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms	Jayne Janda-Timba, R.C.E. #70649 Rick Engineering Company
Who will be the final owner of this BMP?	Port of San Diego
Who will maintain this BMP into perpetuity?	Port of San Diego
What is the funding mechanism for maintenance?	Operations and Maintenance for the Navy Pier Location

Form I-6 Page 5 of 7 (Copy as many as needed)

Structural BMP Summary Information
(Copy this page as needed to provide information for each individual proposed structural BMP)

Structural BMP ID No.

Construction Plan Sheet No.

Type of structural BMP:

☐ Retention by harvest and use (HU-1)
☐ Retention by infiltration basin (INF-1)
☐ Retention by bioretention (INF-2)
☐ Retention by permeable pavement (INF-3)
☐ Partial retention by biofiltration with partial retention (PR-1)
☐ Biofiltration (BF-1)
☐ Biofiltration with Nutrient Sensitive Media Design (BF-2)
☐ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F
☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below)
☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below)
☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below)
☐ Detention pond or vault for hydromodification management
☐ Other (describe in discussion section below)

Purpose:

☐ Pollutant control only
☐ Hydromodification control only
☐ Combined pollutant control and hydromodification control
☐ Pre-treatment/forebay for another structural BMP
☐ Other (describe in discussion section below)

Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms	
Who will be the final owner of this BMP?	
Who will maintain this BMP into perpetuity?	
What is the funding mechanism for maintenance?	

Form I-6 Page 6 of 7 (Copy as many as needed)

Structural BMP Summary Information
(Copy this page as needed to provide information for each individual proposed structural BMP)

Structural BMP ID No.

Construction Plan Sheet No.

Type of structural BMP:

☐ Retention by harvest and use (HU-1)
☐ Retention by infiltration basin (INF-1)
☐ Retention by bioretention (INF-2)
☐ Retention by permeable pavement (INF-3)
☐ Partial retention by biofiltration with partial retention (PR-1)
☐ Biofiltration (BF-1)
☐ Biofiltration with Nutrient Sensitive Media Design (BF-2)
☐ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F
☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below)
☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below)
☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below)
☐ Detention pond or vault for hydromodification management
☐ Other (describe in discussion section below)

Purpose:

☐ Pollutant control only
☐ Hydromodification control only
☐ Combined pollutant control and hydromodification control
☐ Pre-treatment/forebay for another structural BMP
☐ Other (describe in discussion section below)

Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms	
Who will be the final owner of this BMP?	
Who will maintain this BMP into perpetuity?	
What is the funding mechanism for maintenance?	

Form I-6 Page 7 of 7 (Copy as many as needed)
Structural BMP ID No.
Construction Plan Sheet No.
Discussion (as needed):

ATTACHMENT 1
BACKUP FOR PDP POLLUTANT CONTROL BMPS

This is the cover sheet for Attachment 1.

Indicate which Items are Included behind this cover sheet:

	Attachment Sequence	**Contents**	**Checklist**
REQUIRED	Attachment 1a	DMA Exhibit See DMA Exhibit Checklist on the back of this Attachment cover sheet.	☒ Included
REQUIRED	Attachment 1b	Tabular Summary* of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	☒ Included on DMA Exhibit in Attachment 1a ☐ Included as Attachment 1b, separate from DMA Exhibit
REQUIRED *(unless the entire project will use infiltration BMPs)*	Attachment 1c	Form I-7, Harvest and Use Feasibility Screening Checklist Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	☒ Included (Wksh B.3-1) ☐ Not included because the entire project will use infiltration BMPs
REQUIRED *(unless the project will use harvest and use BMPs)*	Attachment 1d	Form I-8, Categorization of Infiltration Feasibility Condition Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	☒ Included ☐ Not included because the entire project will use harvest and use BMPs
REQUIRED	Attachment 1e	Pollutant Control BMP Design Worksheets / Calculations Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines	☒ Included

Use this checklist to ensure the required information has been included on the DMA Exhibit:

The DMA Exhibit must identify:

☒ Entire property included on one map (use key map if multi-sheets)

☒ BMP Sheet which includes the following (BMP type, size, dimensions for location, cross section and elevation detail); global positioning system coordinates of property

☒ Drainage areas and direction of flow

☒ Storm drain system(s)

☒ Nearby water bodies and municipal storm drain inlets

☒ Location and details of storm water conveyance systems (ditches, inlets, outlets, storm drains, overflow structures, etc.)

☒ Location of existing and proposed storm water controls

☒ Location of "impervious" areas – paved areas, buildings, covered areas

☒ Locations where materials would be directly exposed to storm water (N/A)

☒ Location of building and activity areas (e.g., fueling islands, garages, waste container area, wash racks, hazardous material storage areas, etc.)

☒ Areas of potential soil erosion (including areas downstream of the project) (N/A)

☒ Location of existing drinking water wells (N/A)

☒ Location of existing vegetation to be preserved (N/A)

☒ Location of LID landscaping features, site design BMPs (N/A)

☒ Underlying hydrologic soil group

☒ Approximate depth to groundwater

☒ Existing natural hydrologic features (watercourses, seeps, springs, wetlands) (N/A)

☒ Existing topography and impervious areas

☒ Existing and proposed site drainage network and connections to drainage offsite

☒ Proposed demolition

☒ Proposed grading

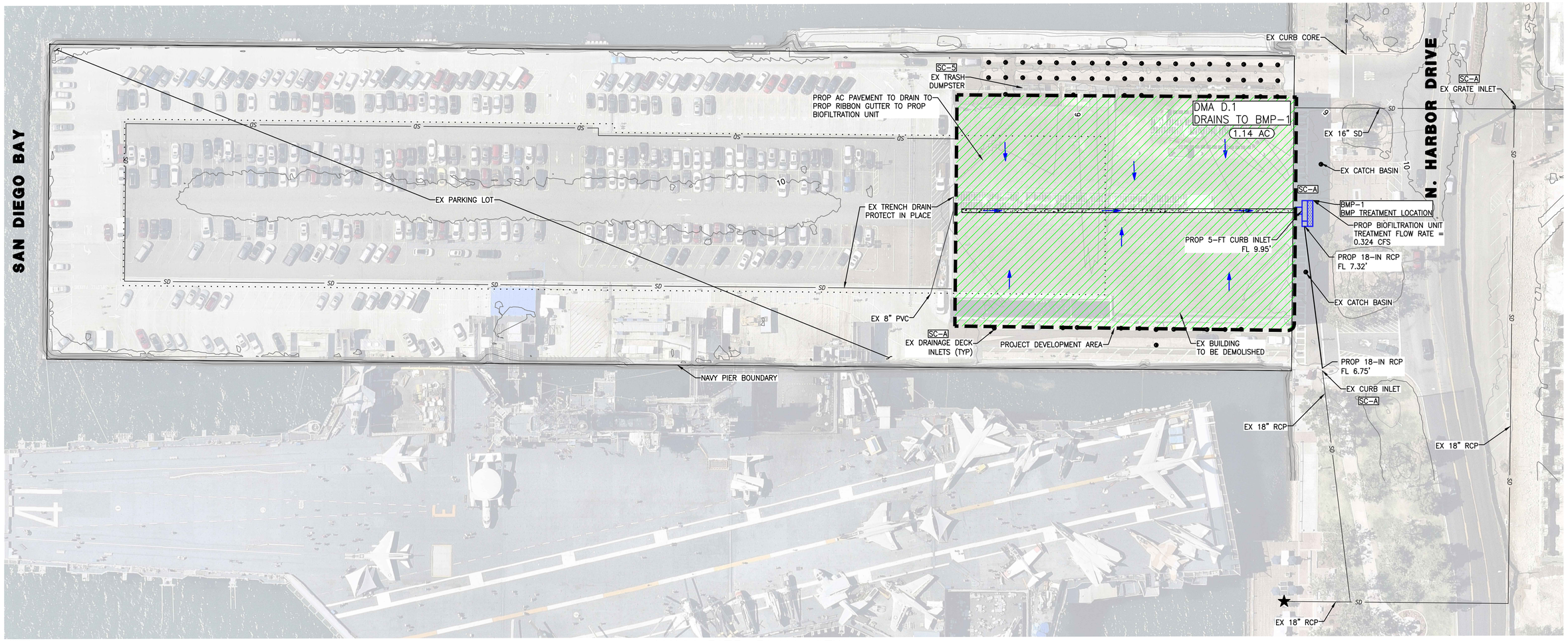
☒ Proposed impervious features

☒ Proposed design features and surface treatments used to minimize imperviousness (N/A)

☒ Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)

☒ Potential pollutant source areas and corresponding required source controls (see BMP Design Manual Chapter 4 and Appendix E.1)

☒ Structural BMPs (identify location, type of BMP, and size/detail)



NOTES:

1. VERTICAL DATUM: NGVD 29
2. FOR PHASE 2A, IT IS ANTICIPATED THAT THE SUBSEQUENT PHASE PDP SWQMP WILL BE APPROVED PRIOR TO THE COMPLETION OF THE DEMOLITION ACTIVITIES AND WILL SUPERSEDE THIS PDP SWQMP AND PROPOSE POLLUTANT CONTROL MEASURES TO TREAT THE ENTIRE PIER AREA, INCLUDING THE PHASE 2A AREA. HOWEVER, IF FOR SOME REASON THAT IS NOT THE CASE, INTERIM CONDITION MEASURES SHALL BE IMPLEMENTED PER THIS DOCUMENT. IF IMPLEMENTATION IS REQUIRED, CIVIL SHEETS WILL BE DEVELOPED AT THAT TIME TO SUPPORT THE PROPOSED CONCEPT PRESENTED.
3. CALCULATED WATER QUALITY FLOW RATE ASSUMES 1.5 FACTORED FLOW RATE.
4. TOTAL AREA TREATED BY PROPRIETARY BIOFILTRATION UNIT APPROX. 1.2 ACRES. TREATMENT FLOW RATE = 0.324 CFS
5. ENTIRE SITE IS HSG D.
6. APPROXIMATE DEPTH TO GROUNDWATER (GW): 5 FEET < GW DEPTH < 10 FEET BASED ON DIFFERENCE BETWEEN GROUND ELEVATIONS AND MEAN HIGH TIDE ELEVATION.

SC-A: IN THE VICINITY OF THE PROJECT, STORM DRAIN INLETS LOCATED WITHIN THE PORT JURISDICTION MUST BE PLACARDED WITH AND OFFICIAL PORT INLET PLACARD. PRIOR TO PROJECT CLOSEOUT, CONTACT THE PORT TO OBTAIN AN OFFICIAL INLET PLACARD.

SC-5: IN THE VICINITY OF THE PROJECT, TRASH STORAGE AREAS SHALL BE PROTECTED FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL.

IN THE VICINITY OF THE PROJECT, PLAZAS, SIDEWALKS, AND PARKING LOTS SHALL BE SWEPT REGULARLY TO PREVENT THE ACCUMULATION OF LITTER AND DEBRIS.

NAVY PIER PLAN VIEW

SCALE: 1" = 40'

DMA SUMMARY TABLE

DMA ID	Area (acres)	$Q_{factored}$ (cfs) (1)(2)(3)	DCV (ft^3) (1)(4)	BMP ID
DMA D.1	1.2	0.324	1,960.2	DRAINS TO BMP-1
Total	**1.2**	**0.324**	**1,960.2**	-

1. Runoff factor is 0.9 for all DMA areas
2. Design rainfall intensity is 0.2 in/hour
3. Factored flow rate (Q) include 1.5 multiplier
4. 85th Percentile, 24-hr storm event rainfall depth is 0.5 inches (Figure B.1-1)

LEGEND

- DMA BOUNDARY
- FLOW DIRECTION
- DMA 1 — DMA ID
- 1.25 AC — TREATMENT AREA
- 950 — EXIST. MAJOR ELEV. CONTOUR
- 948 — EXIST. MINOR ELEV. CONTOUR
- SD — EXIST. STORM DRAIN
- PROP. STORM DRAIN
- CURTAIN WALL BOUNDARY
- AREA TREATED BY BMP
- OUTFALL LOCATION

N

40 20 0 40 80

GRAPHIC SCALE: 1"=40'

NOT FOR CONSTRUCTION – FOR PDP SWQMP ONLY

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
rickengineering.com

DMA EXHIBIT

NAVY PIER FREEDOM PARK - PHASE 2A HEADHOUSE DEMOLITION

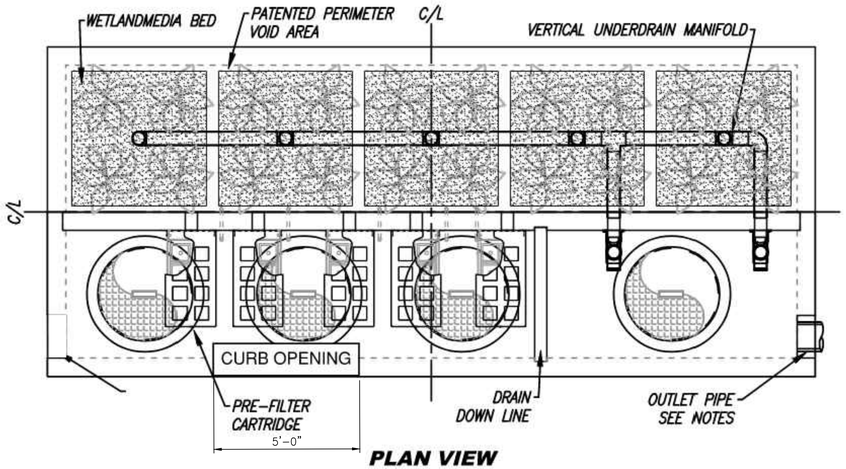
PROJECT NO:	19710	SCALE:	1"=40'
DRAWN BY:	MBM/AMC	DATE:	04/13/2023

© 2023 Rick Engineering Company

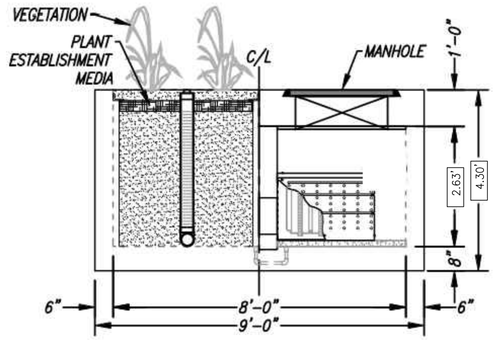
C:\RICK\Projects\C19500\19710_NavyPierFreedomPark\WaterRes\19710_dma.dwg – plotted by: mmacasaddu ON 2023-04-13 @ 09:57 – ctb:rec_ncs.ctb – © 2023 Rick

SITE SPECIFIC DATA			
PROJECT NUMBER	748317		
PROJECT NAME	NAVY PIER FREEDOM PARK		
PROJECT LOCATION	SAN DIEGO, CA		
STRUCTURE ID	MWS		
TREATMENT REQUIRED			
FLOW BASED (CFS)			
0.324			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE	4.8 cfs		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	10.2 ft	RCP	18 in
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	10.95 ft		
SURFACE LOAD	HS20 LOADING		
NOTES:			

* PRELIMINARY NOT FOR CONSTRUCTION



PLAN VIEW



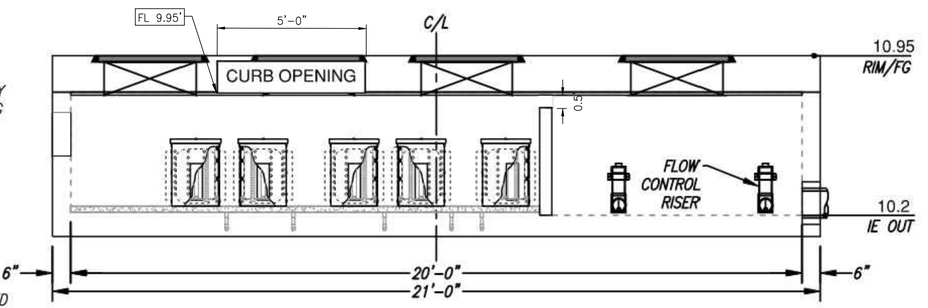
LEFT END VIEW

INSTALLATION NOTES

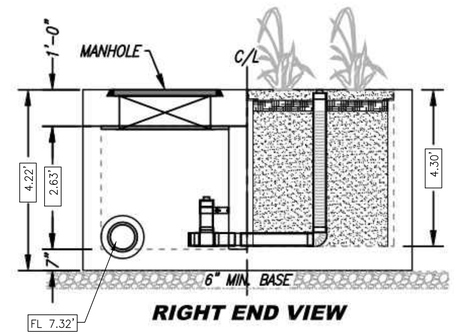
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS' SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT CONTECH.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.324
OPERATING HEAD (FT)	1.9
PRETREATMENT LOADING RATE (GPM/SF)	1.1
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MODULAR WETLANDS — FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

CONTECH ENGINEERED SOLUTIONS LLC www.ContechES.com

MWS-L-8-20- C
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

MWS-L-8-20-C
SCALE: NTS

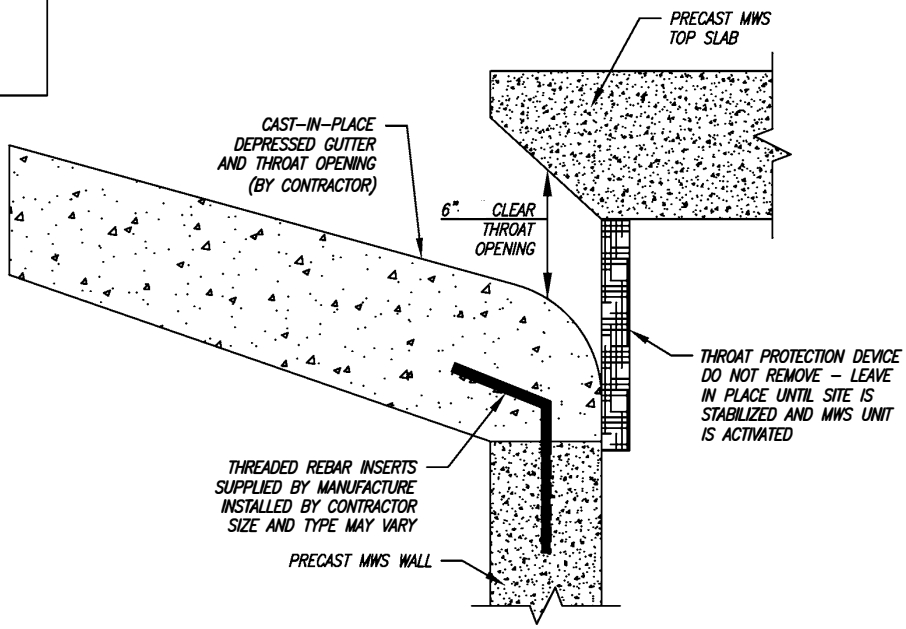
NOT FOR CONSTRUCTION – FOR PDP SWQMP ONLY

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
rickengineering.com

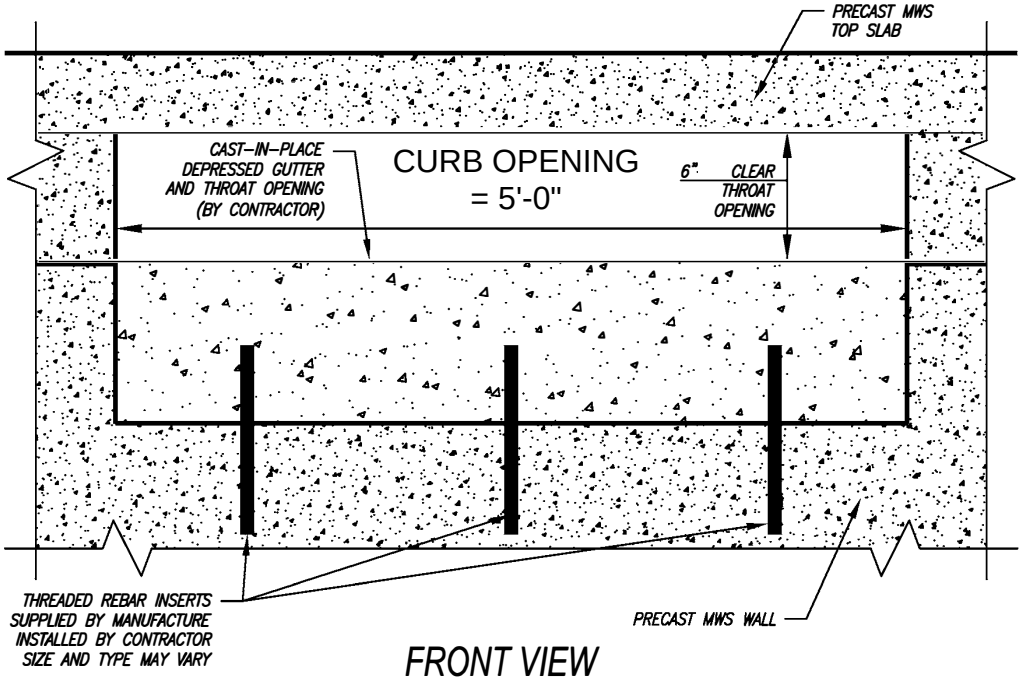
DMA EXHIBIT
NAVY PIER FREEDOM PARK - PHASE 2A
HEADHOUSE DEMOLITION

PROJECT NO:	19710	SCALE:	1"=40'
DRAWN BY:	MBM/MRR	DATE:	04/13/2023

C:\RICK\Projects\C19500\19710_NavyPierFreedomPark\WaterRes\19710_dma.dwg – plotted by: mmacasadu ON 2023-04-13 @ 09:57 – ctb:rec_ncs.ctb – ©2023 Rick Engineering Company



SECTION VIEW
STANDARD MODULAR WETLAND CURB OPENING



FRONT VIEW
STANDARD MODULAR WETLAND CURB OPENING

MODULAR WETLAND SYSTEMS INC.
P.O. BOX 869
OCEANSIDE, CA 92049
www.ModularWetlands.com

	NAME	DATE
DRWN	John	5/3/13
EDITED		

TITLE: MWS LINEAR 2.0 CURB INLET DETAILS

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MODULAR WETLAND SYSTEMS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MODULAR WETLAND SYSTEMS INC. IS PROHIBITED.

COMMENTS:

SIZE | DWG. NO. | REV

SCALE NTS UNITS INCHES SHEET 1 OF 1

Appendix F.2.2 Sizing of Flow Based Biofiltration BMP
Appendix B.1 DCV Calculations

DMA SUMMARY TABLE				
DMA ID	**Area (acres)**	**$Q_{factored}$ (cfs) (1)(2)(3)**	**DCV (ft^3) (1)(4)**	**BMP ID**
DMA D.1	1.2	0.324	1,960.2	DRAINS TO BMP-1
Total	**1.2**	**0.324**	**1,960.2**	-

1. Runoff factor is 0.9 for all DMA areas
2. Design rainfall intensity is 0.2 in/hour
3. Factored flow rate (Q) include 1.5 multiplier
4. 85th Percentile, 24-hr storm event rainfall depth is 0.5 inches (Figure B.1-1)

Harvest and Use Feasibility Checklist	Form I-7

1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?

- ☐ Toilet and urinal flushing
- ☐ Landscape irrigation
- ☐ Other:_____

There is no demand for harvested water.

2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in Section B.3.2.

[Provide a summary of calculations here] Not applicable.

3. Calculate the DCV using worksheet B-2.1.

DCV = 1,960.20 (cubic feet)

3a. Is the 36 hour demand greater than or equal to the DCV?	3b. Is the 36 hour demand greater than 0.25DCV but less than the full DCV?	3c. Is the 36 hour demand less than 0.25DCV?
☐ Yes / ☒ No ⇨ ⇩	☐ Yes / ☒ No ⇨ ⇩	☒ Yes ⇩
Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.	Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.	Harvest and use is considered to be infeasible.

Is harvest and use feasible based on further evaluation?

- ☐ Yes, refer to Appendix E to select and size harvest and use BMPs.
- ☒ No, select alternate BMPs.

Categorization of Infiltration Feasibility Condition	Form I-8

Part 1 - Full Infiltration Feasibility Screening Criteria

Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
1	**Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X

Provide basis:

Soils are artificial (i.e., created by using dredge materials as fill) and are in close proximity to the San Diego Bay resulting in unreliable infiltration rates at the project site.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

2	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X

Provide basis:

Due to the close proximity to the San Diego Bay, groundwater is expected.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

Form I-8 Page 2 of 4			
Criteria	Screening Question	**Yes**	**No**
3	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
Provide basis: Due to the close proximity to the San Diego Bay, groundwater is expected at the project site. Based on Section C.3.2, the depth of high groundwater tables beneath the base of any infiltration BMP must be greater than 10 feet for infiltration BMPs. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	**Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result *	If all answers to rows 1 - 4 are "**Yes**" a full infiltration design is potentially feasible. The feasibility screening category is **Full Infiltration** If any answer from row 1-4 is "**No**", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2		

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

Form I-8 Page 3 of 4

Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria

Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
5	**Do soil and geologic conditions allow for infiltration in any appreciable rate or volume?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X

Provide basis:

Soils are artificial (i.e., created by using dredge materials as fill) and are in close proximity to the San Diego Bay resulting in unreliable infiltration rates at the project site.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

6	**Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X

Provide basis:

Due to the close proximity to the San Diego Bay, groundwater is expected.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Form I-8 Page 4 of 4			
Criteria	Screening Question	**Yes**	**No**
7	**Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
Provide basis: Due to the close proximity to the San Diego Bay, groundwater is expected a the project site. Based on Section C.3.2, the depth of high groundwater tables beneath the base of any infiltration BMP must be greater than 10 feet for infiltration BMPs. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
8	**Can infiltration be allowed without violating downstream water rights**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
Part 2 Result*	If all answers from row 5-8 are yes then partial infiltration design is potentially feasible. The feasibility screening category is **Partial Infiltration.** If any answer from row 5-8 is no, then infiltration of any volume is considered to be **infeasible** within the drainage area. The feasibility screening category is **No Infiltration.**		No infiltration

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

considerations to provide for continued effectiveness of pollutant and flow control functions.

Biofiltration Criteria Checklist

The applicant shall provide documentation of compliance with each criterion in this checklist as part of the project submittal. The right column of this checklist identifies the submittal information that is recommended to document compliance with each criterion. Biofiltration BMPs that substantially meet all aspects of Fact Sheets PR-1 or BF-1 should still use this checklist; however additional documentation (beyond what is already required for project submittal) should not be required.

1. Biofiltration BMPs shall be allowed to be used only as described in the BMP selection process based on a documented feasibility analysis.

Intent: This manual defines a specific prioritization of pollutant treatment BMPs, where BMPs that retain water (retained includes evapotranspired, infiltrated, and/or harvested and used) must be used before considering BMPs that have a biofiltered discharge to the MS4 or surface waters. Use of a biofiltration BMP in a manner in conflict with this prioritization (i.e., without a feasibility analysis justifying its use) is not permitted, regardless of the adequacy of the sizing and design of the system.

☒	The project applicant has demonstrated that it is not technically feasible to retain the full DCV onsite.	Document feasibility analysis and findings in SWQMP per Appendix C.

2. Biofiltration BMPs must be sized using acceptable sizing methods.

Intent: The MS4 Permit and this manual defines specific sizing methods that must be used to size biofiltration BMPs. Sizing of biofiltration BMPs is a fundamental factor in the amount of storm water that can be treated and also influences volume and pollutant retention processes.

☒	The project applicant has demonstrated that biofiltration BMPs are sized to meet one of the biofiltration sizing options available (Appendix B.5).	Submit sizing worksheets (Appendix B.5) or other equivalent documentation with the SWQMP.

3. Biofiltration BMPs must be sited and designed to achieve maximum feasible infiltration and evapotranspiration.

Intent: Various decisions about BMP placement and design influence how much water is retained via infiltration and evapotranspiration. The MS4 Permit requires that biofiltration BMPs achieve maximum feasible retention (evapotranspiration and infiltration) of storm water volume.

☐	The biofiltration BMP is sited to allow for maximum infiltration of runoff volume based on the feasibility factors considered in site planning efforts. It is also designed to maximize evapotranspiration through the use of amended media and plants (biofiltration designs without amended media and plants may be permissible; see Item 5).	Document site planning and feasibility analyses in SWQMP per Section 5.4. See Item 5.
☐	For biofiltration BMPs categorized as "Partial Infiltration Condition" the infiltration storage depth in the biofiltration design has been selected to drain in 36 hours (+/-25%) or an alternative value shown to maximize infiltration on the site.	Included documentation of estimated infiltration rate per Appendix D; provide calculations using Appendix B.4 and B.5 to show that the infiltration storage depth meets this criterion. Note, depths that are too shallow or too deep may not be acceptable.
☐	For biofiltration BMP locations categorized as "Partial Infiltration Condition," the infiltration storage is over the entire bottom of the biofiltration BMP footprint.	Document on plans that the infiltration storage covers the entire bottom of the BMP (i.e., not just underdrain trenches); or an equivalent footprint elsewhere on the site.
☐	For biofiltration BMP locations categorized as "Partial Infiltration Condition," the sizing factor used for the infiltration storage area is not less than the minimum biofiltration BMP sizing factors calculated using Worksheet B.5.1 to achieve 40% average annual percent capture within the BMP or downstream of the BMP. .	Provide a table that compares the minimum sizing factor per Appendix B.5 to the provided sizing factor. Note: The infiltration storage area could be a separate storage feature located downstream of the biofiltration BMP, not necessarily within the same footprint.
☐	An impermeable liner or other hydraulic restriction layer is only used when needed to avoid geotechnical and/or subsurface contamination issues in locations identified as "No Infiltration Condition."	If using an impermeable liner or hydraulic restriction layer, provide documentation of feasibility findings per Appendix C that recommend the use of this feature.

☒	The use of "compact" biofiltration BMP design[9] is permitted only in conditions identified as "No Infiltration Condition" and where site-specific documentation demonstrates that the use of larger footprint biofiltration BMPs would be infeasible.	Provide documentation of feasibility findings that recommend no infiltration is feasible. Provide site-specific information to demonstrate that a larger footprint biofiltration BMP would not be feasible.
	4. Biofiltration BMPs must be designed with a hydraulic loading rate to maximize pollutant retention, preserve pollutant control processes, and minimize potential for pollutant washout. Intent: Various decisions about biofiltration BMP design influence the degree to which pollutants are retained. The MS4 Permit requires that biofiltration BMPs achieve maximum feasible retention of storm water pollutants.	
☐	Media selected for the biofiltration BMP meets minimum quality and material specifications per 2016 City Storm Water Standards or County LID Manual, including the maximum allowable design filtration rate and minimum thickness of media.	Provide documentation that media meets the specifications in 2016 City Storm Water Standards or County LID Manual.
	OR	
☒	Alternatively, for proprietary designs and custom media mixes not meeting the media specifications contained in the 2016 City Storm Water Standards or County LID Manual, field scale testing data are provided to demonstrate that proposed media meets the pollutant treatment performance criteria in Section F.1 below.	Provide documentation of performance information as described in Section F.1.

[9] Compact biofiltration BMPs are defined as features with infiltration storage footprint less than the minimum sizing factors required to achieve 40% volume retention. Note that if a biofiltration BMP is accompanied by an infiltrating area downstream that has a footprint equal to at least the minimum sizing factors calculated using Worksheet B.5.1 assuming a partial infiltration condition, then it is not considered to be a compact biofiltration BMP for the purpose of Item 4 of the checklist. For potential configurations with a higher rate biofiltration BMP upstream of an larger footprint infiltration area, the BMP would still need to comply with Item 5 of this checklist for pollutant treatment effectiveness.

☐	To the extent practicable, filtration rates are outlet controlled (e.g., via an underdrain and orifice/weir) instead of controlled by the infiltration rate of the media.	Include outlet control in designs or provide documentation of why outlet control is not practicable.
☐	The water surface drains to at least 12 inches below the media surface within 24 hours from the end of storm event flow to preserve plant health and promote healthy soil structure.	Include calculations to demonstrate that drawdown rate is adequate. Surface ponding drawdown time greater than 24-hours but less than 96 hours may be allowed at the discretion of the [City Engineer] if certified by a landscape architect or agronomist.
☐	If nutrients are a pollutant of concern, design of the biofiltration BMP follows nutrient-sensitive design criteria.	Follow specifications for nutrient sensitive design in Fact Sheet BF-2. Or provide alternative documentation that nutrient treatment is addressed and potential for nutrient release is minimized.
☐	Media gradation calculations or geotextile selection calculations demonstrate that migration of media between layers will be prevented and permeability will be preserved.	Follow specification for choking layer or geotextile in Fact Sheet PR-1 or BF-1. Or include calculations to demonstrate that choking layer is appropriately specified.
	5. Biofiltration BMPs must be designed to promote appropriate biological activity to support and maintain treatment processes. Intent: Biological processes are an important element of biofiltration performance and longevity.	
☒	Plants have been selected to be tolerant of project climate, design ponding depths and the treatment media composition.	Provide documentation justifying plant selection. Refer to the plant list in Appendix E.20.
☒	Plants have been selected to minimize irrigation requirements.	Provide documentation describing irrigation requirements for establishment and long term operation.
☒	Plant location and growth will not impede expected long-term media filtration rates and will enhance long term infiltration rates to the extent possible.	Provide documentation justifying plant selection. Refer to the plant list in Appendix E.20.
☐	If plants are not part of the biofiltration design, other biological processes are supported as needed to sustain treatment processes (e.g., biofilm in a subsurface flow wetland).	For biofiltration designs without plants, describe the biological processes that will support effective treatment and how they will be sustained.

6. Biofiltration BMPs must be designed with a hydraulic loading rate to prevent erosion, scour, and channeling within the BMP. Intent: Erosion, scour, and/or channeling can disrupt treatment processes and reduce biofiltration effectiveness.		
☐	Scour protection has been provided for both sheet flow and pipe inflows to the BMP, where needed.	Provide documentation of scour protection as described in Fact Sheets PR-1 or BF-1 or approved equivalent.
☐	Where scour protection has not been provided, flows into and within the BMP are kept to non-erosive velocities.	Provide documentation of design checks for erosive velocities as described in Fact Sheets PR-1 or BF-1 or approved equivalent.
☒	For proprietary BMPs, the BMP is used in a manner consistent with manufacturer guidelines and conditions of its third-party certification[10] (i.e., maximum tributary area, maximum inflow velocities, etc., as applicable).	Provide copy of manufacturer recommendations and conditions of third-party certification.
7. Biofiltration BMP must include operations and maintenance design features and planning considerations for continued effectiveness of pollutant and flow control functions. Intent: Biofiltration BMPs require regular maintenance in order provide ongoing function as intended. Additionally, it is not possible to foresee and avoid potential issues as part of design; therefore plans must be in place to correct issues if they arise.		
☒	The biofiltration BMP O&M plan describes specific inspection activities, regular/periodic maintenance activities and specific corrective actions relating to scour, erosion, channeling, media clogging, vegetation health, and inflow and outflow structures.	Include O&M plan with project submittal as described in Chapter 7.
☐	Adequate site area and features have been provided for BMP inspection and maintenance access.	Illustrate maintenance access routes, setbacks, maintenance features as needed on project water quality plans.

[10] Certifications or verifications issued by the Washington Technology Acceptance Protocol-Ecology program and the New Jersey Corporation for Advanced Technology programs are typically accompanied by a set of guidelines regarding appropriate design and maintenance conditions that would be consistent with the certification/verification

☒	For proprietary biofiltration BMPs, the BMP maintenance plan is consistent with manufacturer guidelines and conditions of its third-party certification (i.e., maintenance activities, frequencies).	Provide copy of manufacturer recommendations and conditions of third-party certification.

E.1 Source Control BMP Requirements

Worksheet E.1-1: Source Control BMP Requirements

How to comply: Projects shall comply with this requirement by implementing all source control BMPs listed in this section that are applicable to their project. Applicability shall be determined through consideration of the development project's features and anticipated pollutant sources. Appendix E.1 provides guidance for identifying source control BMPs applicable to a project. Checklist I.4 in Appendix I shall be used to document compliance with source control BMP requirements.

How to use this worksheet:

1. Review Column 1 and identify which of these potential sources of storm water pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your project site plan.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in a table in your project-specific storm water management report. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternatives.

If These Sources Will Be on the Project Site …	… Then Your SWQMP Shall Consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
☒ **A.** Onsite storm drain inlets ☐ Not Applicable	☒ Locations of inlets.	☐ Mark all inlets with placards provided by the Port,	☐ Maintain and periodically repaint or replace inlet markings. ☐ Provide storm water pollution prevention information to new site tenants or operators. ☐ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **B.** Interior floor drains and elevator shaft sump pumps ☒ Not Applicable		❑ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
❑ **C.** Interior parking garages ☒ Not Applicable		❑ State that parking garage floor drains will be plumbed to the sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
❑ **D1.** Need for future indoor & structural pest control ☒ Not Applicable		❑ Note building design features that discourage entry of pests.	❑ Provide Integrated Pest Management information to tenants and operators.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **D2.** Landscape/ Outdoor Pesticide Use ☒ Not Applicable	❑ Show locations of existing trees or areas of shrubs and ground cover to be undisturbed and retained. ❑ Show self-retaining landscape areas, if any. ❑ Show storm water treatment facilities.	State that final landscape plans will accomplish all of the following. ❑ Preserve existing drought tolerant trees, shrubs, and ground cover to the maximum extent possible. ❑ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to storm water pollution. ❑ Where landscaped areas are used to retain or detain storm water, specify plants that are tolerant of periodic saturated soil conditions. ❑ Consider using pest-resistant plants, especially adjacent to hardscape. ❑ To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	❑ Maintain landscaping using minimum or no pesticides. ❑ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com. ❑ Provide IPM information to new tenants and operators.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **E.** Pools, spas, ponds, decorative fountains, and other water features. ☒ Not Applicable	❑ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	❑ If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	❑ See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.
❑ **F.** Food service ☒ Not Applicable	❑ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ❑ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	❑ Describe the location and features of the designated cleaning area. ❑ Describe the items to be cleaned in this facility and how it has been sized to ensure that the largest items can be accommodated.	

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **G.** Refuse areas ☒ Not Applicable	❑ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ❑ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run- on and show locations of berms to prevent runoff from the area. Also show how the designated area will be protected from wind dispersal. ❑ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	❑ State how site refuse will be handled and provide supporting detail to what is shown on plans. ❑ State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	❑ State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on- site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative** **Table and Narrative**
❑ **H.** Industrial processes. ☒ Not Applicable	❑ Show process area.	❑ If industrial processes are to be located onsite, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	❑ See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.
❑ **I.** Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.) ☒ Not Applicable	❑ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or runoff from area and protected from wind dispersal. ❑ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ❑ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	❑ Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release Prevention Program ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank	❑ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **J.** Vehicle and Equipment Cleaning ☒ Not Applicable	❑ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle /equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited onsite and hoses are provided with an automatic shut- off to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	❑ If a car wash area is not provided, describe measures taken to discourage onsite car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ❑ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. ❑ Car dealerships and similar may rinse cars with water only. ❑ See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **K.** Vehicle/Equipment Repair and Maintenance ☒ Not Applicable	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to protect from rainfall, run-on runoff, and wind dispersal. ❑ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. ❑ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	❑ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ❑ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ❑ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the report, note that all of the following restrictions apply to use the site: ❑ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ❑ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ❑ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **L.** Fuel Dispensing Areas ☒ Not Applicable	❑ Fueling areas[1] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are (1) graded at the minimum slope necessary to prevent ponding; and (2) separated from the rest of the site by a grade break that prevents run-on of storm water to the MEP. ❑ Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area1.] The canopy [or cover] shall not drain onto the fueling area.		❑ The tenant or property manager shall dry sweep the fueling area routinely. ❑ See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.

1. The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
M. Loading Docks ☒ Not Applicable	❑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct storm water away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited. ❑ Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. ❑ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		❑ Move loaded and unloaded items indoors as soon as possible. ❑ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **N.** Fire Sprinkler Test Water ☒ Not Applicable		❑ Provide a means to drain fire sprinkler test water to the sanitary sewer.	❑ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.
O. Miscellaneous Drain or Wash Water ❑ Boiler drain lines ❑ Condensate drain lines ❑ Rooftop equipment ❑ Drainage sumps ❑ Roofing, gutters, and trim ☒ Not Applicable		❑ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ❑ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ❑ Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ❑ Any drainage sumps onsite shall feature a sediment sump to reduce the quantity of sediment in pumped water. ❑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	

If These Sources Will Be on the Project Site …	… Then Your SWQMP shall consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
☒ **P.** Plazas, sidewalks, and parking lots. ☐ Not Applicable			☒ Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

July 2017

GENERAL USE LEVEL DESIGNATION FOR BASIC, ENHANCED, AND PHOSPHORUS TREATMENT

For the

MWS-Linear Modular Wetland

Ecology's Decision:

Based on Modular Wetland Systems, Inc. application submissions, including the Technical Evaluation Report, dated April 1, 2014, Ecology hereby issues the following use level designation:

1. General use level designation (GULD) for the MWS-Linear Modular Wetland Stormwater Treatment System for Basic treatment

    - Sized at a hydraulic loading rate of 1 gallon per minute (gpm) per square foot (sq ft) of wetland cell surface area. For moderate pollutant loading rates (low to medium density residential basins), size the Prefilters at 3.0 gpm/sq ft of cartridge surface area. For high loading rates (commercial and industrial basins), size the Prefilters at 2.1 gpm/sq ft of cartridge surface area.

2. General use level designation (GULD) for the MWS-Linear Modular Wetland Stormwater Treatment System for Phosphorus treatment

    - Sized at a hydraulic loading rate of 1 gallon per minute (gpm) per square foot (sq ft) of wetland cell surface area. For moderate pollutant loading rates (low to medium density residential basins), size the Prefilters at 3.0 gpm/sq ft of cartridge surface area. For high loading rates (commercial and industrial basins), size the Prefilters at 2.1 gpm/sq ft of cartridge surface area.

3. General use level designation (GULD) for the MWS-Linear Modular Wetland Stormwater Treatment System for Enhanced treatment

    - Sized at a hydraulic loading rate of 1 gallon per minute (gpm) per square foot (sq ft) of wetland cell surface area. For moderate pollutant loading rates (low to medium density residential basins), size the Prefilters at 3.0 gpm/sq ft of cartridge surface area. For high loading rates (commercial and industrial basins), size the Prefilters at 2.1 gpm/sq ft of cartridge surface area.

4. Ecology approves the MWS - Linear Modular Wetland Stormwater Treatment System units for Basic, Phosphorus, and Enhanced treatment at the hydraulic loading rate listed above. Designers shall calculate the water quality design flow rates using the following procedures:

    - Western Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute flow rate as calculated using the latest version of the Western Washington Hydrology Model or other Ecology-approved continuous runoff model.
    - Eastern Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute flow rate as calculated using one of the three methods described in Chapter 2.2.5 of the Stormwater Management Manual for Eastern Washington (SWMMEW) or local manual.
    - Entire State: For treatment installed downstream of detention, the water quality design flow rate is the full 2-year release rate of the detention facility.

5. These use level designations have no expiration date but may be revoked or amended by Ecology, and are subject to the conditions specified below.

Ecology's Conditions of Use:

Applicants shall comply with the following conditions:

1. Design, assemble, install, operate, and maintain the MWS – Linear Modular Wetland Stormwater Treatment System units, in accordance with Modular Wetland Systems, Inc. applicable manuals and documents and the Ecology Decision.
2. Each site plan must undergo Modular Wetland Systems, Inc. review and approval before site installation. This ensures that site grading and slope are appropriate for use of a MWS – Linear Modular Wetland Stormwater Treatment System unit.
3. MWS – Linear Modular Wetland Stormwater Treatment System media shall conform to the specifications submitted to, and approved by, Ecology.
4. The applicant tested the MWS – Linear Modular Wetland Stormwater Treatment System with an external bypass weir. This weir limited the depth of water flowing through the media, and therefore the active treatment area, to below the root zone of the plants. This GULD applies to MWS – Linear Modular Wetland Stormwater Treatment Systems whether plants are included in the final product or not.
5. Maintenance: The required maintenance interval for stormwater treatment devices is often dependent upon the degree of pollutant loading from a particular drainage basin. Therefore, Ecology does not endorse or recommend a "one size fits all" maintenance cycle for a particular model/size of manufactured filter treatment device.

    - Typically, Modular Wetland Systems, Inc. designs MWS - Linear Modular Wetland systems for a target prefilter media life of 6 to 12 months.
    - Indications of the need for maintenance include effluent flow decreasing to below the design flow rate or decrease in treatment below required levels.
    - Owners/operators must inspect MWS - Linear Modular Wetland systems for a minimum of twelve months from the start of post-construction operation to determine site-specific

maintenance schedules and requirements. You must conduct inspections monthly during the wet season, and every other month during the dry season. (According to the SWMMWW, the wet season in western Washington is October 1 to April 30. According to SWMMEW, the wet season in eastern Washington is October 1 to June 30). After the first year of operation, owners/operators must conduct inspections based on the findings during the first year of inspections.

- Conduct inspections by qualified personnel, follow manufacturer's guidelines, and use methods capable of determining either a decrease in treated effluent flowrate and/or a decrease in pollutant removal ability.
- When inspections are performed, the following findings typically serve as maintenance triggers:
    - Standing water remains in the vault between rain events, or
    - Bypass occurs during storms smaller than the design storm.
    - If excessive floatables (trash and debris) are present (but no standing water or excessive sedimentation), perform a minor maintenance consisting of gross solids removal, not prefilter media replacement.
    - Additional data collection will be used to create a correlation between pretreatment chamber sediment depth and pre-filter clogging (see *Issues to be Addressed by the Company* section below)

6. Discharges from the MWS - Linear Modular Wetland Stormwater Treatment System units shall not cause or contribute to water quality standards violations in receiving waters.

Applicant:	Modular Wetland Systems, Inc.
Applicant's Address:	*PO. Box 869* *Oceanside, CA 92054*

Application Documents:

- *Original Application for Conditional Use Level Designation*, Modular Wetland System, Linear Stormwater Filtration System Modular Wetland Systems, Inc., January 2011
- *Quality Assurance Project Plan*: Modular Wetland system – Linear Treatment System performance Monitoring Project, draft, January 2011.
- *Revised Application for Conditional Use Level Designation*, Modular Wetland System, Linear Stormwater Filtration System Modular Wetland Systems, Inc., May 2011
- *Memorandum: Modular Wetland System-Linear GULD Application Supplementary Data, April 2014*
- *Technical Evaluation Report: Modular Wetland System Stormwater Treatment System Performance Monitoring, April 2014.*

Applicant's Use Level Request:

General use level designation as a Basic, Enhanced, and Phosphorus treatment device in accordance with Ecology's Guidance for Evaluating Emerging Stormwater Treatment Technologies Technology Assessment Protocol – Ecology (TAPE) January 2011 Revision.

Applicant's Performance Claims:

- The MWS – Linear Modular wetland is capable of removing a minimum of 80-percent of TSS from stormwater with influent concentrations between 100 and 200 mg/l.
- The MWS – Linear Modular wetland is capable of removing a minimum of 50-percent of Total Phosphorus from stormwater with influent concentrations between 0.1 and 0.5 mg/l.
- The MWS – Linear Modular wetland is capable of removing a minimum of 30-percent of dissolved Copper from stormwater with influent concentrations between 0.005 and 0.020 mg/l.
- The MWS – Linear Modular wetland is capable of removing a minimum of 60-percent of dissolved Zinc from stormwater with influent concentrations between 0.02 and 0.30 mg/l.

Ecology Recommendations:

- Modular Wetland Systems, Inc. has shown Ecology, through laboratory and field-testing, that the MWS - Linear Modular Wetland Stormwater Treatment System filter system is capable of attaining Ecology's Basic, Total phosphorus, and Enhanced treatment goals.

Findings of Fact:

<u>Laboratory Testing</u>

The MWS-Linear Modular wetland has the:

- Capability to remove 99 percent of total suspended solids (using Sil-Co-Sil 106) in a quarter-scale model with influent concentrations of 270 mg/L.
- Capability to remove 91 percent of total suspended solids (using Sil-Co-Sil 106) in laboratory conditions with influent concentrations of 84.6 mg/L at a flow rate of 3.0 gpm per square foot of media.
- Capability to remove 93 percent of dissolved Copper in a quarter-scale model with influent concentrations of 0.757 mg/L.
- Capability to remove 79 percent of dissolved Copper in laboratory conditions with influent concentrations of 0.567 mg/L at a flow rate of 3.0 gpm per square foot of media.
- Capability to remove 80.5-percent of dissolved Zinc in a quarter-scale model with influent concentrations of 0.95 mg/L at a flow rate of 3.0 gpm per square foot of media.
- Capability to remove 78-percent of dissolved Zinc in laboratory conditions with influent concentrations of 0.75 mg/L at a flow rate of 3.0 gpm per square foot of media.

Field Testing

- Modular Wetland Systems, Inc. conducted monitoring of an MWS-Linear (Model # MWS-L-4-13) from April 2012 through May 2013, at a transportation maintenance facility in Portland, Oregon. The manufacturer collected flow-weighted composite samples of the system's influent and effluent during 28 separate storm events. The system treated approximately 75 percent of the runoff from 53.5 inches of rainfall during the monitoring period. The applicant sized the system at 1 gpm/sq ft. (wetland media) and 3gpm/sq ft. (prefilter).
- Influent TSS concentrations for qualifying sampled storm events ranged from 20 to 339 mg/L. Average TSS removal for influent concentrations greater than 100 mg/L (n=7) averaged 85 percent. For influent concentrations in the range of 20-100 mg/L (n=18), the upper 95 percent confidence interval about the mean effluent concentration was 12.8 mg/L.
- Total phosphorus removal for 17 events with influent TP concentrations in the range of 0.1 to 0.5 mg/L averaged 65 percent. A bootstrap estimate of the lower 95 percent confidence limit (LCL95) of the mean total phosphorus reduction was 58 percent.
- The lower 95 percent confidence limit of the mean percent removal was 60.5 percent for dissolved zinc for influent concentrations in the range of 0.02 to 0.3 mg/L (n=11). The lower 95 percent confidence limit of the mean percent removal was 32.5 percent for dissolved copper for influent concentrations in the range of 0.005 to 0.02 mg/L (n=14) at flow rates up to 28 gpm (design flow rate 41 gpm). Laboratory test data augmented the data set, showing dissolved copper removal at the design flow rate of 41 gpm (93 percent reduction in influent dissolved copper of 0.757 mg/L).

Issues to be addressed by the Company:

1. Modular Wetland Systems, Inc. should collect maintenance and inspection data for the first year on all installations in the Northwest in order to assess standard maintenance requirements for various land uses in the region. Modular Wetland Systems, Inc. should use these data to establish required maintenance cycles.
2. Modular Wetland Systems, Inc. should collect pre-treatment chamber sediment depth data for the first year of operation for all installations in the Northwest. Modular Wetland Systems, Inc. will use these data to create a correlation between sediment depth and pre-filter clogging.

Technology Description:
Download at http://www.modularwetlands.com/

Contact Information:

Applicant: Zach Kent
BioClean A Forterra Company.
398 Vi9a El Centro
Oceanside, CA 92058
zach.kent@forterrabp.com

Applicant website: http://www.modularwetlands.com/

Ecology web link: http://www.ecy.wa.gov/programs/wg/stormwater/newtech/index.html

Ecology: Douglas C. Howie, P.E.
Department of Ecology
Water Quality Program
(360) 407-6444
douglas.howie@ecy.wa.gov

Revision History

Date	**Revision**
June 2011	Original use-level-designation document
September 2012	Revised dates for TER and expiration
January 2013	Modified Design Storm Description, added Revision Table, added maintenance discussion, modified format in accordance with Ecology standard
December 2013	Updated name of Applicant
April 2014	Approved GULD designation for Basic, Phosphorus, and Enhanced treatment
December 2015	Updated GULD to document the acceptance of MWS-Linear Modular Wetland installations with or without the inclusion of plants
July 2017	Revised Manufacturer Contact Information (name, address, and email)

SECTION ( )
MODULAR SUBSURFACE FLOW WETLAND SYSTEM

1.0 GENERAL

1.1. The purpose of this specification is to establish generally acceptable criteria for Modular Subsurface Flow Wetland Systems used for biofiltration of stormwater runoff including dry weather flows and other contaminated water sources. It is intended to serve as a guide to producers, distributors, architects, engineers, contractors, plumbers, installers, inspectors, agencies and users; to promote understanding regarding materials, manufacture and installation; and to provide for identification of devices complying with this specification.

1.2. Modular Subsurface Flow Wetland Systems (MSFWS) are used for filtration of stormwater runoff including dry weather flows. The MSFWS is a pre-engineered biofiltration system composed of a pretreatment chamber containing filtration cartridges, a horizontal flow biofiltration chamber with a peripheral void area and a centralized and vertically extending underdrain, the biofiltration chamber containing a sorptive media mix which does not contain any organic material and a layer of plant establishment media, and a discharge chamber containing an orifice control structure. Treated water flows horizontally in series through the pretreatment chamber cartridges, biofiltration chamber and orifice control structure.

1.3. The manufacturer of the MSFWS shall be one that is regularly engaged in the engineering design and production of systems developed for the treatment of storm water runoff for at least (10) years, and which have a history of successful production, acceptable to the engineer of work. In accordance with the drawings, the MSFWS(s) shall be a device manufactured by:

Contech Engineered Solutions LLC
9025 Centre Pointe Drive
West Chester, OH, 45069
Tel: 1 800 338 1122
https://www.conteches.com

1.4. Submittals

1.4.1. Submittal drawings are to be provided with each order to the contractor and consulting engineer.

1.4.2. Submittal drawings are to detail the MSFWS and all components required and the sequence for installation, including:

- System configuration with primary dimensions
- Interior components
- Any accessory equipment called out on shop drawings

1.4.3 Inspection and maintenance documentation submitted upon request.

1.5. Work Included

1.5.1. Specification requirements for installation of MSFWS.

1.5.2. Manufacturer to supply components of the MSFWS(s) Modules:

- Pretreatment chamber components (pre-assembled)
- Concrete Structure(s)
- Biofiltration chamber components (pre-assembled)
- Flow control discharge structure (pre-assembled)

1.6. Reference Standards

ASTM C 29	Standard Test Method for Unit Weight and Voids in Aggregate
ASTM C 88	C 88 Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C131	C 131 Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregates by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	C 136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C 330	C 330 Standard Specification for Lightweight Aggregate for Structural Concrete
ASTM D 698	Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft.-lbf/ft3 (600 kN-m/m3)
ASTM D 1621	10 Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
ASTM D 1777	ASTM D1777 - 96(2007) Standard Test Method for Thickness of Textile Materials
ASTM D 4716	Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
ASTM A 615	Standard Specifications for Deformed and Plan Carbon-Steel Bars for Concrete Reinforcement
ASTM A 706	Standard Specifications for Deformed and Plan Low-Alloy Steel Bars for Concrete Reinforcement
AASHTO T 99-01	Standard Method of Test for Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in) Drop
AASHTO T 104	Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
AASHTO T 260	Standard Method of Test for Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials.
AASHTO T 288	Standard Method of Test for Determining Minimum Laboratory Soil Resistivity
AASHTO T 289	Standard Method of Test for Determining ph of Soil for Use in Corrosion Testing

AASHTO T 291	Standard Method of Test for Determining Water Soluble Chloride Ion Content in Soil
AASHTO T 290	T 290 Standard Method of Test for Determining Water Soluble Sulfate Ion Content in Soil

2.0 MATERIALS

2.1. The Modular Subsurface Flow Wetland Systems (MSFWS) and all of its components shall be self-contained within a concrete structure constructed of concrete with a minimum 28-day compressive strength of 5,000 psi, with reinforcing per ASTM A 615 or ASTM A 706, Grade 60, and supports and H20 loading as indicated by AASHTO. Each Chamber shall have appropriate access hatches for easy maintenance and sized to allow removal of all internal components without disassembly. All water transfer system components shall conform with the following:

- Filter netting shall be 100% Polyester with a number 16 sieve size, and strength tested per ASTM D 3787.
- Drainage cells shall be manufactured of lightweight injection-molded plastic and have a minimum compressive strength test of 6,000 psi and a void area along the surface making contact with the filter media of 75% or greater. The cells shall be at least 2" in thickness and allow water to freely flow in all four directions.

2.2. PRETREATMENT CHAMBER COMPONENTS

2.2.1. Filter Cartridges shall operate at a loading rate not to exceed 3 gallons per minute per square foot surface area.

2.2.2 Drain Down System shall include a pervious floor that allows water to drain into the underdrain pipe that is connected to the discharge chamber.

2.3. BIOFILTRATION CHAMBER COMPONENTS

2.3.1. Media shall consist of ceramic material produced by expanding and vitrifying select material in a rotary kiln. Media must be produced to meet the requirements of ASTM C330, ASTM C331, and AASHTO M195. Aggregates must have a minimum 24-hour water absorption of 10.5% mass. Media shall not contain any organic material. Flow through media shall be horizontal from the outer perimeter of the chamber toward the centralized and vertically extending underdrain. The retention time in the media shall be at least 3 minutes. Downward flow filters are not acceptable alternatives. The thickness of the media shall be at least 19" from influent end to effluent end. The loading rate on the media shall not exceed 1.1 gallons per minute per square foot surface area. Media must be contained within structure that spaces the surface of the media at least 2" from all vertically extending walls of the concrete structure.

2.3.2. Planting shall be native; drought tolerant species recommend by manufacturer and/or landscape architect.

2.3.2. Plant Support Media shall be made of a 3" thick moisture retention cell that is inert and contains no chemicals or fertilizers, is not made of organic material and has an internal void percentage of 80%.

2.4. DISCHARGE CHAMBER

2.4.1. The discharge device shall house a flow control orifice plate that restricts flows greater than designed treatment flow rate. All piping components shall be made of a high-density polyethylene. The discharge chamber shall also contain a drain down filter if specified on the drawing.

3.0 PERFORMANCE

3.1. Function - The MSFWS has no moving internal components and functions based on gravity flow, unless otherwise specified. The MSFWS is composed of a pretreatment chamber, a biofiltration chamber and a discharge chamber. The pretreatment device houses cartridge media filters, which consist of filter media housed in a perforated enclosure. The untreated runoff flows into the system via subsurface piping and or surface inlet. Water entering the system is forced through the filter cartridge enclosures by gravity flow. Then the flow contacts the filter media. The flow through the media is horizontal toward the center of each individual media filter. In the center of the media shall be a round slotted PVC pipe of no greater than 1.5" in diameter. The slotted PVC pipe shall extend downward into the water transfer cavity of the cartridge. The slotted PVC pipe shall be threaded on the bottom to connect to the water transfer cavity. After pollutants have been removed by the filter media the water discharges the pretreatment chamber and flows into the water transfer system and is conveyed to the biofiltration chamber. Once runoff has been filtered by the biofiltration chamber it is collected by the vertical underdrain and conveyed to a discharge chamber equipped with a flow control orifice plate. Finally, the treated flow exits the system.

3.2. Pollutants - The MSFWS will remove and retain debris, sediments, TSS, dissolved and particulate metals and nutrients including nitrogen and phosphorus species, bacteria, BOD, oxygen demanding substances, organic compounds and hydrocarbons entering the filter during frequent storm events and continuous dry weather flows.

3.3. Treatment Flow Rate and Bypass - The MSFWS operates in-line. The MSFWS will treat 100% of the required water quality treatment flow based on a minimum filtration capacities listed in section 3.4. The size of the system must match those provided on the drawing to ensure proper performance and hydraulic residence time.

3.4. System must be capable of treating flows to the specified treatment flow rate on the drawings. The flow rate shall be controlled by an orifice.

4.0 EXECUTION

4.1. The installation of the MSFWS shall conform to all applicable national, state, state highway, municipal and local specifications.

4.2. Installation

The Contractor shall furnish all labor, equipment, materials and incidentals required to install the MSFWS modules and appurtenances in accordance with the drawings and these specifications.

4.2.1. Grading and Excavation site shall be properly surveyed by a registered professional surveyor, and clearly marked with excavation limits and elevations. After site is marked it is the responsibility of the contractor to contact local utility companies and/or DigAlert to check for underground utilities. All grading permits shall be approved by governing agencies before commencement of grading and excavation. Soil conditions shall be tested in accordance with the governing agencies requirements. All earth removed shall be transported, disposed, stored, and handled per governing agencies standards. It is the responsibility of the contractor to install and maintain proper erosion control measures during grading and excavation operations.

4.2.2. Compaction – All soil shall be compacted per registered professional soils engineer's recommendations prior to installation of MSFWS components. Compaction shall be to 95% of Standard Proctor or 90% of Modified Proctor.

4.2.3. Backfill shall be placed according to a registered professional soils engineer's recommendations, and with a minimum of 6" of gravel under all concrete structures.

4.2.4. Concrete Structures – After backfill has been inspected by the governing agency and approved the concrete structures shall be lifted and placed in proper position per plans.

4.2.5. Subsurface Flow Wetland Media shall be carefully loaded into area so not to damage the Wetland Liner or Water Transfer Systems. The entire wetland area shall be filled to a level 9 inches below finished surface.

4.2.6. Planting layer shall be installed per manufacturer's drawings and consist of a minimum 3" grow enhancement media that ensures greater than 95% plant survival rate, and 6" of wetland media. Planting shall consist of native plants recommended by manufacturer and/or landscape architect. Planting shall be drip irrigated for at least the first 3 months to insure long term plant growth. No chemical herbicides, pesticides, or fertilizers shall be used in the planting or care and maintenance of the planted area.

4.3. Shipping, Storage and Handling

4.3.1. Shipping – MSFWS shall be shipped to the contractor's address or job site, and is the responsibility of the contractor to offload the unit(s) and place in the exact site of installation.

4.3.2. Storage and Handling– The contractor shall exercise care in the storage and handling of the MSFWS and all components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted and unloading has commenced shall be born by the contractor. The MSFWS(s) and all components shall always be stored indoors and transported inside the original shipping container until the unit(s) are ready to be installed. The MSFWS shall always be handled with care and lifted according to OSHA and NIOSA lifting recommendations and/or contractor's workplace safety professional recommendations.

5.0 INSPECTION AND MAINTENANCE

5.1. Inspection – After installation, the contractor shall demonstrate that the MSFWS has been properly installed at the correct location(s), elevations, and with appropriate components. All components associated with the MSFWS and its installation shall be subject to inspection by the engineer at the place of installation. In addition, the contractor shall demonstrate that the MSFWS has been installed per the manufacturer's specifications and recommendations. All components shall be inspected by a qualified person once a year and results of inspection shall be kept in an inspection log.

5.2. Maintenance – The manufacturer recommends cleaning and debris removal maintenance of once a year and replacement of the Cartridge Filters as needed. The maintenance shall be performed by someone qualified. A Maintenance Manual is available upon request from the manufacturer. The manual has detailed information regarding the maintenance of the MSFWS. A Maintenance/Inspection record shall be kept by the maintenance operator. The record shall include any maintenance activities preformed, amount and description of debris collected, and the condition of the filter.

5.3. Material Disposal - All debris, trash, organics, and sediments captured by the MSFWS shall be transported and disposed of at an approved facility for disposal in accordance with local and state requirements. Please refer to state and local regulations for the proper disposal of toxic and non-toxic material.

END OF SECTION

Washington Specifications

SECTION ( )
MODULAR SUBSURFACE FLOW WETLAND SYSTEM

1.0 GENERAL

1.1. The purpose of this specification is to establish generally acceptable criteria for Modular Subsurface Flow Wetland Systems used for biofiltration of stormwater runoff including dry weather flows and other contaminated water sources. It is intended to serve as a guide to producers, distributors, architects, engineers, contractors, plumbers, installers, inspectors, agencies and users; to promote understanding regarding materials, manufacture and installation; and to provide for identification of devices complying with this specification.

1.2. Modular Subsurface Flow Wetland Systems (MSFWS) are used for filtration of stormwater runoff including dry weather flows. The MSFWS is a pre-engineered biofiltration system composed of a pretreatment chamber containing filtration cartridges, a horizontal flow biofiltration chamber with a peripheral void area and a centralized and vertically extending underdrain, the biofiltration chamber containing a sorptive media mix which does not contain any organic material and a layer of plant establishment media, and a discharge chamber containing an orifice control structure. Treated water flows horizontally in series through the pretreatment chamber cartridges, biofiltration chamber and orifice control structure.

1.3. The manufacturer of the MSFWS shall be one that is regularly engaged in the engineering design and production of systems developed for the treatment of storm water runoff for at least (10) years, and which have a history of successful production, acceptable to the engineer of work. In accordance with the drawings, the MSFWS(s) shall be a device manufactured by:

Contech Engineered Solutions LLC
9025 Centre Pointe Drive
West Chester, OH, 45069
Tel: 1 800 338 1122
https://www.conteches.com

1.4. Submittals

1.4.1. Shop drawings are to be provided with each order to the contractor and consulting engineer.

1.4.2. Shop drawings are to detail the MSFWS and all components required and the sequence for installation, including:

- System configuration with primary dimensions
- Interior components
- Any accessory equipment called out on shop drawings

1.4.3. Inspection and maintenance documentation submitted upon request.

1.5. Work Included

1.5.1. Specification requirements for installation of MSFWS.

1.5.2. Manufacturer to supply components of the MSFWS(s) Modules:

- Pretreatment chamber components (pre-assembled)
- Concrete Structure(s)
- Biofiltration chamber components (pre-assembled)
- Flow control discharge structure (pre-assembled)

1.6. Reference Standards

ASTM C 29	Standard Test Method for Unit Weight and Voids in Aggregate
ASTM C 88	C 88 Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
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ASTM C 136	C 136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C 330	C 330 Standard Specification for Lightweight Aggregate for Structural Concrete
ASTM D 698	Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft.-lbf/ft3 (600 kN-m/m3)
ASTM D 1621	10 Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
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AASHTO T 104	Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
AASHTO T 260	Standard Method of Test for Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials.
AASHTO T 288	Standard Method of Test for Determining Minimum Laboratory Soil Resistivity
AASHTO T 289	Standard Method of Test for Determining ph of Soil for Use in Corrosion Testing
AASHTO T 291	Standard Method of Test for Determining Water Soluble Chloride Ion Content in Soil

AASHTO T 290	T 290 Standard Method of Test for Determining Water Soluble Sulfate Ion Content in Soil

2.0 MATERIALS

2.1. The Modular Subsurface Flow Wetland Systems (MSFWS) and all of its components shall be self-contained within a concrete structure constructed of concrete with a minimum 28 day compressive strength of 5,000 psi, with reinforcing per ASTM A 615 or ASTM A 706, Grade 60, and supports and H20 loading as indicated by AASHTO. Each Chamber shall have appropriate access hatches for easy maintenance and sized to allow removal of all internal components without disassembly. All water transfer system components shall conform with the following:

- Filter netting shall be 100% Polyester with a number 16 sieve size, and strength tested per ASTM D 3787.
- Drainage cells shall be manufactured of lightweight injection-molded plastic and have a minimum compressive strength test of 6,000 psi and a void area along the surface making contact with the filter media of 75% or greater. The cells shall be at least 2" in thickness and allow water to freely flow in all four directions.

2.2. PRETREATMENT CHAMBER COMPONENTS

2.2.1. Filter Cartridges shall operate at a loading rate not to exceed 3 gallons per minute per square foot surface area.

2.2.2. Drain Down System shall include a pervious floor that allows water to drain into the underdrain pipe that is connected to the discharge chamber.

2.3. BIOFILTRATION CHAMBER COMPONENTS

2.3.1. Media shall consist of ceramic material produced by expanding and vitrifying select material in a rotary kiln. Media must be produced to meet the requirements of ASTM C330, ASTM C331, and AASHTO M195. Aggregates must have a minimum 24-hour water absorption of 10.5% mass. Media shall not contain any organic material. Flow through media shall be horizontal from the outer perimeter of the chamber toward the centralized and vertically extending underdrain. The retention time in the media shall be at least 3 minutes. Downward flow filters are not acceptable alternatives. The thickness of the media shall be at least 19" from influent end to effluent end. The loading rate on the media shall not exceed 1.1 gallons per minute per square foot surface area. Media must be contained within structure that spaces the surface of the media at least 2" from all vertically extending walls of the concrete structure.

2.3.2. Planting shall be native, drought tolerant species recommend by manufacturer and/or landscape architect.

2.3.3. Plant Support Media shall be made of a 3" thick moisture retention cell that is inert and contains no chemicals or fertilizers, is not made of organic material and has an internal void percentage of 80%.

2.4. DISCHARGE CHAMBER

2.4.1. The discharge device shall house a flow control orifice plate that restricts flows greater than designed treatment flow rate. All piping components shall be made of a high-density polyethylene.

3.0 PERFORMANCE

3.1. Function - The MSFWS has no moving internal components and functions based on gravity flow, unless otherwise specified. The MSFWS is composed of a pretreatment chamber, a biofiltration chamber and a discharge chamber. The pretreatment device houses cartridge media filters, which consist of filter media housed in a perforated enclosure. The untreated runoff flows into the system via subsurface piping and or surface inlet. Water entering the system is forced through the filter cartridge enclosures by gravity flow. Then the flow contacts the filter media. The flow through the media is horizontal toward the center of each individual media filter. In the center of the media shall be a round slotted PVC pipe of no greater than 1.5" in diameter. The slotted PVC pipe shall extend downward into the water transfer cavity of the cartridge. The slotted PVC pipe shall be threaded on the bottom to connect to the water transfer cavity. After pollutants have been removed by the filter media the water discharges the pretreatment chamber and flows into the water transfer system and is conveyed to the biofiltration chamber. Once runoff has been filtered by the biofiltration chamber it is collected by the vertical underdrain and conveyed to a discharge chamber equipped with a flow control orifice plate. Finally the treated flow exits the system.

3.2. Pollutants - The MSFWS will remove and retain debris, sediments, TSS, dissolved and particulate metals and nutrients including nitrogen and phosphorus species, bacteria, BOD, oxygen demanding substances, organic compounds and hydrocarbons entering the filter during frequent storm events and continuous dry weather flows.

3.3. Treatment Flow Rate and Bypass - The MSFWS operates in-line. The MSFWS will treat 100% of the required water quality treatment flow based on a minimum filtration capacities listed in section 3.4. The size of the system must match those provided on the drawing to ensure proper performance and hydraulic residence time.

3.4. System must be capable of treating flows to the specified treatment flow rate on the drawings. The flow rate shall be controlled by an orifice plate.

4.0 EXECUTION

4.1. The installation of the MSFWS shall conform to all applicable national, state, state highway, municipal and local specifications.

4.2. Installation

The Contractor shall furnish all labor, equipment, materials and incidentals required to install the MSFWS modules and appurtenances in accordance with the drawings and these specifications.

4.2.1. Grading and Excavation site shall be properly surveyed by a registered professional surveyor, and clearly marked with excavation limits and elevations. After site is marked it is the responsibility of the contractor to contact local utility companies and/or DigAlert to check for underground utilities. All grading permits shall be approved by governing agencies before commencement of grading and excavation. Soil conditions shall be tested in accordance with the governing agencies requirements. All earth removed shall be transported, disposed, stored, and handled per governing agencies standards. It is the responsibility of the contractor to install and maintain proper erosion control measures during grading and excavation operations.

4.2.2. Compaction – All soil shall be compacted per registered professional soils engineer's recommendations prior to installation of MSFWS components. Compaction shall be to 95% of Standard Proctor or 90% of Modified Proctor.

4.2.3. Backfill shall be placed according to a registered professional soils engineer's recommendations, and with a minimum of 6" of gravel under all concrete structures.

4.2.4. Concrete Structures – After backfill has been inspected by the governing agency and approved the concrete structures shall be lifted and placed in proper position per plans.

4.2.5. Subsurface Flow Wetland Media shall be carefully loaded into area so not to damage the Wetland Liner or Water Transfer Systems. The entire wetland area shall be filled to a level 9 inches below finished surface.

4.2.6. Planting layer shall be installed per manufacturer's drawings and consist of a minimum 3" grow enhancement media that ensures greater than 95% plant survival rate, and 6" of wetland media. Planting shall consist of native plants recommended by manufacturer and/or landscape architect. Planting shall be drip irrigated for at least the first 3 months to insure long term plant growth. No chemical herbicides, pesticides, or fertilizers shall be used in the planting or care and maintenance of the planted area.

4.3. Shipping, Storage and Handling

4.3.1. Shipping – MSFWS shall be shipped to the contractor's address or job site, and is the responsibility of the contractor to offload the unit(s) and place in the exact site of installation.

4.3.2. Storage and Handling– The contractor shall exercise care in the storage and handling of the MSFWS and all components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is

accepted and unloading has commenced shall be born by the contractor. The MSFWS(s) and all components shall always be stored indoors and transported inside the original shipping container until the unit(s) are ready to be installed. The MSFWS shall always be handled with care and lifted according to OSHA and NIOSA lifting recommendations and/or contractor's workplace safety professional recommendations.

5.0 INSPECTION AND MAINTENANCE

5.1. Inspection – After installation, the contractor shall demonstrate that the MSFWS has been properly installed at the correct location(s), elevations, and with appropriate components. All components associated with the MSFWS and its installation shall be subject to inspection by the engineer at the place of installation. In addition, the contractor shall demonstrate that the MSFWS has been installed per the manufacturer's specifications and recommendations. All components shall be inspected by a qualified person once a year and results of inspection shall be kept in an inspection log.

5.2. Maintenance – The manufacturer recommends cleaning and debris removal maintenance of once a year and replacement of the Cartridge Filters as needed. The maintenance shall be performed by someone qualified. A Maintenance Manual is available upon request from the manufacturer. The manual has detailed information regarding the maintenance of the MSFWS. A Maintenance/Inspection record shall be kept by the maintenance operator. The record shall include any maintenance activities preformed, amount and description of debris collected, and the condition of the filter.

5.3. Material Disposal - All debris, trash, organics, and sediments captured by the MSFWS shall be transported and disposed of at an approved facility for disposal in accordance with local and state requirements. Please refer to state and local regulations for the proper disposal of toxic and non-toxic material.

END OF SECTION

ATTACHMENT 2
BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES

This is the cover sheet for Attachment 2.

☒ Mark this box if this attachment is empty because the project is exempt from PDP hydromodification management requirements.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	**Contents**	**Checklist**
Attachment 2a	Hydromodification Management Exhibit (Required)	☐ Included See Hydromodification Management Exhibit Checklist on the back of this Attachment cover sheet.
Attachment 2b	Management of Critical Coarse Sediment Yield Areas (Section 6.2 of the BMP Design Manual)	Not Applicable No Potential Critical Coarse Sediment Yield Areas have been identified within Port of San Diego jurisdiction
Attachment 2c	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	☐ Not performed ☐ Included ☐ Submitted as separate stand-alone document
Attachment 2d	Flow Control Facility Design, including Structural BMP Drawdown Calculations and Overflow Design Summary (Required) See Chapter 6 and Appendix G of the BMP Design Manual	☐ Included ☐ Submitted as separate stand-alone document
Attachment 2e	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	☐ Included ☐ Not required because BMPs will drain in less than 96 hours

Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:

The Hydromodification Management Exhibit must identify:

☐ Underlying hydrologic soil group
☐ Approximate depth to groundwater
☐ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
☐ Existing topography
☐ Existing and proposed site drainage network and connections to drainage offsite
☐ Proposed grading
☐ Proposed impervious features
☐ Proposed design features and surface treatments used to minimize imperviousness
☐ Point(s) of Compliance (POC) for Hydromodification Management
☐ Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
☐ Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail)

ATTACHMENT 3
Structural BMP Maintenance Information

This is the cover sheet for Attachment 3.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	**Contents**	**Checklist**
Attachment 3a	Structural BMP Maintenance Information	☒ Included See Structural BMP Maintenance Information Checklist on the back of this Attachment cover sheet.
Attachment 3b	Port of San Diego O&M Agreement (when applicable)	☐ Included ☒ Not Applicable

Use this checklist to ensure the required information has been included in the Structural BMP Maintenance Information Attachment:

Attachment 3a must identify:

☒ Designated responsible party to manage the storm water BMP(s)

☒ Any necessary employee training and duties

☒ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

☒ Operating schedule

☒ Maintenance frequency

☒ Specific maintenance indicators and actions for proposed structural BMP(s). This shall be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)

☒ How to access the structural BMP(s) to inspect and perform maintenance

☒ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)

☒ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable

☒ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)

☒ Recommended equipment to perform maintenance

☐ Copies of resource agency permits (when applicable) (N/A)

The Port's O&M Template shall be used to fulfill the O&M planning requirement. The O&M Plan preparer is responsible to ensure all required elements listed above are included.

PORT OF SAN DIEGO
BMP OPERATIONS AND MAINTENANCE PLAN (PORT BMP O&M PLAN)
FOR PRIORITY PROJECTS

PROJECT NAME: NAVY PIER FREEDOM PARK – PHASE IIA HEADHOUSE DEMOLITION
PARCEL NUMBER:7600134600
PROJECT NUMBER: 6-16-0258
APPLICANT NAME: RICK ENGINEERING COMPANY
DATE: APRIL 26, 2023

Prepared for:

Unified Port of San Diego
Environmental Services
3165 Pacific Highway
San Diego, CA 92101-1128

Approved by Port of San Diego
Environmental Services

_____ Date: _____

Unified Port of San Diego

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TABLES

TABLE 1 Ownership and Maintenance
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1. Organizational Chart
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3. BMP Operation and Maintenance Funding Supplemental Information
4. LID BMPs Inspection Form
5. Source Control BMP Inspection Form
6. Site Map
7. Plans and Other Operation and Maintenance Requirements
8. Treatment Control BMP Inspection and Maintenance Checklist(s)
9. Maintenance Schedule
10. Service Agreement
11. Annual Inspection and Maintenance Reporting Form
12. Port of San Diego O&M Agreement

I. COMPLIANCE WITH STORMWATER BEST MANAGEMENT PRACTICES MAINTENANCE REQUIREMENTS

All lessees are responsible for ensuring that stormwater best management practices (BMPs) or facilities installed on their property are properly maintained and that they function as designed. Tenants shall be aware of their responsibilities regarding stormwater facility maintenance and need to be familiar with the contents of this Operations and Maintenance Plan (O&M Plan). Lessees have signed and agreed to proper maintenance of these facilities in a Port of San Diego Maintenance Agreement (wet-signature copy to be maintained in Attachment 12) and lease agreements. In some cases, this maintenance responsibility may be assigned to others through special agreements. All other maintenance agreements between the lessee and their maintenance employees associated with this property shall be included in Attachment 10.

In some cases, the Port of San Diego may agree to provide the required inspection and maintenance for some stormwater facilities that, once the warranty period has ended, will become public. In these cases, a Port of San Diego maintenance agreement will be included for those facilities that are agreed to be included in the Port of San Diego's routine maintenance program.

II. DESIGNATION RESPONSIBLE PARTIES

Responsible parties shall be designated and identified in Table 1.

- The Responsible BMP Party is individual, party, or parties that shall have direct responsibility for the maintenance of stormwater controls. This individual shall be the designated contact with Port inspectors and should sign self-inspection reports and any correspondence with the Port regarding verification of inspections and required maintenance.

- The Duly Authorized Representative is the corporate officer authorized to negotiate and execute any contracts that might be necessary for future changes to operation and maintenance or to implement remedial measures if problems occur.

- The Designated Emergency Respondent is the party responsible for emergencies such as clogged drains, broken irrigation pipes, etc., that would require immediate response should they occur during off-hours.

TABLE 1 OWNERSHIP AND MAINTENANCE			
	Name	**Address**	**Phone / Email**
Responsible BMP Party (if different than above)	Ernesto Medina	3165 Pacific Highway, San Diego, CA 92101	Office: (619) 686-6200
Employees reporting to Responsible BMP Party			
Duly Authorized Representative			
Designated Emergency Respondent[1]			

[1] The Designated Emergency Respondent's phone number must be a cellular phone that is reachable 24 hours a day.

Updated contact information must be provided to the Port immediately whenever a property is sold and whenever designated individuals or contractors change.

A. Maintenance Personnel

Maintenance personnel including Responsible BMP Party, Employees Reporting to Responsible BMP Party, and the Designated Emergency Respondent, must be qualified to properly maintain stormwater BMPs (including treatment and flow-control facilities), especially for restoration or rehabilitation work. Inadequately trained personnel can cause additional problems resulting in additional maintenance costs.

B. Organizational Chart

An organization chart showing the relationships of authority and responsibility between the individuals responsible for maintenance is provided in Attachment 1.

C. Training

Periodic training is conducted by the responsible BMP party for all personnel affiliated with the maintenance of stormwater BMPs. New staff and/or contractors training regarding the purpose, mode of operation, and maintenance requirements for the site's storm water facilities will be provided by the site. Necessary ongoing training for staff and/or contractors will also be provided. The site's Staff Training Program is described in Attachment 2.

TABLE 2 BMP OPERATION AND MAINTENANCE FUNDING	
Sources of Funding	San Diego Unified Port District
Budget Category for Expenditures	
Process for establishing Annual O&M Budget	
Process for obtaining unexpected expenditures for major corrective activities	

D. BMP Maintenance Funding

The funding for BMP operation and maintenance shall be described in Table 2, including sources of funds, budget category for expenditures, process for establishing the annual operations and maintenance budget, and process for obtaining authority should unexpected expenditures for major corrective maintenance be required. Any supplemental information, including calculations and documentation shall be included in Attachment 3.

III. LOW IMPACT DEVELOPMENT AND SITE DESIGN BMPS

Low Impact Development (LID) and Site Design BMPs have been incorporated into the project to minimize stormwater impacts. LID BMPs collectively minimize directly connected impervious area and promote infiltration on the project site. Site design BMPs are permanent measures and are similar to LID BMPs.

The LID and Site Design BMPs for the project which require maintenance are identified along with their locations, including Drainage Management Areas (DMAs), in Table 22 of the project USMP. A LID Inspection form for the site is provided in Attachment 4. In the event that a project use should change or maintenance considerations may require the site to become amended, Table 22 should be referenced for original site constraints and design guidelines.

IV. SOURCE CONTROL BMPS

Source control BMPs have been selected for the project in order to minimize or prevent pollutant generation. Table 4 identifies the potential pollutant sources and corresponding permanent and operational source controls as well as their locations.

Source control BMPs should be inspected routinely in order to reduce or prevent pollution from accumulating in these areas. Routine inspections of the site's source controls are discussed in the site's maintenance schedule. Source control inspection forms are in Attachment 5.

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☒On-site storm drain inlets	• All inlets shall be marked with Port of San Diego storm drain markers (shown below). Markers can be obtained from the Port's Environmental Service Department. 	• Maintain and periodically replace inlet markers, as necessary. • Review stormwater pollution prevention information applicable to the site. • Adhere to applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com • Do not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.	• Several scupper drains are located on the north and south side of the existing building at the Navy Pier.
☐Interior floor drains and elevator shaft sump pumps	• Interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	• Inspect and maintain drains to prevent blockages and overflow. • Regularly clear all associated cleanouts and hand holes.	
☐Interior parking garages	• Parking garage floor drains will be plumbed to the sanitary sewer.	• Inspect and maintain drains to prevent blockages and overflow.	

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Landscape/ Outdoor Pesticide Use	• Final site landscape plans shall be placed in Attachment 7 and shall be used to maintain the following: ○ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ○ Minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ○ Where landscaped areas are used to retain or detain stormwater, maintain and replace, as necessary, plants that are tolerant of saturated soil conditions. ○ Consider using pest-resistant plants, especially adjacent to hardscape. ○ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	• Maintain landscaping using a minimum amount of or no pesticides (consider the use of organic techniques). • Review and adhere to applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com • Review IMP information and provide to landscape and maintenance personnel.	
☐Use efficient irrigation systems	• Employ rain shutoff devices to prevent irrigation after precipitation. • Design irrigation systems to each landscape area's specific water requirements. • Use flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines. • Employ other comparable, equally effective, methods to reduce irrigation water runoff.	• Inspect irrigation system for leaks and/or malfunctions. • Inspect that water usage is consistent with vegetation requirements. • Inspect that irrigation shut-off controls operate correctly.	

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Need for future indoor & structural pest control	• Note building design features that discourage entry of pests.	• Review Integrated Pest Management information and provide to other maintenance personnel.	
☐Pools, spas, ponds, decorative fountains, and other water features.	• Plumb pools to the sanitary sewer in accordance with local requirements.	• Review and adhere to applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	
☐Food service	• Describe the location and features of the designated cleaning area. • Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.		

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☒Refuse areas	• State how site refuse will be handled and provide supporting detail to what is shown on plans. • Prohibitive signs shall be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar. • Any drains from dumpsters, compactors, and bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	• Provide adequate number of receptacles. • Inspect receptacles regularly; repair or replace leaky receptacles. • Keep receptacles covered at all times. • Prohibit/prevent dumping of liquid or hazardous wastes. • Post and replace, as necessary, "no hazardous materials" signs. • Inspect and pick up litter daily and clean up spills immediately. • Keep spill control materials available on-site. Review Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	• Complete trash handling performed by maintenance crew on regular basis. Trash can lids installed on trash cans.
☐Industrial processes.	• Cover or enclose areas that would be the most significant source of pollutants; or, slope the area toward a dead-end sump; or, discharge to the sanitary sewer system in compliance with the applicable municipal waste water district's requirements (include a copy of the waste acceptance letter from the agency accepting the waste in Attachment 10). • Grade or berm area to prevent run-on from surrounding areas. • Installation of storm drains in areas of equipment repair is prohibited. • Implement other features which are comparable or equally effective.	• Review and adhere to Fact Sheet SC-10, "Non- Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Outdoor storage of equipment or materials	• Comply with all requirements of local Hazardous Materials Programs for: ○ Hazardous Waste Generation ○ Hazardous Materials Release Response and Inventory ○ California Accidental Release (CalARP) ○ Aboveground Storage Tank ○ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 • Underground Storage Tank • Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. • Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site. Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains.	• Review and adhere to the Fact Sheets SC-31, “Outdoor Liquid Container Storage” and SC- 33, “Outdoor Storage of Raw Materials ” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Vehicle and Equipment Cleaning	• If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced. • Equip wash area with a clarifier, grease trap or other pretreatment facility, as appropriate and properly connect to the sanitary sewer. • Implement other features which are comparable or equally effective • Commercial/ industrial facilities having vehicle/ equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. • Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. • Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed and permitted by proper regulatory authorities (attach permits in Attachment 10, as necessary).	• Follow operational measures to implement the following (if applicable): ○ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. ○ Car dealerships and similar may rinse cars with water only. ○ Review and adhere to Fact Sheet SC-21, “Vehicle and Equipment Cleaning,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	.

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Vehicle/Equipment Repair and Maintenance	• No vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. • An industrial waste discharge permit will be obtained. For floor drains connected to the sanitary sewer; design will meet the permitting agency's requirements. • An industrial waste discharge permit will be obtained for tanks, containers or sinks to be used for parts cleaning or rinsing; design will meet the permitting agency's requirements. • Accommodate all vehicle equipment repair and maintenance indoors or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. • Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.	• The following restrictions apply to use the site: ○ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into storm drains. ○ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ○ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.	

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Fuel Dispensing Areas	• Fueling areas[1] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: ○ Graded at the minimum slope necessary to prevent ponding ○ Separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. • Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1]. The canopy [or cover] shall not drain onto the fueling area.	• The fueling area is to be dry swept routinely. • Review and adhere to the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	

[1] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Loading Docks	• Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. • Provide a roof overhang over the loading area or install door skirts cowling) at each bay that enclose the end of the trailer. • Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible.	• Move loaded and unloaded items indoors as soon as possible. • Review and adhere to Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	
☐Fire Sprinkler Test Water	• Provide a means to drain fire sprinkler test water to the sanitary sewer.	• Review the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	

TABLE 3
SOURCE CONTROL BMPS

Potential Pollutant Sources	Description	Operational BMPs	Location
☐Miscellaneous Drain or Wash Water • Boiler drain lines Condensate drain lines • Rooftop equipment Drainage sumps • Roofing, gutters, and trim	• Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. • Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. • Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment. • Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. • Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.		
☒Plazas, sidewalks, and parking lots		• Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.	• A parking lot spans across the western portion of the pier, outside of the project focus area for Phase 2A.

V. DRAINAGE AREAS

Table 5 summarizes the drainage management areas (DMAs) on site. Areas are designated as self-treating, self-retaining, draining to self-retaining, and draining to an Integrated Management Practice (IMP).

TABLE 4
DRAINAGE MANAGEMENT AREAS

DMA No.	Designation	Description
DMA D.1	Drains to BMP-1	1.14 acres

The site map in Attachment 6 shows the DMAs and their flow patterns. The map indicates, using flow patterns, how the flow from each DMA is routed to the corresponding storm water facility. Impervious and pervious areas are shown on the map.

VI. STORMWATER TREATMENT CONTROL BMPS

Treatment control BMPs treating runoff from DMAs that could not be routed to properly sized self-treating areas, self-retaining areas, areas draining to self-retaining areas, and/or areas draining to an IMP have been included in the project design and are summarized in Table 6.

TABLE 5
STORMWATER TREATMENT CONTROL BMPS

Treatment Control BMP Type	Description	Size or Treatment Control BMP Capacity	Area Drained or Water Quality Flow
Proprietary Biofiltration Unit (flow-based BMP)	Contech Engineered Solutions' MWS Linear	0.33 cfs (total adjusted treatment capacity)	0.32 cfs (required water quality flow rate)

The location and type of each of the project's stormwater facilities on site are shown on the site map in Attachment 6.

The as-built drawings[2], manufacturer's data, cut-sheets, manuals, and specific operation and maintenance requirements for each treatment control BMP shall be provided in Attachment 7.

VII. INSPECTING STORMWATER BMPS

The quality of stormwater entering the waters of the U.S. or waters of the state relies heavily on the proper operation and maintenance of permanent BMPs. LID, source control, and treatment control stormwater BMPs must be periodically inspected to ensure that they are functioning as designed. Inspections will determine the appropriate maintenance that is required for the facility.

A. Inspection Procedures

All stormwater treatment BMPs are required to be inspected a minimum of once per year. Inspections follow the inspection procedures found in the Inspection and Maintenance Checklists provided in the Port of San Diego's SUSMP document or located on the Port's website www.portofsandiego.org. The Inspection and Maintenance Checklist(s) that is applicable to the site is provided in Attachment 8.

B. Inspection Report

The person(s) conducting the inspection activities (Responsible BMP Party. Employees reporting to Responsible BMP Party, or the Designated Emergency Respondent) shall complete the appropriate inspection checklist for the specific facility. All completed checklists are located in Attachment 8. All facilities are to be inspected on an annual basis at a minimum. A copy of each inspection form shall be kept by the lessee a minimum of 5 years.

Inspection Scoring

For each inspection item, a score is given to identify the urgency for any required maintenance. The scoring is as follows:

0 = No deficiencies identified.

1 = Monitor – Although maintenance may not be required at this time, a potential problem exists that will most likely need to be addressed in the future. This can include items like minor erosion, concrete cracks/spalling, or minor sediment accumulation. This item should be revisited at the next inspection.

2 = Routine Maintenance Required – Some inspection items can be addressed through the routine maintenance program. This can include items like vegetation management or debris/trash removal.

[2] As-built drawings must be included after construction is complete.

3 = Immediate Repair Necessary – This item needs immediate attention because failure is imminent or has already occurred. This could include items such as structural failure of a feature (outlet, weir, manhole, etc.), significant erosion, or significant sediment accumulation. This score should be given to an item that can significantly affect the function of the facility.

N/A = This is checked by an item that may not exist in a facility. Not all facilities have all of the features identified on the form (outlet, weir, manhole, etc.).

Overall Facility Rating

An overall rating is given for each facility inspected. The overall facility rating should correspond with the highest score (0, 1, 2, 3) given to any feature on the inspection form.

C. Verification of Inspection and Checklist Submittal

The Stormwater BMP Inspection and Maintenance Checklist (in Attachment 8) provides a record of inspections and the need for maintenance activities at the facility. Verification of the inspection of the stormwater facilities and the facility inspection checklist(s) shall be provided to the Port of San Diego Environmental Services Department on an annual basis. The verification and the inspection checklist(s) shall be reviewed and submitted by the lessee or Responsible BMP Party, or the Duly Authorized Representative, per Table 1.

VIII. MAINTENANCE SCHEDULE FOR STORMWATER BMPS

A maintenance schedule for the stormwater source control and treatment control BMPs on site is provided in Attachment 9. Attachment 9 includes schedules for routine inspection and maintenance, annual inspection and maintenance, and inspection and maintenance after major storm events.

A service agreement with any contractors hired to perform stormwater treatment control BMP maintenance is also provided in Attachment 10.

IX. MAINTAINING STORMWATER BMPS

Stormwater BMPs must be properly maintained to ensure that they operate correctly and provide the water quality treatment for which they were designed. Routine maintenance performed on a frequently scheduled basis, can help avoid more costly rehabilitative maintenance that results when facilities are not adequately maintained.

A. Maintenance Categories

Stormwater BMP maintenance programs are separated into three broad categories of work: routine, restoration, and rehabilitation. The categories are separated based upon the magnitude and type of the maintenance activities performed. A description of each category follows:

Routine Work

This work includes items such as the removal of debris/material that may be clogging the outlet structure well screens and trash racks. It also includes activities such as road and parking lot sweeping, weed control, mosquito treatment, and algae treatment. These activities normally will be performed numerous times during the year. These items can be completed without any prior correspondence with the Port of San Diego Environmental Services Department; however, inspection and maintenance forms shall be completed with the information also being reported on the annual report forms and submitted to the Port.

Restoration Work

This work consists of a variety of isolated or small-scale maintenance and work needed to address operational problems. Most of this work can be completed by a small crew, with minor tools, and small equipment. These items do not require prior correspondence with Port of San Diego Environmental Services Department. However, completed maintenance forms are required to be submitted to Port of San Diego Environmental Services Department with the annual report forms.

Rehabilitation Work

This work consists of large-scale maintenance and major improvements needed to address failures within the stormwater BMP. This work requires consultation with the Port and may require an engineering design with construction plans to be prepared for review and approval by the Port.

B. Maintenance Forms

The Stormwater BMP Inspection and Maintenance Form provides a record of maintenance activities and includes general cost information to assist in budgeting for future maintenance. Maintenance Forms for each facility type are provided in Appendix 3. Maintenance Forms shall be completed by the responsible BMP party. The form shall then be reviewed by the lessee or an authorized agent of the lessee and made available for review upon inspection by the Port of San Diego.

X. PREVENTATIVE MEASURES TO REDUCE MAINTENANCE COSTS

The most effective way to maintain a stormwater quality facility is to prevent pollutants from entering the facility. Common pollutants include sediment, trash & debris, chemicals, pet wastes, runoff from stored materials, illicit discharges into the storm drainage system and many others. This maintenance program includes measures to address these potential contaminants at the source and save time and money in the long run. The maintenance program will consider the following:

- Educate employees and patrons to be aware of how their actions affect water quality and how they can help reduce maintenance costs.
- Keep properties, streets, gutters, and parking lots free of trash, debris, and lawn clippings.
- Ensure the proper use, storage, and disposal of hazardous wastes and chemicals. Promptly clean up spilled materials and dispose of properly.
- Plan landscape care to minimize and properly use chemicals and pesticides.
- Sweep paved surfaces and put the sweepings back on the lawn.
- Be aware of automobiles leaking fluids. Use absorbents such as cat litter to soak up drippings – dispose of properly.
- Encourage pet owners to clean up pet wastes.
- Re-vegetate disturbed and bare areas to maintain vegetative stabilization.
- Clean any private storm drainage system components, including inlets, storm drains, and outfalls.
- Do not store materials outdoors (including landscaping materials) unless properly protected from runoff.

XI. INSPECTION & MAINTENANCE – ANNUAL REPORTING

The tenant is responsible for providing verification that the stormwater treatment control BMPs have been properly inspected and maintained unless otherwise noted. Verification includes records of inspections and maintenance performed on site. Any maintenance required will be identified and described.

Annual written verification of effective operation and maintenance of each approved source and treatment control BMP by the responsible party is required to be submitted to the Port of San Diego Environmental Services Department prior to each wet season (October 1) of each year. A standard annual reporting form is provided in Attachment 11.

ATTACHMENT 1 - ORGANIZATIONAL CHART

ATTACHMENT 2 - TRAINING PROGRAM

Staff Training Program

Periodic training is conducted by the responsible BMP party for all personnel affiliated with the maintenance of stormwater BMPs. New staff and/or contractors training regarding the purpose, mode of operation, and maintenance requirements for the site's storm water facilities will be provided by the site. Necessary ongoing training for staff and/or contractors will also be provided.

Training should cover responsibilities for BMP inspection and maintenance of source control and post-construction BMPs. Additionally, confined space entry certifications may be required for entry into chambers. Trainings should be logged in Attachment 2 with the following template (or something similar).

Trained Team Member Log

Stormwater Management Training Log and Documentation

Facility Name: _____

Stormwater Management Topic: _____

Specific Training Objective: _____

Location: _____ Date: _____

Instructor: _____ Telephone: _____

Course Length (hours): _____

Attendee Roster (Attach additional forms if necessary)

Name	Company	Phone/Email

ATTACHMENT 3 - BMP OPERATION AND MAINTENANCE FUNDING SUPPLEMENTAL INFORMATION

N/A

ATTACHMENT 4 - LID BMPS INSPECTION FORM

N/A

ATTACHMENT 5 - SOURCE CONTROL BMP INSPECTION FORM

SOURCE CONTROL BMP INSPECTION FORM

Date:	**Inspector:**	**Weather:**
Reason for Inspection:		**Comments:**

Potential Pollutant Sources	**Location**	**Operational BMPs**	**Maintenance Required**	**Maintenance Performed/Comments**
☒On-site storm drain inlets	• Several scupper drains are located on the north and south sides of the existing building at the Navy Pier.	☐Maintain and periodically replace inlet markers, if necessary.	☐No ☐ Yes	
		☐Review stormwater pollution prevention information applicable to the site.	☐No ☐ Yes	
		☐Adhere to applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
		☐Do not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.	☐No ☐ Yes	
☐Interior floor drains and elevator shaft sump pumps		☐Inspect and maintain drains to prevent blockages and overflow.	☐No ☐ Yes	
☐Interior parking garages		☐Inspect and maintain drains to prevent blockages and overflow.	☐No ☐ Yes	
☐Landscape/ Outdoor Pesticide Use		☐Maintain landscaping using minimum or no pesticides.	☐No ☐ Yes	
		☐Review and adhere to applicable operational BMPs in Fact Sheet SC-41, `"Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	

SOURCE CONTROL BMP INSPECTION FORM

Date:	**Inspector:**	**Weather:**
Reason for Inspection:		**Comments:**

Potential Pollutant Sources	**Location**	**Operational BMPs**	**Maintenance Required**	**Maintenance Performed/Comments**
Landscape/Outdoor pesticide Use Continued		☐Review IMP information and provide to landscape and maintenance personnel.	☐No ☐ Yes	
☐Use efficient irrigation systems		☐Inspect irrigation system for leaks and/or malfunctions.	☐No ☐ Yes	
☐Need for future indoor & structural pest control		☐Review Integrated Pest Management information and provide to other maintenance personnel.	☐No ☐ Yes	
☐Pools, spas, ponds, decorative fountains, and other water features.		☐Review and adhere to applicable operational BMPs in Fact Sheet SC-72, “Fountain and Pool Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
☐Food service		☐Grease traps cleaned, as necessary. ☐See Refuse Areas.	☐No ☐ Yes	
☒Refuse areas		☐Provide adequate number of receptacles.	☐No ☐ Yes	
		☐Inspect receptacles regularly; repair or replace leaky receptacles.	☐No ☐ Yes	
		☐Keep receptacles covered at all times.	☐No ☐ Yes	
		☐Prohibit/prevent dumping of liquid or hazardous wastes.	☐No ☐ Yes	
		☐Post “no hazardous materials” signs.	☐No ☐ Yes	

SOURCE CONTROL BMP INSPECTION FORM

Date:	**Inspector:**	**Weather:**
Reason for Inspection:		**Comments:**

Potential Pollutant Sources	**Location**	**Operational BMPs**	**Maintenance Required**	**Maintenance Performed/Comments**
Refuse areas- Continued		☐Inspect and pick up litter daily and clean up spills immediately.	☐No ☐ Yes	
		☐Keep spill control materials available on- site. Review Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
☐Industrial processes.		☐Review and adhere to Fact Sheet SC-10, "Non- Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
☐Outdoor storage of equipment or materials		☐Review and adhere to the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC- 33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
☐Vehicle and Equipment Cleaning		**Follow operational measures to implement the following (if applicable):**		
		☐Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.	☐No ☐ Yes	

SOURCE CONTROL BMP INSPECTION FORM

Date:	**Inspector:**	**Weather:**
Reason for Inspection:		**Comments:**

Potential Pollutant Sources	**Location**	**Operational BMPs**	**Maintenance Required**	**Maintenance Performed/Comments**
		☐Car dealerships and similar may rinse cars with potable water only. Any excess water shall be drained through landscaping and dechlorinated prior to discharge to the storm drain system.	☐No ☐ Yes	
		☐Review and adhere to Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
☐Vehicle/Equipment Repair and Maintenance		**The following restrictions apply to use the site:**		
		☐No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into storm drains.	☐No ☐ Yes	
		☐No vehicle fluid removal shall be performed outside a building, Nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.	☐No ☐ Yes	

SOURCE CONTROL BMP INSPECTION FORM

Date:	**Inspector:**	**Weather:**
Reason for Inspection:		**Comments:**

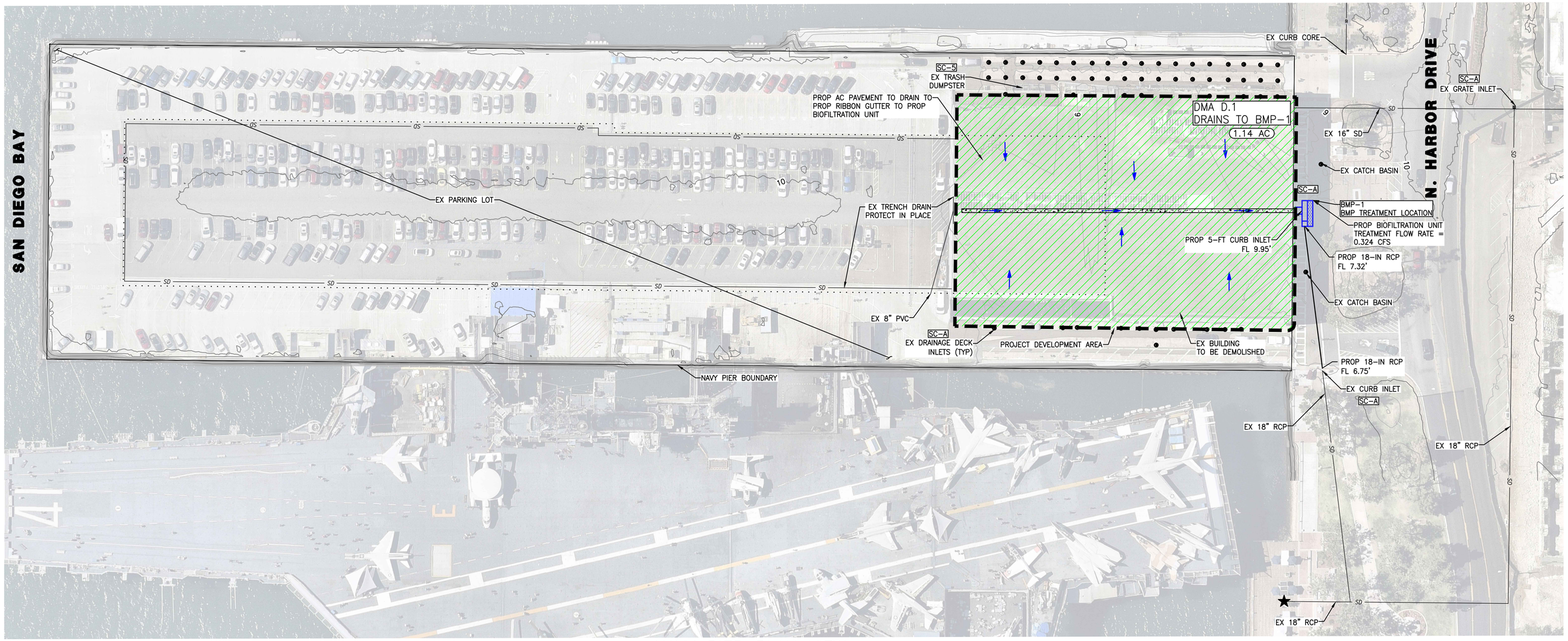
Potential Pollutant Sources	**Location**	**Operational BMPs**	**Maintenance Required**	**Maintenance Performed/Comments**
Vehicle/Equipment Repair and Maintenance Continued		☐No person shall leave unattended drip parts or other open containers of chemicals such as vehicle fluid, unless such containers are in use or in an area of secondary containment.	☐No ☐ Yes	
☐Fuel Dispensing Areas		☐The fueling area is to be dry swept routinely.	☐No ☐ Yes	
		☐Review and adhere to the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
		☐Fueling areas are covered by a canopy.	☐No ☐ Yes	
		☐The canopy does not drain onto the fueling area.	☐No ☐ Yes	
		☐Grading of the area prevents run-on of stormwater to the maximum extent practicable.	☐No ☐ Yes	
☐Loading Docks *Loading Docks Continued*		☐Move loaded and unloaded items indoors as soon as possible.	☐No ☐ Yes	
		☐Review and adhere to Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	

SOURCE CONTROL BMP INSPECTION FORM

Date:	**Inspector:**	**Weather:**
Reason for Inspection:		**Comments:**

Potential Pollutant Sources	**Location**	**Operational BMPs**	**Maintenance Required**	**Maintenance Performed/Comments**
☐Fire Sprinkler Test Water		☐Review the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com	☐No ☐ Yes	
☐Miscellaneous Drain or Wash Water • Boiler drain lines Condensate drain lines • Rooftop equipment Drainage sumps • Roofing, gutters, and trim			☐No ☐ Yes	
☒Plazas, sidewalks, and parking lots	• A parking lot spans across the western portion of the pier.	☐Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.	☐No ☐ Yes	

ATTACHMENT 6 - SITE MAP



NOTES:

1. VERTICAL DATUM: NGVD 29
2. FOR PHASE 2A, IT IS ANTICIPATED THAT THE SUBSEQUENT PHASE PDP SWQMP WILL BE APPROVED PRIOR TO THE COMPLETION OF THE DEMOLITION ACTIVITIES AND WILL SUPERSEDE THIS PDP SWQMP AND PROPOSE POLLUTANT CONTROL MEASURES TO TREAT THE ENTIRE PIER AREA, INCLUDING THE PHASE 2A AREA. HOWEVER, IF FOR SOME REASON THAT IS NOT THE CASE, INTERIM CONDITION MEASURES SHALL BE IMPLEMENTED PER THIS DOCUMENT. IF IMPLEMENTATION IS REQUIRED, CIVIL SHEETS WILL BE DEVELOPED AT THAT TIME TO SUPPORT THE PROPOSED CONCEPT PRESENTED.
3. CALCULATED WATER QUALITY FLOW RATE ASSUMES 1.5 FACTORED FLOW RATE.
4. TOTAL AREA TREATED BY PROPRIETARY BIOFILTRATION UNIT APPROX. 1.2 ACRES. TREATMENT FLOW RATE = 0.324 CFS
5. ENTIRE SITE IS HSG D.
6. APPROXIMATE DEPTH TO GROUNDWATER (GW): 5 FEET < GW DEPTH < 10 FEET BASED ON DIFFERENCE BETWEEN GROUND ELEVATIONS AND MEAN HIGH TIDE ELEVATION.

SC-A: IN THE VICINITY OF THE PROJECT, STORM DRAIN INLETS LOCATED WITHIN THE PORT JURISDICTION MUST BE PLACARDED WITH AND OFFICIAL PORT INLET PLACARD. PRIOR TO PROJECT CLOSEOUT, CONTACT THE PORT TO OBTAIN AN OFFICIAL INLET PLACARD.

SC-5: IN THE VICINITY OF THE PROJECT, TRASH STORAGE AREAS SHALL BE PROTECTED FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL.

IN THE VICINITY OF THE PROJECT, PLAZAS, SIDEWALKS, AND PARKING LOTS SHALL BE SWEPT REGULARLY TO PREVENT THE ACCUMULATION OF LITTER AND DEBRIS.

NAVY PIER PLAN VIEW

SCALE: 1" = 40'

DMA SUMMARY TABLE

DMA ID	Area (acres)	$Q_{factored}$ (cfs) (1)(2)(3)	DCV (ft^3) (1)(4)	BMP ID
DMA D.1	1.2	0.324	1,960.2	DRAINS TO BMP-1
Total	**1.2**	**0.324**	**1,960.2**	-

1. Runoff factor is 0.9 for all DMA areas
2. Design rainfall intensity is 0.2 in/hour
3. Factored flow rate (Q) include 1.5 multiplier
4. 85th Percentile, 24-hr storm event rainfall depth is 0.5 inches (Figure B.1-1)

LEGEND

- DMA BOUNDARY
- FLOW DIRECTION
- DMA 1 — DMA ID
- 1.25 AC — TREATMENT AREA
- 950 — EXIST. MAJOR ELEV. CONTOUR
- 948 — EXIST. MINOR ELEV. CONTOUR
- SD — EXIST. STORM DRAIN
- PROP. STORM DRAIN
- CURTAIN WALL BOUNDARY
- AREA TREATED BY BMP
- OUTFALL LOCATION

N

40 20 0 40 80

GRAPHIC SCALE: 1"=40'

NOT FOR CONSTRUCTION – FOR PDP SWQMP ONLY

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
rickengineering.com

DMA EXHIBIT

NAVY PIER FREEDOM PARK - PHASE 2A HEADHOUSE DEMOLITION

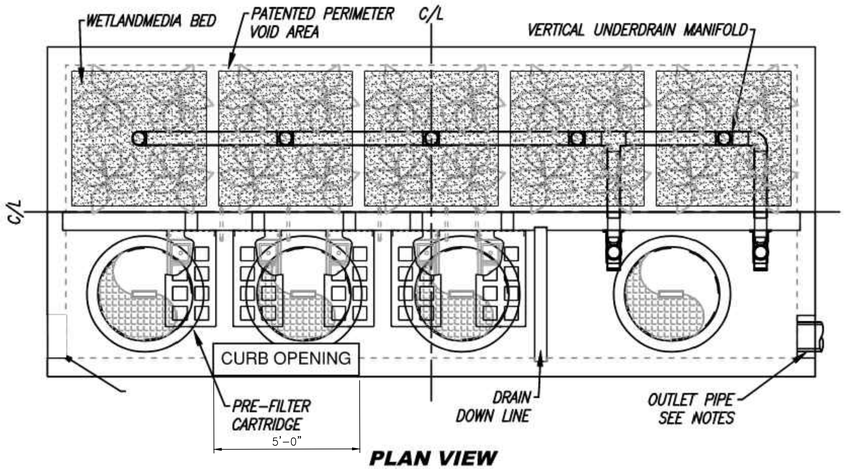
PROJECT NO:	19710	SCALE:	1"=40'
DRAWN BY:	MBM/AMC	DATE:	04/13/2023

© 2023 Rick Engineering Company

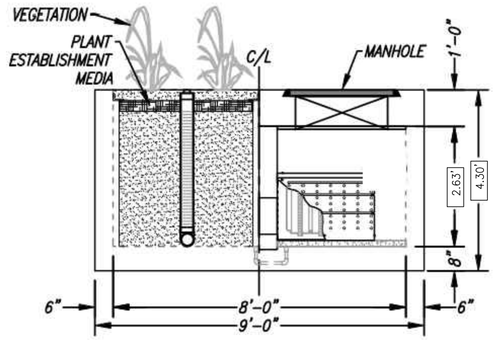
C:\RICK\Projects\C19500\19710_NavyPierFreedomPark\WaterRes\19710_dma.dwg – plotted by: mmacasaddu ON 2023-04-13 @ 09:57 – ctb:rec_ncs.ctb – © 2023 Rick

SITE SPECIFIC DATA			
PROJECT NUMBER	748317		
PROJECT NAME	NAVY PIER FREEDOM PARK		
PROJECT LOCATION	SAN DIEGO, CA		
STRUCTURE ID	MWS		
TREATMENT REQUIRED			
FLOW BASED (CFS)			
0.324			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE	4.8 cfs		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	10.2 ft	RCP	18 in
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	10.95 ft		
SURFACE LOAD	HS20 LOADING		
NOTES:			

* PRELIMINARY NOT FOR CONSTRUCTION



PLAN VIEW



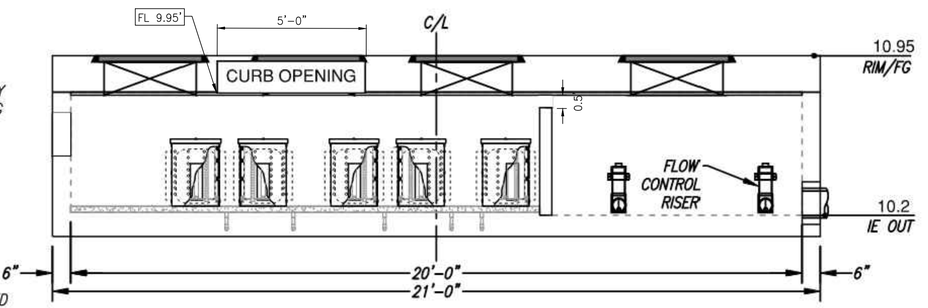
LEFT END VIEW

INSTALLATION NOTES

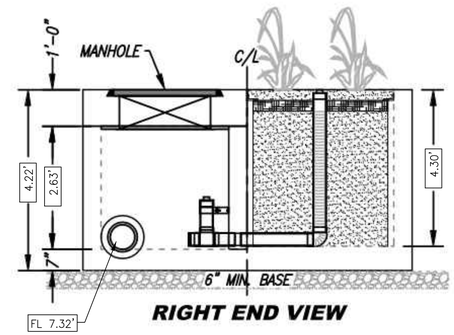
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS' SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT CONTECH.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.324
OPERATING HEAD (FT)	1.9
PRETREATMENT LOADING RATE (GPM/SF)	1.1
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MODULAR WETLANDS — FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

CONTECH ENGINEERED SOLUTIONS LLC www.ContechES.com

MWS-L-8-20- C
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

MWS-L-8-20-C
SCALE: NTS

NOT FOR CONSTRUCTION – FOR PDP SWQMP ONLY

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
rickengineering.com

DMA EXHIBIT
NAVY PIER FREEDOM PARK - PHASE 2A
HEADHOUSE DEMOLITION

PROJECT NO:	19710	SCALE:	1"=40'
DRAWN BY:	MBM/MRR	DATE:	04/13/2023

C:\RICK\Projects\C19500\19710_NavyPierFreedomPark\WaterRes\19710_dma.dwg – plotted by: mmacasadu ON 2023-04-13 @ 09:57 – ctb:rec_ncs.ctb – ©2023 Rick Engineering Company

ATTACHMENT 7 - AS-BUILT DRAWINGS

ATTACHMENT 8 - TREATMENT CONTROL BMP INSPECTION AND MAINTENANCE CHECKLIST(S)

Manufactured Stormwater Treatment Measure
INSPECTION AND MAINTENANCE CHECKLIST

Property Lessee: _____ Property Address: _____

Date of Inspection: _____ Type of Inspection: □ Monthly □ Pre-Wet Season □ After heavy runoff □ End of Wet Season

System Type: _____

Installer/Contractor: _____ Overall Facility Score*: _____

Manufacturer: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Maintenance Score**	Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)	Results Expected When Maintenance Is Performed
1. Sediment, trash and debris accumulation on Filter	Sediment, trash and debris accumulated in the sedimentation basin, riser pipe, retention pipes and filter bed. Filter does not drain as specified.			Sediment, trash and debris removed from sedimentation basin, riser pipe and filter bed and disposed of properly. Filter drains per design specifications. Empty cartridge should be reassembled and reinstalled.
2. Standing water	Manufactured treatment measure does not drain within five days after rainfall.			Clogs removed from filters, sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.

Defect	Conditions When Maintenance Is Needed	Maintenance Score**	Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)	Results Expected When Maintenance Is Performed
3. Mosquitoes	Evidence of mosquito larvae in manufactured treatment measure.			Clogs removed from sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.
4. Miscellaneous	Any condition not covered above that needs attention in order for the manufactured treatment measure to function as designed.			Meet the design specifications.

*Overall Facility Score = Worst Score from all Defect Items Noted.
**Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

ATTACHMENT 9 - MAINTENANCE SCHEDULE

Contech Engineered Solutions Modular Wetland System Linear – Maintenance Schedule

The system shall be inspected at a minimum of once every six months, prior to the start of the rainy season (October 1) each year, and after major storm events (1.0 inch or larger). Typical maintenance includes:

- Removing trash & debris from the catch basin screening filter (by hand).
- Remove sediment and solids in the settlement chamber (with hand tools or vacuum truck, if needed).
- If clogged or degraded, replace the BioMediaGREEN filter cartridge and drain-down filter (if equipped).
- Trim plants within the wetland chamber as needed in conjunction with routine landscape maintenance activities. No fertilizer shall be used.
- Replace dead vegetation within the wetland chamber to fill open areas.

The wetland chamber should be inspected during rain events to verify flow through the system. If little to no flow is observed from the lower valve or orifice plate, the wetland media may require replacement. The wetland media should be considered for replacement at a minimum of every 10 years.

ATTACHMENT 10 - SERVICE AGREEMENT

ATTACHMENT 11 - ANNUAL INSPECTION AND MAINTENANCE REPORTING FORM

URBAN STORMWATER MITIGATION PLAN REPORTING FORM
ANNUAL INSPECTION AND MAINTENANCE OF TREATMENT CONTROL BMPS
(SIDE A)

Responsible Party for Inspection Maintenance: _____ Signature:_____
Date:_____ Print Name/Title

Facility Name:_____

BMP Type	Location Lat/Lon or Inlet #	Date of Construction	Inspection Date(s)	Condition of BMP Indicate whether the BMP is present and in working condition, requires cleaning or replacement.	*Maintenance required? (Y/N) If yes, complete reverse side.

* Maintenance is to be carried out as needed and in accordance with the Port approved Operation and Maintenance Plan.

A copy of this inspection report must be provided to the Port's Environmental Services by September 15 of each year. Submissions can be made via email, fax or through regular mail. For assistance completing this form, contact Port Environmental Services at (619) 686-6254.

URBAN STORMWATER MITIGATION PLAN REPORTING FORM
ANNUAL INSPECTION AND MAINTENANCE OF TREATMENT CONTROL BMPS
(SIDE B)

BMP Type	BMP Location (lat/lon or Inlet #)	Date of Maintenance Activity	Description of maintenance performed	If applicable, describe any additional work required.

* Maintenance is to be carried out as needed and in accordance with the Port approved Operation and Maintenance Plan.

A copy of this inspection report must be provided to the Port's Environmental Services by September 15 of each year. Submissions can be made via email, fax or through regular mail. For assistance completing this form, contact Port Environmental Services at (619) 686-6254.

ATTACHMENT 12 - PORT OF SAN DIEGO O&M AGREEMENT

N/A

CONTECH®
ENGINEERED SOLUTIONS

Modular Wetlands® Linear
Operation & Maintenance Manual

MODULAR WETLANDS®

MODULAR WETLANDS® LINEAR OPERATION & MAINTENANCE MANUAL

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- Biofiltration Chamber 11
- Discharge Chamber 12

Inspection Report 13

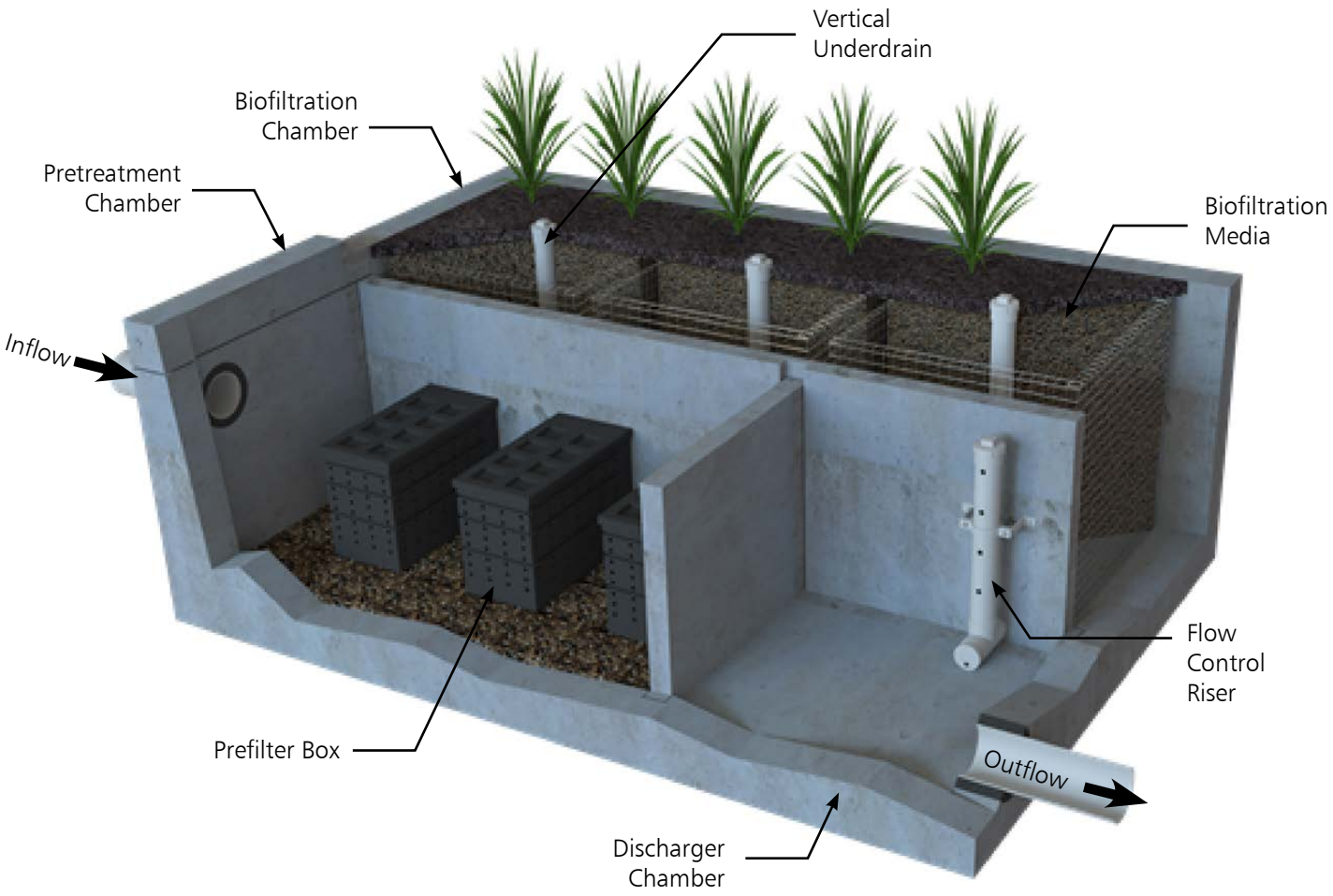
Cleaning and Maintenance Report 14

OVERVIEW

The Modular Wetlands® Linear Biofilter is designed to remove high levels of trash, debris, sediments, nutrients, metals, and hydrocarbons. Its simple design allows for quick and easy installation. The system is housed in a standard precast structure and can be installed at various depths to meet site-specific conditions.

INTRODUCTION

This is the Modular Wetlands Linear Biofilter operation and maintenance manual. Before starting, read the instructions and equipment lists closely. It is important to follow all necessary safety procedures associated with state and local regulations. Some steps required confined space entry. Please contact Contech for more information on pre-authorized third party contractors who can provide installation services in your area. For a list of service providers in your area please visit: www.conteches.com/maintenance.



INSTRUCTIONS

INSPECTION SUMMARY

Stormwater regulations require BMPs be inspected and maintained to ensure they are operating as designed to allow for effective pollutant removal and provide protection to receiving water bodies. It is recommended that inspections be performed multiple times during the first year to assess the site specific loading conditions. The first year of inspections can be used to set inspection and maintenance intervals for subsequent years to ensure appropriate maintenance is provided.

- Inspect pre-treatment, biofiltration, and discharge chambers an average of once every six to twelve months. Varies based on site specific and local conditions.
- Average inspection time is approximately 15 minutes. Always ensure appropriate safety protocol and procedures are followed.

The following is a list of equipment required to allow for simple and effective inspection of the Modular Wetlands Linear:

- Modular Wetlands Linear Inspection Form
- Flashlight
- Manhole hook or appropriate tools to remove access hatches and covers
- Appropriate traffic control signage and procedures
- Measuring pole and/or tape measure
- Protective clothing and eye protection
- 7/16" open or closed ended wrench
- Large permanent black marker (initial inspections only - first year)

Note: entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections of the system

INSPECTION AND MAINTENANCE NOTES

1. Following maintenance and/or inspection, it is recommended that the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.
2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.
3. Transport all debris, trash, organics, and sediments to approved facility for disposal in accordance with local and state requirements.
4. Entry into chambers may require confined space training based on state and local regulations.
5. No fertilizer shall be used in the biofiltration chamber.
6. Irrigation should be provided as recommended by manufacturer and/or landscape architect. Amount of irrigation required is dependent on plant species. Some plants may not require irrigation after initial establishment.

INSPECTION PROCESS

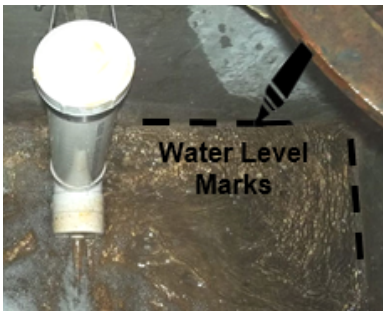
1. Prepare the inspection form by writing in the necessary information including project name, location, date & time, unit number and other information (see inspection form).
2. Observe the inside of the system through the access covers. If minimal light is available and vision into the unit is impaired, utilize a flashlight to see inside the system and all of its chambers.
3. Look for any out of the ordinary obstructions in the inflow pipe, pre-treatment chamber, biofiltration chamber, discharge chamber or outflow pipe. Write down any observations on the inspection form.
4. Through observation and/or digital photographs, estimate the amount of trash, debris accumulated in the pre-treatment chamber. Utilizing a tape measure or measuring stick, estimate the amount of sediment in this chamber. Record this depth on the inspection form.
5. Through visual observation, inspect the condition of the pre-filter cartridges. Look for excessive build-up of sediment on the cartridges, any build-up on the tops of the cartridges, or clogging of the holes. Record this information on the inspection form. The prefilter cartridges can be further inspected by removing the cartridge tops and assessing the color of the BioMediaGREEN filter cubes (requires entry into pre-treatment chamber - see notes previous notes regarding confined space entry). Record the color of the material. New material is a light green color. As the media becomes clogged, it will turn darker in color, eventually becoming dark brown or black. The closer to black the media is the higher percentage that the media is exhausted and is in need of replacement.

6. The biofiltration chamber is generally maintenance-free due to the system's advanced pre-treatment chamber. For units which have open planters with vegetation, it is recommended that the vegetation be inspected. Look for any plants that are dead or showing signs of disease or other negative stressors. Record the general health of the plants on the inspection form and indicate through visual observation or digital photographs if trimming of the vegetation is required.
7. The discharge chamber houses the orifice control structure, drain down filter (only in California - older models), and is connected to the outflow pipe. It is important to check to ensure the orifice is in proper operating conditions and free of any obstructions. It is also important to assess the condition of the drain down filter media which utilizes a block form of the BioMediaGREEN. Assess in the same manner as the cubes in the pre-filter cartridge as mentioned above. Generally, the discharge chamber will be clean and free of debris. Inspect the water marks on the side walls. If possible, inspect the discharge chamber during a rain event to assess the amount of flow leaving the system while it is at 100% capacity (pre-treatment chamber water level at peak HGL - top of bypass weir). The water level of the flowing water should be compared to the watermark level on the side walls, which is an indicator of the highest discharge rate the system achieved when initially installed. Record on the form if there is any difference in level from the watermark in inches.

NOTE: During the first few storms, the water level in the outflow chamber should be observed and a 6" long horizontal watermark line drawn (using a large permanent marker) at the water level in the discharge chamber while the system is operating at 100% capacity. The diagram below illustrates where the line should be drawn. This line is a reference point for future inspections of the system.

Water level in the discharge chamber is a function of flow rate and pipe size. Observation of the water level during the first few months of operation can be used as a benchmark level for future inspections. The initial mark and all future observations shall be made when the system is at 100% capacity (water level at maximum level in the pre-treatment chamber). If future water levels are below this mark when the system is at 100% capacity, this is an indicator that maintenance to the pre-filter cartridges may be needed.

8. Finalize the inspection report for analysis by the maintenance manager to determine if maintenance is required.



MAINTENANCE INDICATORS

Based upon the observations made during inspection, maintenance of the system may be required based on the following indicators:

- Missing or damaged internal components or cartridges
- Obstructions in the system or its inlet and/or outlet pipes
- Excessive accumulation of floatables in the pretreatment chamber in which the length and width of the chamber is fully impacted more than 18". See photo below.
- Excessive accumulation of sediment in the pretreatment chamber of more than 6" in depth.
- Excessive accumulation of sediment on the BioMediaGREEN media housed within the pretreatment cartridges. The following chart shows photos of the condition of the BioMediaGREEN contained within the pre-filter cartridges. When media is more than 85% clogged, replacement is required.
- Excessive accumulation of sediment on the BioMediaGREEN media housed within the pretreatment cartridges. When media is more than 85% clogged, replacement is required. The darker the BioMediaGREEN, the more clogged it is and in need of replacement.

INSPECTION PROCESS

- Excessive accumulation of sediment on the BioMediaGREEN media housed within the drain down filter (California only - older models). The following photos show the condition of the BioMediaGREEN contained within the drain down filter. When media is more than 85% clogged, replacement is required.

- Overgrown vegetation.

- Water level in the discharge chamber during 100% operating capacity (pretreatment chamber water level at max height) is lower than the water mark by 20%.

MAINTENANCE SUMMARY

The time has come to maintain your Modular Wetlands® Linear. All necessary pre-maintenance steps must be carried out before maintenance occurs. Once traffic control has been set up per local and state regulations and access covers have been safely opened, the maintenance process can begin. It should be noted that some maintenance activities require confined space entry. All confined space requirements must be strictly followed before entry into the system. In addition, the following is recommended:

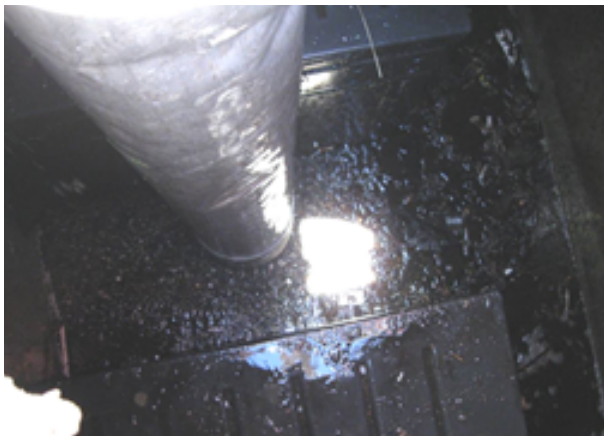
- Prepare the maintenance form by writing in the necessary information including project name, location, date & time, unit number and other info (see maintenance form).
- Set up all appropriate safety and cleaning equipment.
- Ensure traffic control is set up and properly positioned.
- Prepared pre-checks (OSHA, safety, confined space entry) are performed.

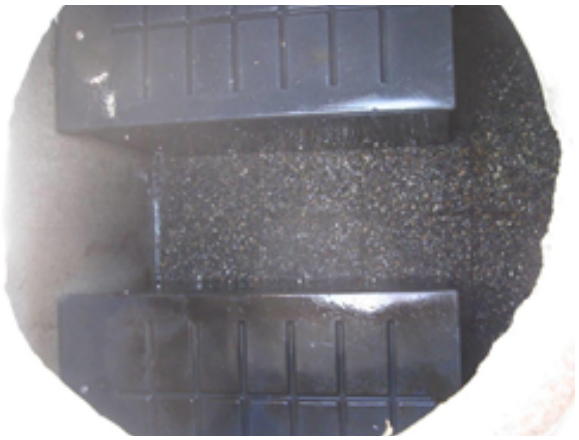
The following is a list of equipment to required for maintenance of the Modular Wetlands® Linear:

- Modular Wetlands Linear Maintenance Form
- Manhole hook or appropriate tools to access hatches and covers
- Protective clothing, flashlight, and eye protection
- 7/16" open or closed ended wrench
- Vacuum assisted truck with pressure washer
- Replacement BioMediaGREEN for pre-filter cartridges if required (order from one of Contech's Maintenance Team members at https://www.conteches.com/maintenance).

MAINTENANCE | PRETREATMENT CHAMBER

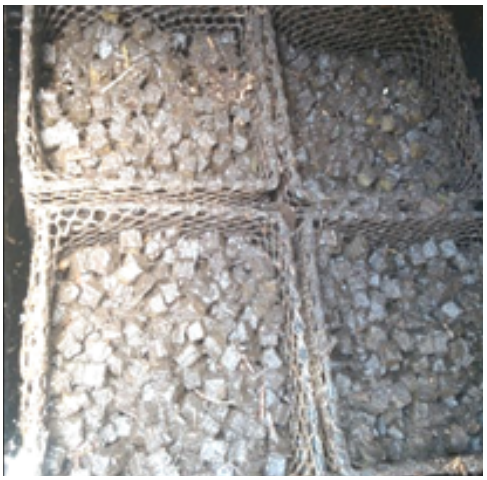
1. Remove access cover over pre-treatment chamber and position vacuum truck accordingly.
2. With a pressure washer, spray down pollutants accumulated on walls and pre-filter cartridges.
3. Vacuum out pre-treatment chamber and remove all accumulated pollutants including trash, debris, and sediments. Be sure to vacuum the floor until the pervious pavers are visible and clean.
4. If pre-filter cartridges require media replacement, continue to step 5. If not, replace access cover and move to step 11.





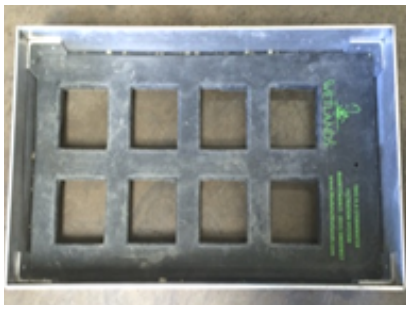
MAINTENANCE | PREFILTER CARTRIDGES

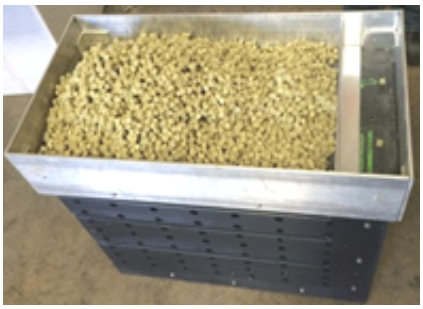
5. After successfully cleaning out the pre-treatment chamber (previous page) enter the pre-treatment chamber.
6. Unscrew the two bolts (circles shown below) holding the lid on each cartridge filter and remove lid.



7. Place the vacuum hose over each individual media filter to suck out filter media.

8. Once filter media has been sucked out, use a pressure washer to spray down the inside of the cartridge and it's media cages. Remove cleaned media cages and place to the side. Once removed, the vacuum hose can be inserted into the cartridge to vacuum out any remaining material near the bottom of the cartridge.
9. Reinstall media cages and fill with new media from the manufacturer or outside supplier. Manufacturer will provide specification of media and sources to purchase. Utilize the manufacture-provided refilling tray and place on top of the cartridge. Fill the tray with new bulk media and shake down into place. Using your hands, lightly compact the media into each filter cage. Once the cages are full, remove the refilling tray and replace the cartridge top, ensuring bolts are properly tightened.





10. Exit the pre-treatment chamber. Replace access hatch or manhole cover.

MAINTENANCE | BIOFILTRATION CHAMBER

11. In general, the biofiltration chamber is maintenance-free with the exception of maintaining the vegetation. The Modular Wetlands Linear utilizes vegetation similar to surrounding landscape areas, therefore trim vegetation to match surrounding vegetation. If any plants have died, replace them with new ones.

12. Each vertical under drain on the biofiltration chamber has a removable (threaded cap) that can be taken off to check any blockages or root growth. Once removed, a jetting attachment can be used to clean out the under drain and orifice riser.
13. As with all biofilter systems, at some point the biofiltration media (WetlandMedia) will need to be replaced. Either because of physical clogging of sorptive exhaustion of the media ion exchange capacity (to remove dissolved metals and phosphorous). The general life of this media is 10 to 20 years based on site specific conditions and pollutant loading. Utilize the vacuum truck to vacuum out the media by placing the hose into the chamber. Once all the media is removed use the power washer to spray down all the netting on the outer metal cage. Inspect the netting for any damage or holes. If the netting is damaged it can be repaired or replaced with guidance by the manufacturer.
14. Contact one of Contech's Maintenance Team members at https://www.conteches.com/maintenance to order new WetlandMedia. The quantity of media needed can be determined by providing the model number and unit depth. Media will be provided in super sacks for easy installation. Each sack will weigh between 1000 and 2000 lbs. A lifting apparatus (backhoe, boom truck, or other) is recommended to position the super sack over the biofiltration chamber. Fill the media cages up to the same level as the old media. Replant with vegetation.

MAINTENANCE | DISCHARGE CHAMBER

15. Remove access hatch or manhole cover over discharge chamber.
16. Enter chamber to gain access to the drain down filter. Unlock the locking mechanism and lift up drain down filter housing to remove used BioMediaGREEN filter block as shown below. *NOTE: Drain down filter is only found on units installed in California prior to 2023. If no drain down filter is present, skip steps 16 and 17.*

17. Insert a new BioMediaGREEN filter block and lock drain down filter housing back in place.
18. Replace access hatch or manhole cover over discharge chamber.

NOTES

CONTECH® ENGINEERED SOLUTIONS

Inspection Report
Modular Wetlands Linear

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Inspector Name _____ Date ____/____/____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

Inspection Checklist

Modular Wetland System Type (Curb, Grate or UG Vault): _____ Size (22', 14' or etc.): _____

Structural Integrity:	**Yes**	**No**	**Comments**
Damage to pre-treatment access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Damage to discharge chamber access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Does the MWS unit show signs of structural deterioration (cracks in the wall, damage to frame)?			
Is the inlet/outlet pipe or drain down pipe damaged or otherwise not functioning properly?			
Working Condition:			
Is there evidence of illicit discharge or excessive oil, grease, or other automobile fluids entering and clogging the unit?			
Is there standing water in inappropriate areas after a dry period?			
Is the filter insert (if applicable) at capacity and/or is there an accumulation of debris/trash on the shelf system?			
Does the depth of sediment/trash/debris suggest a blockage of the inflow pipe, bypass or cartridge filter? If yes, specify which one in the comments section. Note depth of accumulation in in pre-treatment chamber.			Depth:
Does the cartridge filter media need replacement in pre-treatment chamber and/or discharge chamber?			Chamber:
Any signs of improper functioning in the discharge chamber? Note issues in comments section.			
Other Inspection Items:			
Is there an accumulation of sediment/trash/debris in the wetland media (if applicable)?			
Is it evident that the plants are alive and healthy (if applicable)? Please note Plant Information below.			
Is there a septic or foul odor coming from inside the system?			

Waste:	**Yes**	**No**
Sediment / Silt / Clay		
Trash / Bags / Bottles		
Green Waste / Leaves / Foliage		

Recommended Maintenance	
No Cleaning Needed	
Schedule Maintenance as Planned	
Needs Immediate Maintenance	

Plant Information	
Damage to Plants	
Plant Replacement	
Plant Trimming	

Additional Notes: _____

CONTECH®
ENGINEERED SOLUTIONS

Cleaning and Maintenance Report
Modular Wetlands Linear

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Inspector Name _____ Date ____/____/____ Time _____AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

Site Map #	GPS Coordinates of Insert	Manufacturer / Description / Sizing	Trash Accumulation	Foliage Accumulation	Sediment Accumulation	Total Debris Accumulation	Condition of Media 25/50/75/100 (will be changed @ 75%)	Operational Per Manufactures' Specifications (If not, why?)
	Lat: Long:	MWS Catch Basins						
		MWS Sedimentation Basin						
		Media Filter Condition						
		Plant Condition						
		Drain Down Media Condition						
		Discharge Chamber Condition						
		Drain Down Pipe Condition						
		Inlet and Outlet Pipe Condition						

Comments:

CONTECH®
ENGINEERED SOLUTIONS

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800-338-1122

WWW.CONTECHES.COM

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SUPPORT

DRAWINGS AND SPECIFICATIONS ARE AVAILABLE AT WWW.CONTECHES.COM

Modular Wetlands Maintenance Guide 1/2023

ATTACHMENT 4
Copy of Plan Sheets Showing Permanent Storm Water BMPs

This is the cover sheet for Attachment 4.

Use this checklist to ensure the required information has been included on the plans:

The plans must identify:

☐ Structural BMP(s) with ID numbers matching Form I-6 Summary of PDP Structural BMPs
☐ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
☐ Details and specifications for construction of structural BMP(s)
☐ Signage indicating the location and boundary of structural BMP(s)
☐ How to access the structural BMP(s) to inspect and perform maintenance
☐ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
☐ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
☐ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
☐ Recommended equipment to perform maintenance
☐ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
☐ Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
☐ All BMPs must be fully dimensioned on the plans
☐ When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number shall be provided. Photocopies of general brochures are not acceptable.

NOTE: THE COMPLIANCE STRATEGY CONCEPT IS SHOWN ON THE DMA EXHIBIT PROVIDED IN ATTACHMENT 1. IF IMPLEMENTATION IS REQUIRED, CIVIL SHEETS WILL BE DEVELOPED AT THAT TIME TO SUPPORT THE PROPOSED CONCEPT PRESENTED. THE FOLLOWING PLAN SET SUPPORTS THE PHASE IIA HEADHOUSE DEMOLITION AND HAS BEEN INCLUDED FOR REFERENCE.

Page intentionally blank

ATTACHMENT 5
Project Closeout Documentation

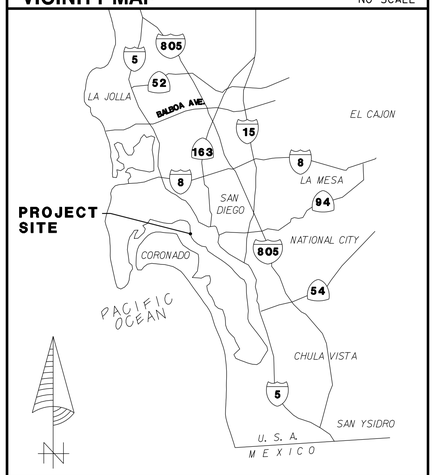
This is the cover sheet for Attachment 5.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	**Contents**	**Checklist**
Attachment 5a	Copy of Review and Acceptance of SWQMP from Adjacent Jurisdiction (When Applicable*) *Required for projects along jurisdictional boundaries when portions of the project are within other jurisdiction	☒ Not Applicable ☐ Pending ☐ Included
Attachment 5b	SWQMP Changes During Construction See SWQMP Construction Change Documentation Checklist on the back of this cover sheet for required documentation	☒ Not Applicable ☐ Included
Attachment 5c	Port of San Diego Verification Closeout Form	☒ Blank Form Included (Construction not complete) ☐ Completed and Signed

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION
SAN DIEGO, CALIFORNIA

VICINITY MAP
NO SCALE



MONUMENTATION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING. A CORNER RECORD OR A RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR THE REGISTERED CIVIL ENGINEER AS REQUIRED BY THE LAND SURVEYOR'S ACT (BUSINESS AND PROFESSIONS CODE 8771).

BENCH MARK

THE BENCH MARK FOR THIS PROJECT IS THE FOUND BRASS PLUG ON TOP OF CONCRETE CURB AT THE SOUTHWEST CURB RETURN OF HAWTHORN STREET AND PACIFIC HIGHWAY, PER CITY OF SAN DIEGO VERTICAL CONTROL DATED AUGUST 1989

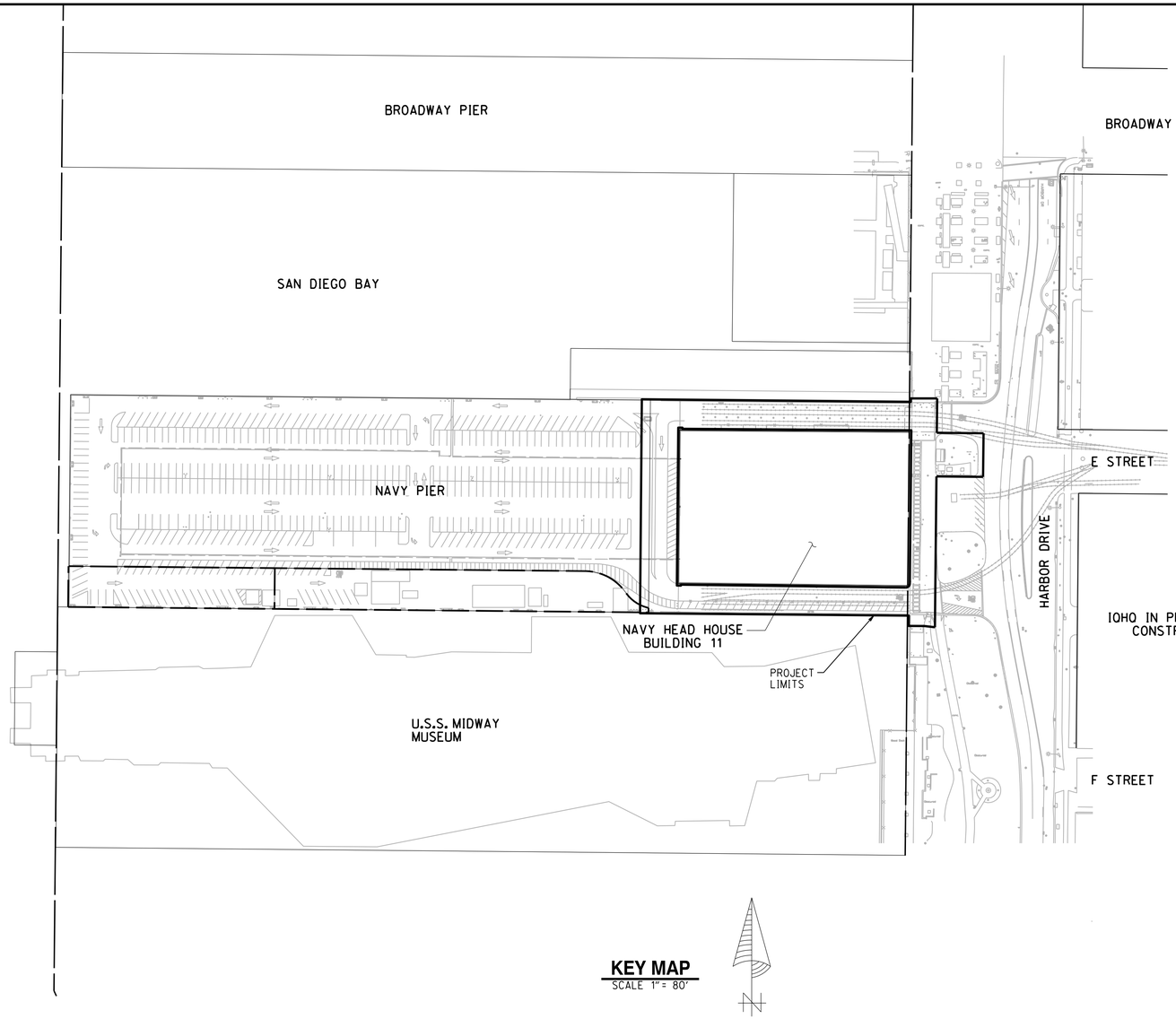
BASIS OF BEARING

THE BASIS OF BEARING FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) ZONE 6, NAD83 (EPOCH 1991.35), BASED UPON THE GRID BEARING BETWEEN STATION SDUPD-012 PER ROS NO. 16668, AND STATION SDUPD-011 PER ROS NO. 16668, AND IS DETERMINED BY GPS RTK MEASUREMENTS TAKEN ON JUNE 23, 2017.

DECLARATION OF RESPONSIBLE CHARGE

DECLARATION OF RESPONSIBLE CHARGE I HEREBY DECLARE THAT I AM THE CIVIL ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THIS DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECKING OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE SAN DIEGO UNIFIED PORT DISTRICT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.
NAME: KEVIN R. GIBSON
CA REGISTRATION NO.: 52295
LICENSE EXP. DATE: 12/31/24
COMPANY NAME: RICK ENGINEERING COMPANY

REGISTERED PROFESSIONAL ENGINEER * KEVIN R. GIBSON * NO. 52295 EXP. 12/31/24 CIVIL * STATE OF CALIFORNIA *



KEY MAP
SCALE 1" = 80'

80 40 0 80 160 240
GRAPHIC SCALE 1" = 80'

WORK TO BE DONE

WORK TO BE DONE SHALL BE ACCORDING TO DRAWINGS NO. EM-2022-06 AND SPECIFICATION NO. 2022-26 OF THE SAN DIEGO UNIFIED PORT DISTRICT AND SHALL INCLUDE: HAZARDOUS MATERIALS ABATEMENT (PRIMARILY ASBESTOS AND LEAD BASED PAINT), STRUCTURAL DECONSTRUCTION, DEMOLITION AND REMOVAL OF HEAD HOUSE, BULDING 11; RECYCLING OR PERMITTED DISPOSAL OF ALL DEMOLISHED MATERIALS; STRUCTURAL REPAIR/CLOSURE OF ALL DECK PENETRATIONS; WATER AND ELECTRICAL ABANDONMENT; WATER UTILITY SERVICE, AND OTHER INCIDENTAL ITEMS OF WORK AS SHOWN AND SPECIFIED.

RICK ENGINEERING COMPANY
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rickengineering.com
San Diego · Riverside · Orange · Sacramento · San Luis Obispo · Phoenix · Tucson · Denver
19710

PORT OF SAN DIEGO
Waterfront of Opportunity

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
DATE:

NOTE:
THIS DRAWING MAY BE A REDUCED SCALE PRINT OF THE ORIGINAL DRAWING. UTILIZE GRAPHIC SCALES TO VERIFY IF DRAWING IS A REDUCTION, AND ADJUST SCALES ACCORDINGLY TO THE GRAPHIC SCALES SHOWN.

SPEC NO. 2022-26	WBS NO. OC-0059-01
REFERENCES	
PROJECT ENGINEER	
CONTRACTOR	
CONSTRUCTION STARTED	
CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

DESIGNED	K.NGUYEN
DRAWN	K.NGUYEN
CHECKED	N.DORNER

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO, CALIFORNIA
NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION
TITLE SHEET

DATE	4/26/2023
A/E NO.	G1
SHEET	1 OF 44
DRAWING NO.	EM-2022-06
REV.	

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C:\Users\kevin.nguyen\Rick Engineering Company\Rick Engineering Company - Documents\Projects\19710 Navy Pier Freedom Park Phase IIA Headhouse Demolition\Drawings\Civil\Plansheets\G1 Cover Sheet.dgn
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LEGEND

PROPOSED

- PROJECT LIMITS
- PROPOSED WATER MAIN
- PROPOSED WATER MAIN VALVES
- PROPOSED WATER MAIN CAP
- CONSTRUCTION SITE FENCING AND GATE

EXISTING

- *EXISTING BUILDING*
- *EXISTING CURB AND GUTTER*
- *EXISTING EDGE OF PAVEMENT*
- *EXISTING HAND RAILING*
- *EXISTING CHAINLINK FENCE*
- *EXISTING CONTOUR*
- *EXISTING RAILROAD TRACK*
- *EXISTING TREE*
- *EXISTING TRAFFIC SIGN*
- *EXISTING STREET LIGHT*
- *EXISTING UTILITY PULL BOX*
- *EXISTING FIRE HYDRANT*
- *EXISTING IRRIGATION VALVE*
- *EXISTING BOLLARD*
- *EXISTING SDG&E LINE*
- *EXISTING CABLE LINE*
- *EXISTING TEL LINE*
- *EXISTING GAS LINE*
- *EXISTING WATER LINE*
- *EXISTING WATER GATE VALVE*
- *EXISTING SEWER LINE*
- *EXISTING SEWER MANHOLE*
- *EXISTING STORM DRAIN*
- *EXISTING STORM DRAIN INLET/MANHOLE*
- *EXISTING MOLE LIMITS*
- *EXISTING U.S.BULKHEAD LIMITS*
- *EXISTING R/W*
- *EXISTING EASEMENTS*
- *EXISTING U.S.S.MIDWAY MUSEUM LEASEHOLD LIMITS*

ABBREVIATIONS

AC	ASPHALT CONCRETE
ACM	ASBESTOS CONTAINING MATERIALS
ADA	AMERICANS WITH DISABILITIES ACT
&	AND
AB	ANCHOR BOLT
ABAND'D	ABANDONED
AGG	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATIVE
APPROX	APPROXIMATE
AVG	AVERAGE
BMP	BEST MANAGEMENT PRACTICE
BOT	BOTTOM
℄	CENTERLINE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CI	CAST IRON
CLR	CLEAR, CLEARANCE
CJ	CONTROL JOINT
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUED
CSA	CONTRACTOR'S STORAGE AREA
CTR	CENTER
CU FT	CUBIC FEET
CY	CUBIC YARDS
DIA	DIAMETER
DBL	DOUBLE
DEMO	DEMOLISH
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DR	DRIVE
DS	DRAIN SCUPPER
DWG	DRAWING
DWT	DETECTABLE WARNING TILES
E	EASTING
EA	EACH
ELEV, EL	ELEVATION
ELEC	ELETRICAL
EMBED	EMBEDMENT
EOH	ELECTRIC OUTLET HOUSING
ETC	ETCETERA
ESA	ENVIRONMENTALLY SENSITIVE AREA
EXP	EXPANSION
EXIST	EXISTING
FM	FORCE MAIN
FS	FINISHED SURFACE
FT	FEET
FTG	FOOTING
GALV	GALVANIZED
HORIZ	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
INFO	INFORMATION
IRR	IRRIGATION
JT.	JOINT
L	LONGITUDINAL
LBP	LEAD BASED PAINT
LBS	POUNDS
MAX	MAXIMUM
MH	MANHOLE
MJ	MECHANICAL JOINT
MIN	MINIMUM
MISC	MISCELLANEOUS
MLLW	MEAN LOWER LOW WATER
MPH	MILES PER HOUR
N	NORTHING
N/A	NOT APPLICABLE
NO	NUMBER
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
OD	OUTSIDE DIAMETER
ORG	ORIGINAL
PCC	PORTLAND CEMENT CONCRETE
PROP	PROPERTY
PSF	POUND PER SQUARE FOOT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REINF	REINFORCE
REQ'D	REQUIRED
RR	RAILROAD
RWQCB	REGIONAL WATER QUALITY CONTROL BOARD
SD	STORM DRAIN
SDG&E	SAN DIEGO GAS & ELECTRIC
SDUPD	SAN DIEGO UNIFIED PORT DISTRICT
SHT	SHEET
SPEC	SPECIFICATION
STA	STATION
STD	STANDARD
STL.	STEEL
T	TRANSVERSE
TC	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPORARY
TL	TRANSVERSE / LONGITUDINAL
TYP	TYPICAL
UG	UNDERGROUND
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WATER
W/	WITH
WTR	WATER
WV	WATER VALVE
WW	WASTE WATER

PROJECT SHEET INDEX

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G2	2	LEGEND & ABBREVIATIONS
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CIVIL

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C2	5	UTILITY PLAN
C3	6	UTILITY DETAILS
C4	7	EROSION CONTROL PLAN
C5	8	EROSION CONTROL DETAILS
C6	9	TRAFFIC CONTROL PLAN - PHASE 1/1

STRUCTURAL DEMOLITION

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S2	11	GENERAL PLAN
S3	12	BUILDING ELEVATIONS - NORTH & WEST
S4	13	BUILDING ELEVATIONS - SOUTH & EAST
S5	14	FIRST FLOOR PLAN
S6	15	MEZZANINE FLOOR PLAN & TYPICAL BUIDLING WALL SECTION
S7	16	SECOND FLOOR PLAN
S8	17	ROOF PLAN
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S20	29	STEEL TRUSS DETAILS
S21	30	SCREEN ROOM CONCRETE SLAB INFILL PLAN & SECTION
S22	31	SCREEN ROOM CONCRETE SLAB INFILL SECTIONS

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E1	32	ELECTRICAL LEGENDS, GENERAL NOTES
E2	33	ELECTRICAL KEY PLAN
E3	34	ELECTRICAL SITE PLAN DEMOLITION 1
E4	35	ELECTRICAL SITE PLAN DEMOLITION 2
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E10	41	ELECTRICAL DETAILS
E11	42	SINGLE LINE DIAGRAM DEMOLITION
E12	43	SINGLE LINE DIAGRAM RENOVATION
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COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	K.NGUYEN
DRAWN	K.NGUYEN
CHECKED	N.DORNER

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

LEGEND AND ABBREVIATIONS

DATE	4/26/2023
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GENERAL NOTES

1. THROUGHOUT THE CONTRACT DRAWINGS, SPECIFICATIONS, AND THESE NOTES, THE TERM 'DISTRICT' IS USED. THIS TERM REFERENCES THE PORT OF SAN DIEGO (SAN DIEGO UNIFIED PORT DISTRICT).

2. THE FOLLOWING NOTES ARE PROVIDED TO GIVE DIRECTIONS TO THE CONTRACTOR BY THE ENGINEER OF WORK. THE DISTRICT ENGINEER'S SIGNATURE ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF ANY OF THESE NOTES AND THE AGENCY WILL NOT BE RESPONSIBLE FOR THEIR ENFORCEMENT. THE CONTRACTOR SHALL ENFORCE ALL SAFETY MEASURES.

3. ALL WORK SHALL BE COMPLETED PER THESE PLANS AND APPROVED REVISIONS. ALL CHANGES OR REVISIONS THERETO, MUST BE APPROVED BY THE DISTRICT ENGINEER, IN WRITING, PRIOR TO ANY REQUEST FOR INSPECTION.

4. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL PROPOSED CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS AND THE DISTRICT ENGINEER.

5. APPROVAL OF THESE PLANS BY THE DISTRICT ENGINEER DOES NOT AUTHORIZE ANY WORK TO BE PERFORMED UNTIL A NOTICE TO PROCEED HAS BEEN ISSUED.

6. PRIOR TO ANY DISTURBANCE TO THE SITE, EXCLUDING UTILITY MARK-OUTS AND SURVEYING, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR A PRE-CONSTRUCTION MEETING WITH THE ENGINEER OF WORK, DISTRICT ENGINEER, AND DISTRICT INSPECTORS.

7. THE CONTRACTOR SHALL VERIFY THE SITE BEFORE COMMENCING WORK. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND PRIOR TO THE START OF CONSTRUCTION.

8. LOCATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS WERE OBTAINED FROM AVAILABLE DISTRICT RECORDS. THE CONTRACTOR IS ADVISED THAT UNDERGROUND UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL EXERCISE PRECAUTION TO PROTECT THESE UTILITIES IN PLACE. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES. IF LOCATIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCY.

9. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES. CONTACT AT LEAST TWO (2) WORKING DAYS PRIOR TO START WORK:
UNDERGROUND SERVICE ALERT: (800) 422-4133
PORT DISTRICT: (619) 686-6200

10. IMPORTANT NOTICE: SECTION 4216 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT I.D. NUMBER, CALL UNDERGROUND SERVICE ALERT, TOLL FREE 1-800-422-4133, AT LEAST TWO DAYS BEFORE YOU DIG.

11. CONTRACTOR SHALL NOTIFY THE SAN DIEGO GAS & ELECTRIC COMPANY PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE THEIR WORK WITH COMPANY REPRESENTATIVES. NOTICE: ALL ELECTRICAL AND GAS SERVICES WITHIN THIS PROJECT ARE "UNDERGROUND INSTALLATIONS." FOR LOCATION OF ELECTRICAL CABLES AND GAS PIPING AND APPURTENANCES, CONTACT THE SAN DIEGO GAS & ELECTRIC COMPANY. TELEPHONE: 800-422-4133.

12. CONTRACTOR SHALL NOTIFY TELEPHONE AND CABLE COMPANIES PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE THEIR WORK WITH COMPANY REPRESENTATIVES WHERE APPLICABLE.

13. CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES.

14. THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICES AT ALL TIMES TO ALLOW BUILDINGS AND FACILITES AT OR NEAR THE SITE TO REMAIN IN FULL OPERATION THROUGHOUT CONSTRUCTION EXCEPT AS OTHERWISE DIRECTED OR APPROVED BY THE DISTRICT FOR PLANNED SHUT DOWN PERIODS.

15. LOCATION AND ELEVATION OF EXISTING IMPROVEMENTS TO BE MET BY WORK TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK.

16. CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ENGINEER, CITY OF SAN DIEGO, AND THE SAN DIEGO UNIFIED PORT DISTRICT HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DISTRICT ENGINEER.

17. FOR OCCUPATIONAL SAFETY AND HEALTH ACT REQUIREMENTS (CAL/OSHA), DURING THE ENTIRE CONSTRUCTION PERIOD, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN CONDITIONS AT THE PROJECT SITE SO AS TO MEET IN ALL RESPECTS, THE REQUIREMENTS OF THE CAL/OSHA. THIS PROVISION SHALL COVER THE CONTRACTOR'S EMPLOYEES AND ALL OTHER PERSONS WORKING UPON OR VISITING THE SITE.

18. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN ADEQUACY FOR THE TEMPORARY STRUCTURAL OR OPERATING MEASURES AND SAFETY OF DEMOLITION, INCLUDING BUT NOT LIMITED TO BRACING, SHORING, TEMPORARY SUPPORTS, ETC.

19. TEMPORARY LOADING DURING CONSTRUCTION SHALL NOT EXCEED CAPACITY OF THE EXISTING STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ENGINEER OF ALL CHANGES OF SUCH LOADING PRIOR TO COMMENCEMENT OF WORK. SEE SHEET 11 FOR EXISTING STRUCTURE LOADING CAPACITY.

20. CONTRACTOR MATERIAL EQUIPMENT LAYDOWN AREA SHALL BE COORDINATED WITH THE DISTRICT AND BUSINESSES OPERATING ON THE PIER. CONTRACTOR IS RESPONSIBLE FOR THE SECURITY OF THEIR MATERIALS AND EQUIPMENT LAYDOWN AREA.

21. CONTRACTOR SHALL COORDINATE WITH THE SAN DIEGO UNIFIED PORT DISTRICT , THE U.S.S. MIDWAY MUSEUM, ACE PARKING, AND HORNBLOWER CRUISES TO MAINTAIN ACCESS TO THE PIER.

22. CONTRACTOR SHALL PROVIDE THEIR OWN PORTABLE SANITARY FACILITIES IN THE LOCATION APPROVED BY THE ENGINEER. PORTABLE SANITARY FACILITIES SHALL BE MAINTAINED REGULARLY.

23. THE CONTRACTOR SHALL OPERATE, HANDLE AND MANEUVER ALL WATERCRAFT THAT MAY BE REQUIRED IN A SAFE MANNER IN AND AROUND THE EXISTING PIER, MIDWAY MUSEUM, AND ITS MOORING FACILITIES. THE CONTRACTOR SHALL PROVIDE ANCHORAGE FOR FLOATING EQUIPMENT SUBJECT TO APPROVAL OF THE DISTRICT.

24. CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL PLAN DURING CONSTRUCTION AND REMOVE AFTER CONSTRUCTION. TRAFFIC CONTROL PLAN SHALL BE PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER, LICENSED IN CALIFORNIA.

25. EQUIPMENT SHALL NOT USE OR BLOCK TRAFFIC LANES DURING CONSTRUCTION ACTIVITIES AND TRUCK OPERATIONS IN AND OUT OF CONSTRUCTION AND STAGING AREAS SHALL BE CONTROLLED AS REQUIRED BY THE DISTRICT. TRUCK AND EQUIPMENT ROUTES IN AND OUT OF THE SITE, SHALL BE APPROVED BY THE DISTRICT PRIOR TO START OF WORK. AT THE END OF THE WORKING DAY, STREETS SHALL BE CLEANED OF DIRT AND CONSTRUCTION DEBRIS TO THE SATISFACTION OF THE DISTRICT INSPECTOR AND THE MITIGATION MONITOR.

26. CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF THE PERMITS AND THE APPLICABLE POLICIES OF THE DISTRICT. THESE INCLUDE SUCH ITEMS AS CONSTRUCTION MAINTENANCE, DEBRIS REMOVAL, WATER QUALITY MANAGEMENT AND PROTECTION, AND, AIR QUALITY PROTECTION CONDITIONS AND POLICIES.

27. CONTRACTOR SHALL PREPARE, IMPLEMENT AND MAINTAIN BEST MANAGEMENT PRACTICES (BMP'S) AS APPROVED BY THE ENGINEER TO REDUCE CONSTRUCTION-RELATED IMPACTS TO COASTAL WATERS.

28. DUST GENERATED BY CONSTRUCTION ACTIVITIES SHALL COMPLY WITH LOCAL DUST CONTROL, ANY REQUIREMENTS OF ANY MITIGATION MONITORING PROGRAMS, AND UNIFORM BUILDING CODE (UBC) REQUIREMENTS, WHICH INCLUDE DUST CONTROL MEASURES FOR CONSTRUCTION SITES. DUST REDUCING MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, REGULAR WATERING OF GRADED SURFACES AND RESTRICTION OF ALL CONSTRUCTION VEHICLES AND EQUIPMENT TO TRAVEL ALONG ESTABLISHED AND REGULARLY WATERED ROADWAYS.

29. THE CONTRACTOR SHALL ENSURE THAT NO DEBRIS, SOIL, SILT, SAND, SAWDUST, RUBBISH, CEMENT, CONCRETE WASHINGS, OIL, PETROLEUM PRODUCTS, OR OTHER POLLUTANTS SHALL BE ALLOWED TO ENTER OR BE PLACED WHERE THESE MATERIALS MAY BE WASHED INTO THE SAN DIEGO BAY OR OUTSIDE OF THE PROJECT LIMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ANY MATERIALS INCIDENTALLY DEPOSITED OUTSIDE THE WORK AREA.

30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND CLEAN-UP OF ANY SPILL ON PUBLIC STREETS OR PARKING AREAS DURING CONSTRUCTION.

31. CONTRACTOR SHALL PLACE SEDIMENT CONTROL DEVICES AS NECESSARY TO PREVENT DEMOLITION DEBRIS FROM ENTERING SAN DIEGO BAY OR OUTSIDE THE PROJECT LIMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIALS INCIDENTALLY DEPOSITED OUTSIDE THE WORK AREA.

32. ALL DEMOLISHED MATERIAL, EXCEPT ITEMS DIRECTED BY THE DISTRICT TO BE SALVAGED, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS TO AN APPROVED DISPOSAL SITE OFF TIDELANDS.

33. DISPOSAL OF HAZARDOUS OR CONTAMINATED MATERIALS, GROUNDWATER, OR SOIL ENCOUNTERED SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.

34. MACHINERY OR CONSTRUCTION MATERIALS NOT ESSENTIAL FOR PROJECT IMPROVEMENTS SHALL NOT BE ALLOWED AT ANY TIME IN THE INTERTIDAL ZONE.

35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND/OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION. A LAND SURVEYOR MUST FIELD LOCATE, REFERENCE, AND/OR PRESERVE ALL HISTORICAL OR CONTROLLING MONUMENTS PRIOR TO ANY EARTHWORK. IF DESTROYED, A LAND SURVEYOR SHALL REPLACE SUCH MONUMENTS WITH APPROPRIATE MONUMENTS. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED AS REQUIRED BY THE PROFESSIONAL LAND SURVEYORS ACT, SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA. IF ANY VERTICAL CONTROL IS TO BE DISTURBED OR DESTROYED, THE SAN DIEGO UNIFIED PORT DISTRICT MUST BE NOTIFIED, IN WRITING, AT LEAST 3 DAYS PRIOR TO THE CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST OF REPLACING ANY VERTICAL CONTROL BENCHMARKS DESTROYED BY THE CONSTRUCTION.

36. CONTRACTOR SHALL REPAIR ALL DESTROYED OR DAMAGED EXISTING SURFACE IMPROVEMENTS WITH IMPROVEMENTS EQUAL OR SUPERIOR.

37. DEVIATIONS FROM THESE SIGNED PLANS WILL NOT BE ALLOWED UNLESS A CONSTRUCTION CHANGE IS APPROVED BY THE DISTRICT ENGINEER.

38. AS-BUILT DRAWINGS: A SET OF BLUELINE PRINTS AND A SET OF SPECIFICATIONS SHALL BE KEPT AT ALL TIMES ON WHICH ALL CHANGES OR VARIATIONS IN THE WORK, INCLUDING ALL UTILITIES, ARE TO BE RECORDED.

39. AS-BUILT DRAWINGS MUST BE SUBMITTED TO THE DISTRICT INSPECTOR PRIOR TO ACCEPTANCE OF THIS PROJECT BY THE SAN DIEGO UNIFIED PORT DISTRICT.

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CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	K.NGUYEN
DRAWN	K.NGUYEN
CHECKED	N.DORNER

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

NOTES

DATE	4/26/2023
A/E NO.	G3
SHEET	3 OF 44
DRAWING NO.	EM-2022-06
REV.	

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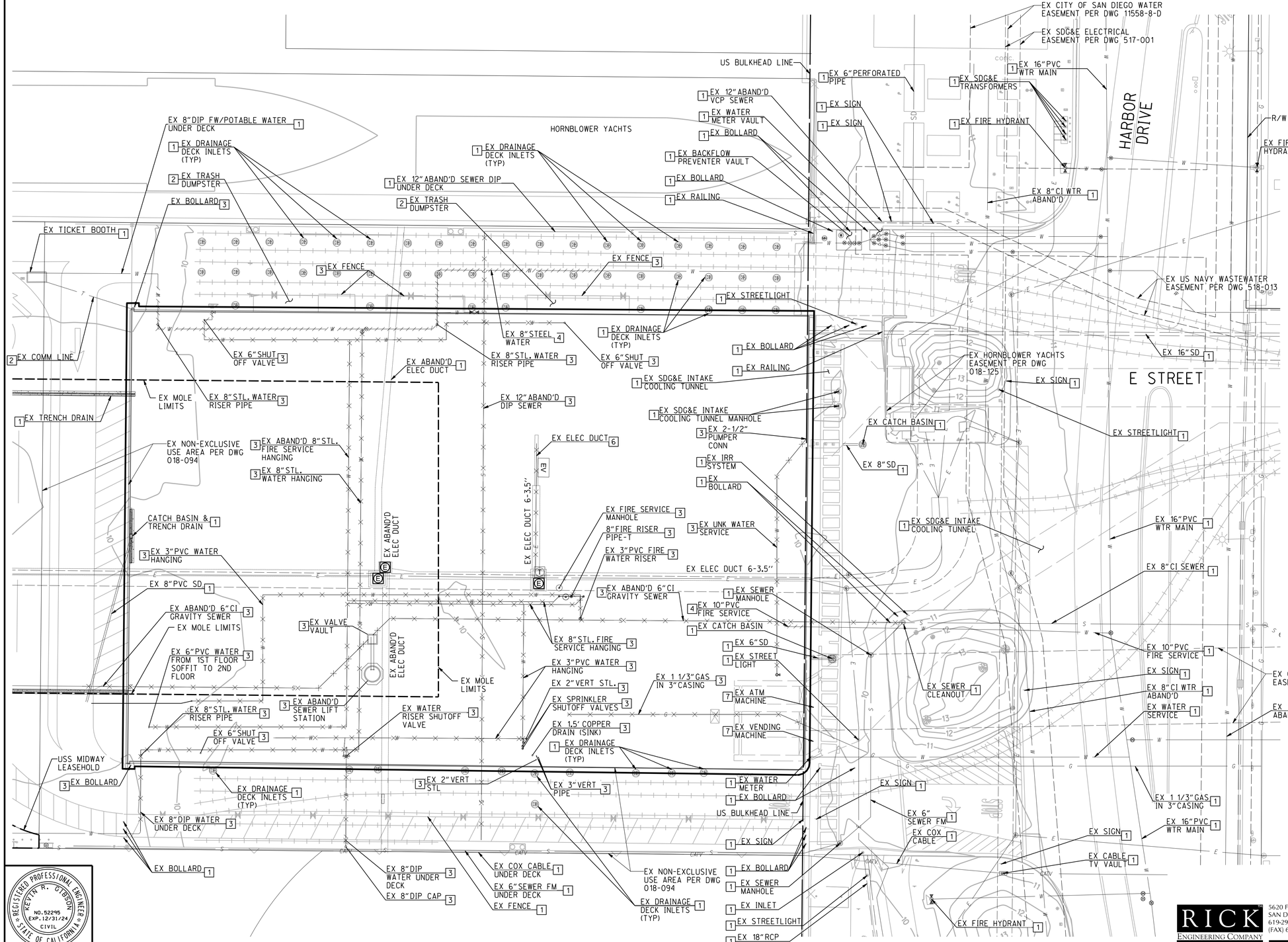

CIVIL DEMOLITION NOTES

1. PROTECT IN PLACE
2. RELOCATE
3. REMOVE AND DISPOSE
4. ABANDON
5. REMOVE AND REPLACE BY OTHERS
6. REMOVE AND FILL DUCT WITH SLURRY
7. SALVAGE AND RETURN TO OWNER

DEMOLITION WORK

ITEM	SYMBOL
REMOVE EXISTING HEAD HOUSE SEE STRUCTURAL DEMOLITION PLANS FOR BUILDING DEMOLITION	
UTILITY AND APPURTENANCES TO BE ABANDONED	
UTILITY AND APPURTENANCES TO BE REMOVED AND DISPOSED	

NOTES:

1. FOR ALL DRY UTILITY WORK, SEE SHEETS 32-44.

2. RELOCATE TRASH DUMPSTERS TEMPORARILY ALONG HARBOR DRIVE DURING DEMOLITION OF THE HEAD HOUSE. EXACT LOCATION TO BE DETERMINED AND AGREED UPON WITH THE USS MIDWAY MUSEUM AND OWNERS OF THE TRASH DUMPSTERS.

20 10 0 20 30 60

GRAPHIC SCALE 1" = 20'

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SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

DEMOLITION PLAN

DATE	4/26/2023
A/E NO.	C1
SHEET	4 OF 44
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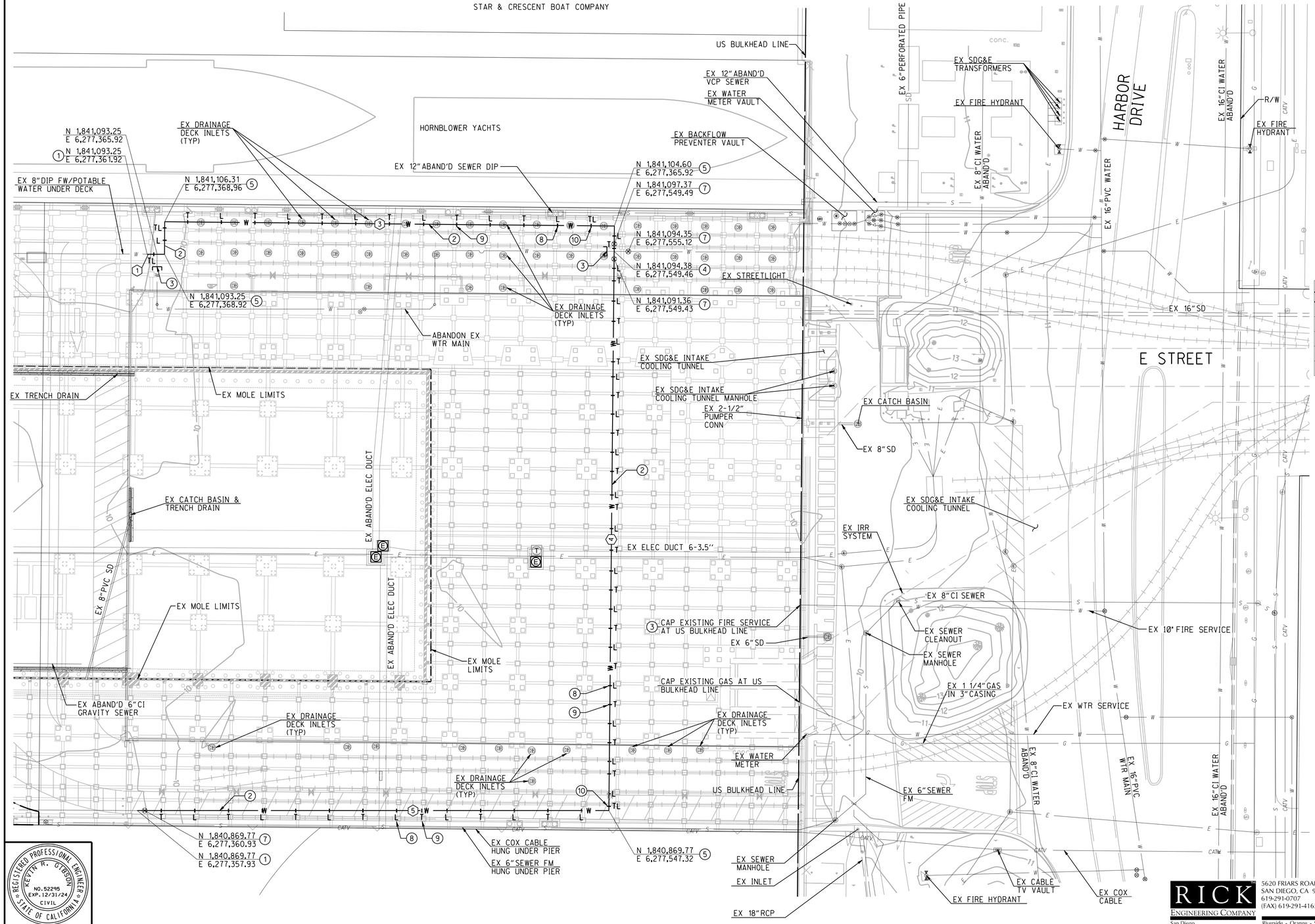

CONSTRUCTION NOTES

1. CUT EXISTING PIPE AND INSTALL PIPE JOINT CONNECTING NEW AND EXISTING PIPE
2. INSTALL 8" DIP WATER MAIN W/ EPOXY COATING AND RESTRAINED JOINTS UNDER PIER DECK
3. CUT, CAP, AND ABANDON EXISTING WATER
4. CUT EXISTING PIPE AND INSTALL TEE
5. INSTALL 90° BEND W/ RESTRAINED JOINTS
7. INSTALL ISOLATION VALVES
8. INSTALL LONGITUDINAL BRACKET ASSEMBLY (L) AND HANGER (TOTAL OF 30), SEE DETAIL B 6 6
9. INSTALL TRANSVERSE BRACKET ASSEMBLY (T) AND HANGER (TOTAL OF 28), SEE DETAIL A 6 6
10. INSTALL TRANSVERSE/LONGITUDINAL BRACKET ASSEMBLY (TL) AND HANGER (TOTAL OF 4), SEE DETAIL A 6 6 COMBINED WITH DETAIL B 6 6

WATER DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	S90°00'00"E		7.00'	8" DIP W/ EPOXY COATING AND RESTRAINED JOINTS
2	N00°10'00"E		13.07'	8" DIP W/ EPOXY COATING AND RESTRAINED JOINTS
3	S89°27'21"E		180.61'	8" DIP W/ EPOXY COATING AND RESTRAINED JOINTS
4	S00°32'39"W		234.84'	8" DIP W/ EPOXY COATING AND RESTRAINED JOINTS
5	N90°00'00"W		189.40'	8" DIP W/ EPOXY COATING AND RESTRAINED JOINTS

NOTE:
1. FOR ALL DRY UTILITY WORK, SEE SHEETS 32-44.
2. FOR UTILITY DEMOLITION SEE SHEET 4

REGISTERED PROFESSIONAL ENGINEER — KEVIN R. GIBSON — NO. 52295 EXP. 12/31/24 CIVIL — STATE OF CALIFORNIA

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REVISIONS — DATE / APPROVED

PORT of SAN DIEGO — Waterfront of Opportunity

DESIGNED	K.NGUYEN
DRAWN	K.NGUYEN
CHECKED	N.DORNER

APPROVAL RECOMMENDED — DISTRICT PROJECT MANAGER
APPROVED — DISTRICT MANAGER-DESIGN

RICK ENGINEERING COMPANY
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SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

UTILITY PLAN

DATE 4/26/2023
A/E NO. C2
SHEET 5 OF 44
DRAWING NO. EM-2022-06
REV.

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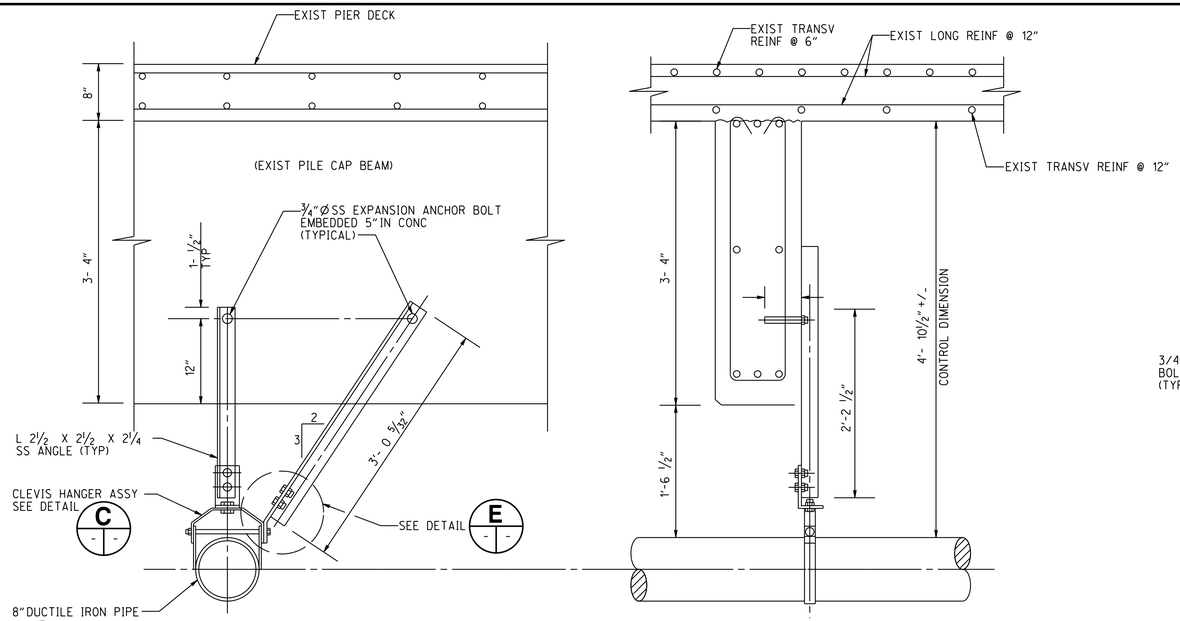
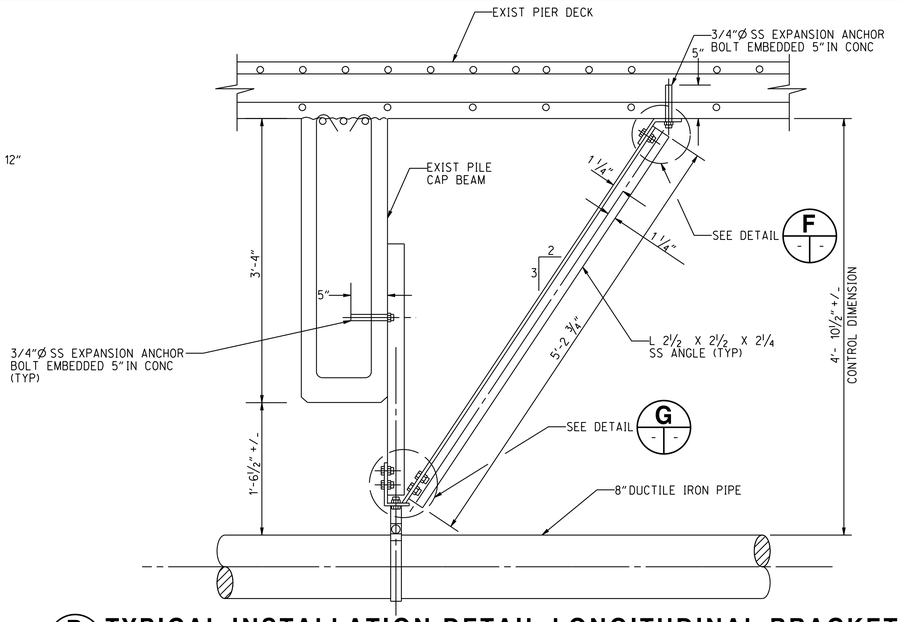


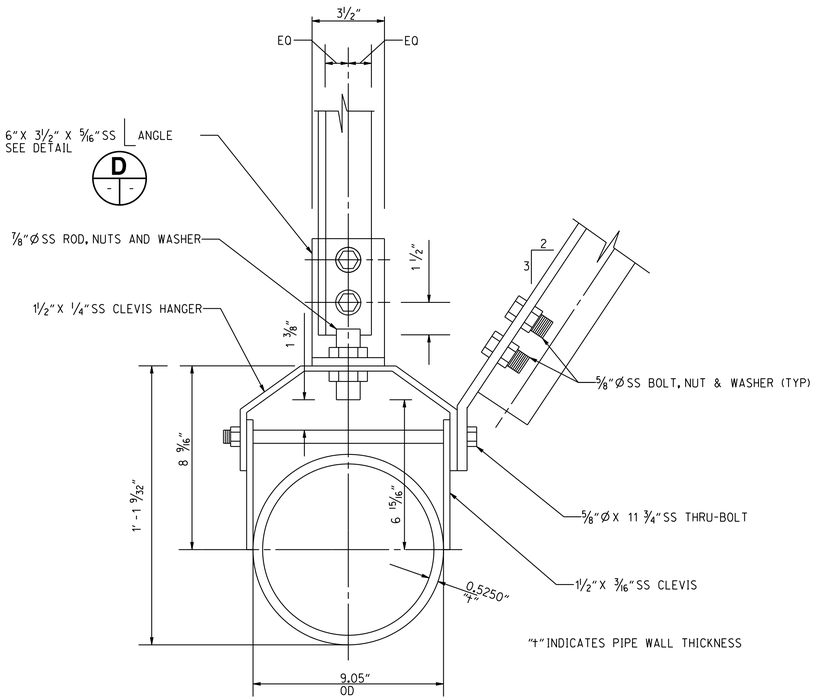
A TYPICAL INSTALLATION DETAIL-TRANSVERSE BRACKET ASSEMBLY

NOT TO SCALE



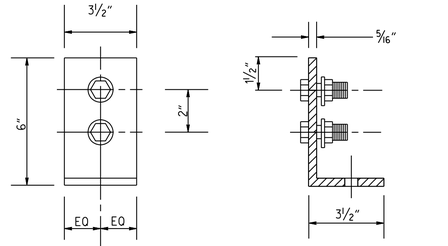
B TYPICAL INSTALLATION DETAIL-LONGITUDINAL BRACKET ASSEMBLY

NOT TO SCALE



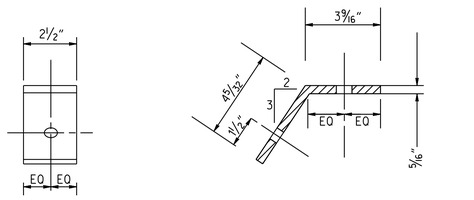
C STAINLESS STEEL ADJUSTABLE CLEVIS HANGER

NOT TO SCALE



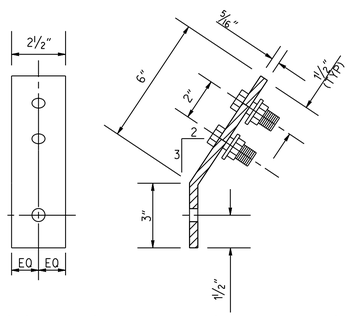
D DETAIL-SS 'L' ANGLE BRACKET

NOT TO SCALE



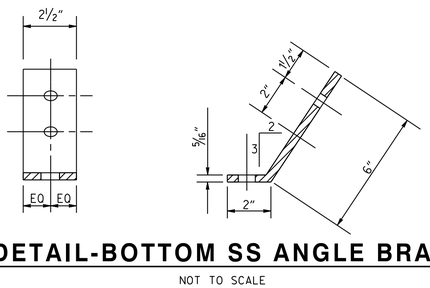
F DETAIL-TOP SS ANGLE BRACKET

NOT TO SCALE



E DETAIL-SS ANGLE BRACKET (@CLEVIS)

NOT TO SCALE



G DETAIL-BOTTOM SS ANGLE BRACKET

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — KEVIN R. GIBSON — NO. 52295 — EXP. 12/31/24 — CIVIL — STATE OF CALIFORNIA

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REVIEWED BY:
ENGINEER OF RECORD
DATE:

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SPEC NO. 2022-26	WBS NO. OC-0059-01
REFERENCES	
PROJECT ENGINEER	
CONTRACTOR	
CONSTRUCTION STARTED	
CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	K.NGUYEN
DRAWN	K.NGUYEN
CHECKED	N.DORNER

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

UTILITY DETAILS

DATE	4/26/2023
A/E NO.	C3
SHEET	6 OF 44
DRAWING NO.	EM-2022-06
REV.	

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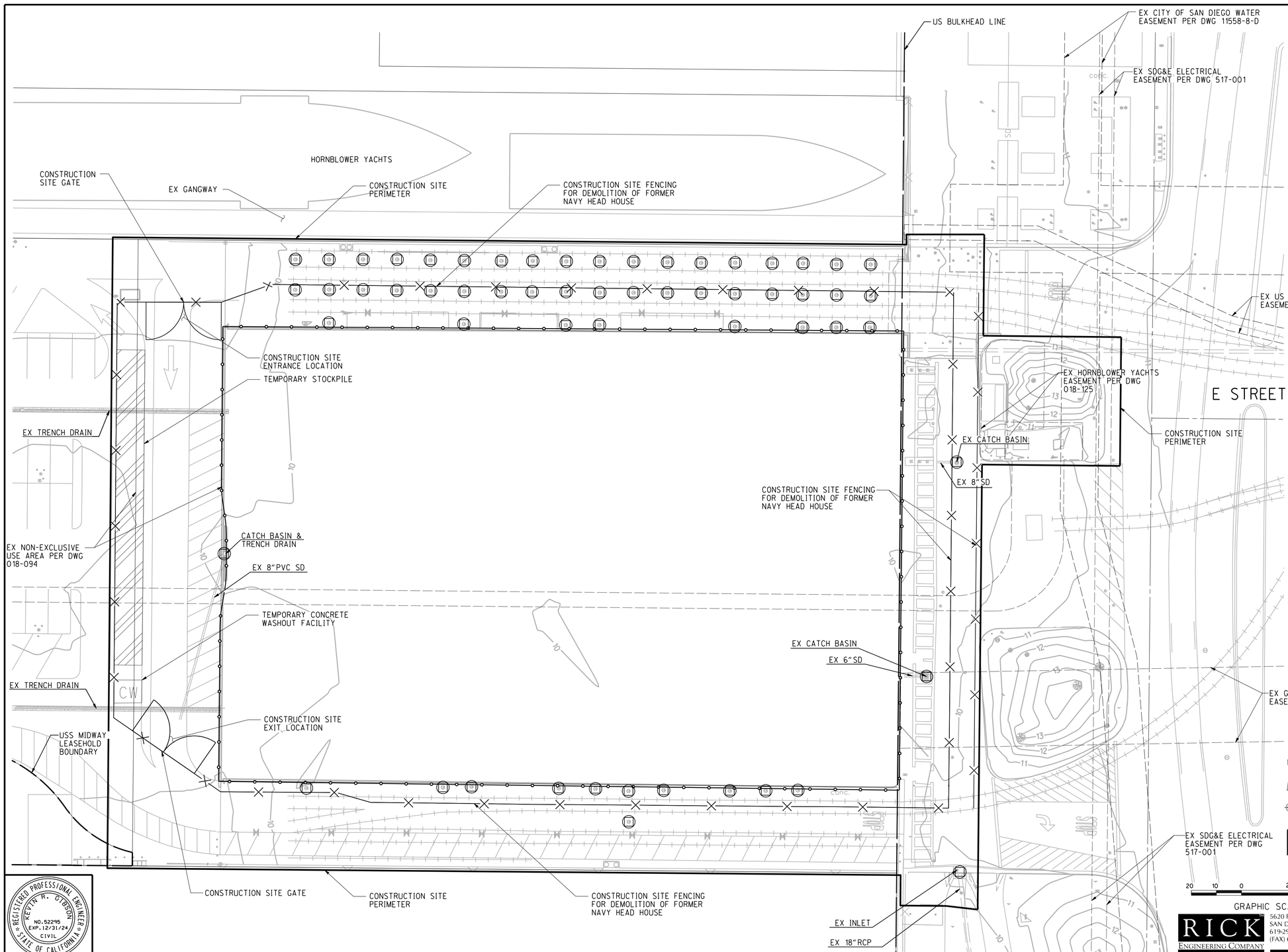

LEGEND

	SYMBOL
CONSTRUCTION SITE PERIMETER	
PRODUCT TO BE DETERMINED BY SWPPP REGULATIONS: FIBER ROLL, COMPOST FILTERSOCK, OR GRAVEL BAGS	
CONSTRUCTION SITE FENCING	
CONSTRUCTION SITE GATE	
TEMPORARY DRAINAGE INLET PROTECTION PER SHT 8	
TEMPORARY CONCRETE WASHOUT FACILITY	CW
TEMPORARY STOCKPILE	

NOTE:
CONTRACTOR TO IMPLEMENT STREET SWEEPING PER CASQA SC-7 AT ENTRANCE/EXIT LOCATIONS.

REGISTERED PROFESSIONAL ENGINEER
KEVIN R. GIBSON
NO. 52295
EXP. 12/31/24
CIVIL
STATE OF CALIFORNIA

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CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	K.NGUYEN
DRAWN	K.NGUYEN
CHECKED	N.DORNER

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

EROSION CONTROL PLAN

DATE	4/26/2023
A/E NO.	C4
SHEET	7 OF 44
DRAWING NO.	EM-2022-06
REV.	

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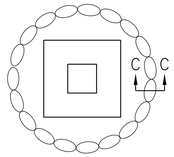
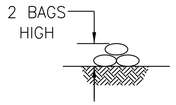


GRAVEL BAGS AROUND
AREA DRAINS



SECTION C-C
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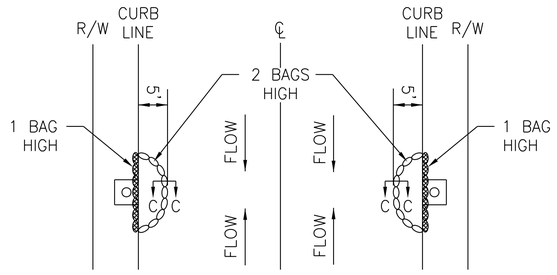

BAGS AROUND INLETS @ SUMP
NO SCALE

REGISTERED PROFESSIONAL ENGINEER
KEVIN R. GIBSON
NO. 52295
EXP. 12/31/24
CIVIL
STATE OF CALIFORNIA

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ENGINEER OF RECORD

DATE:

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Waterfront of Opportunity

DESIGNED	K.NGUYEN
DRAWN	K.NGUYEN
CHECKED	N.DORNER

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER

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SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

EROSION CONTROL DETAILS

DATE	4/26/2023
A/E NO.	C5
SHEET	8 OF 44
DRAWING NO.	EM-2022-06
REV.	

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\\Civil-Share\Projects\19710\Navy Pier Freedom Park\Civil\SP Graphics\19710 Erosion Control Details 2022.dgn
21-Jun-2023 09:49

TRAFFIC CONTROL NOTES:

1. VALIDATION: THE TRAFFIC CONTROL PLAN IS NOT VALID UNTIL WORK DATES ARE APPROVED. THE CONTRACTOR SHALL, PER SECTION 601.2.1.1 OF THE "WHITE BOOK", CALL THE ENGINEERING OFFICE A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO STARTING WORK, OR FIVE (5) WORKING DAYS WHEN THE WORK WILL AFFECT A TRAFFIC SIGNAL.
2. STANDARDS: THE TRAFFIC CONTROL PLAN SHALL CONFORM TO THE MOST RECENT ADOPTED EDITION OF EACH OF THE FOLLOWING MANUALS:

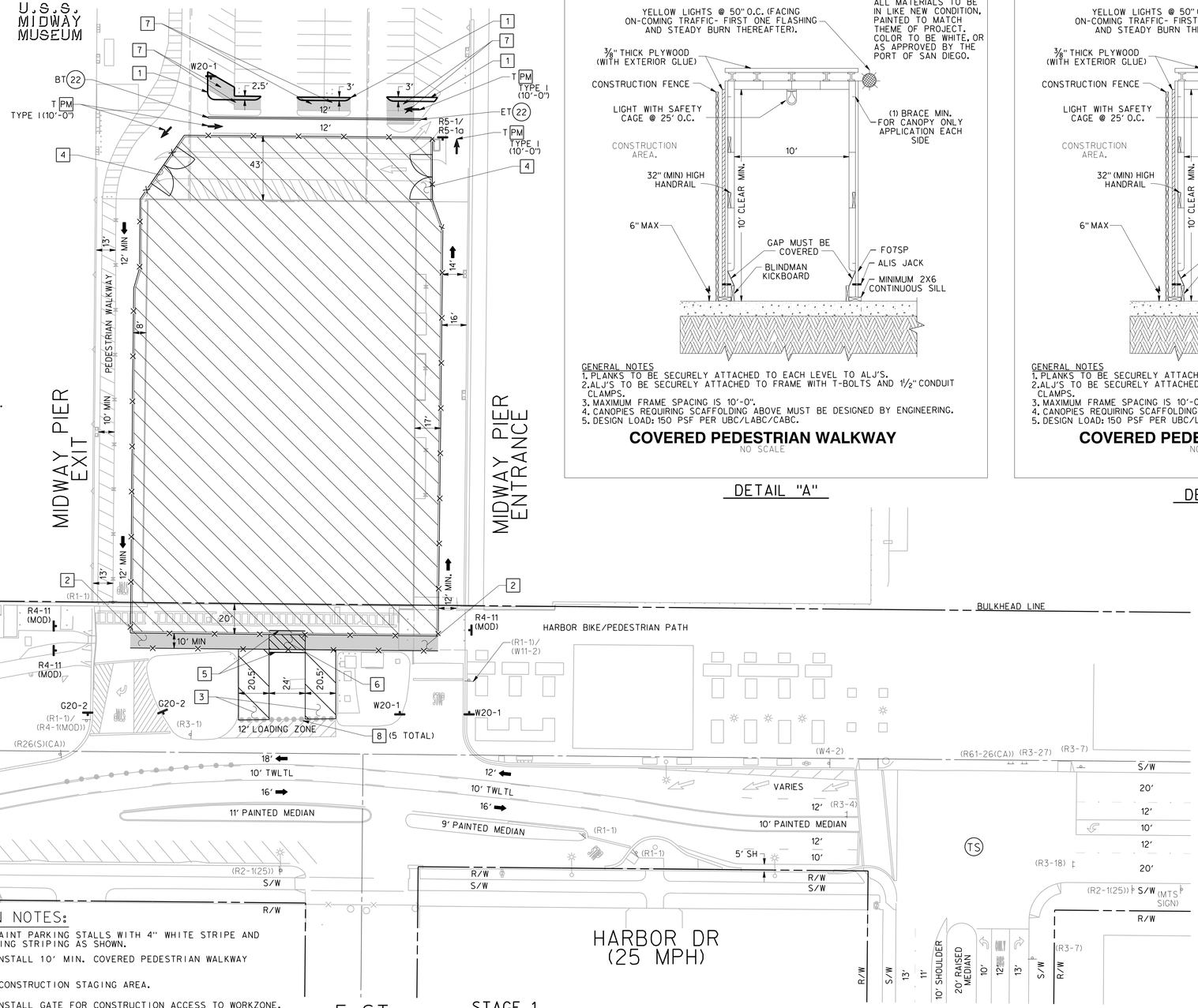
DOCUMENT NO.	EDITION	DESCRIPTION
PWPI060121-10	2023	CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD REV 7)
	2021	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREEN" BOOK)
	2021	CITY OF SAN DIEGO STANDARD DRAWINGS

3. NOTIFICATIONS: THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY EXCAVATION, CONSTRUCTION OR TRAFFIC CONTROL:

FIRE DEPARTMENT DISPATCH	(STREET OR ALLEY CLOSURE)	(858) 573-1300
POLICE DEPARTMENT DISPATCH	(STREET OR ALLEY CLOSURE)	(619) 495-7800
UNDERGROUND SERVICE ALERT	(ANY EXCAVATION)	(800) 422-4133
WASTE MANAGEMENT DEPT.	(REFUSE COLLECTION)	(858) 694-7000
STREET DIVISION/ELECTRICAL	(TRAFFIC SIGNALS)	(619) 527-7500
SAN DIEGO TRANSIT	(BUS STOPS)	(619) 238-0100 X424
MTDB	(TAXI ZONES)	(619) 595-7030

THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS AND TENANTS A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CLOSURE OF DRIVEWAYS. THE CONTRACTOR SHALL POST SIGNS NOTIFYING THE PUBLIC A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CLOSURE OF STREETS.

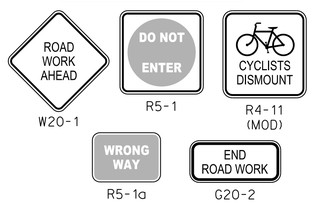
4. POSTING PARKING RESTRICTIONS: THE CONTRACTOR SHALL POST TOW-AWAY/NO PARKING SIGNS TWENTY-FOUR (24) HOURS IN ADVANCE OF PARKING REMOVAL. SIGNS SHALL INDICATE SPECIFIC DAYS, DATES AND TIMES OF RESTRICTIONS.
5. EXCAVATIONS. EXCEPT WHEN OTHERWISE SHOWN ON THE PLANS, ALL TRENCHES SHALL BE BACKFILLED OR TRENCH-PLATED AT THE END OF EACH WORK DAY. AN ASPHALT RAMP SHALL BE PLACED AROUND EACH TRENCH PLATE TO PREVENT THE PLATE FROM BEING DISLODGED. UPON COMPLETION OF EXCAVATION BACKFILL. THE CONTRACTOR SHALL PROVIDE A SATISFACTORY SURFACE FOR TRAFFIC. WHEN CONSTRUCTION OPERATIONS ARE NOT ACTIVELY IN PROGRESS. THE CONTRACTOR SHALL MAINTAIN ALL TRAVEL LANES OPEN TO TRAFFIC. EXCEPT AS SHOWN IN PLANS.
6. RESTORATION OF TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL REPAIR OR REPLACE TRAFFIC CONTROL DEVICES INCLUDING TRAFFIC SIGNS, STRIPING, PAVEMENT MARKINGS, LEGENDS, CURB MARKINGS, LOOP DETECTORS, TRAFFIC SIGNAL EQUIPMENT, ETC. DAMAGED OR REMOVED AS A RESULT OF OPERATIONS AND NOT DESIGNATED FOR REMOVAL. REPAIRS AND REPLACEMENTS SHALL BE EQUAL TO EXISTING IMPROVEMENTS.
7. CHANGE IN WORK. THE RESIDENT ENGINEER WILL OBSERVE THESE TRAFFIC CONTROL PLANS IN OPERATION AND RESERVES THE RIGHT TO MAKE CHANGES AS THE FIELD CONDITIONS WARRANT SUCH CHANGES SHALL SUPERSEDE THESE PLANS.
8. FOR WORK NOT COVERED BY THESE TRAFFIC CONTROL PLANS. THE CONTRACTOR SHALL, PER 3-8.2 OF THE CONTRACT SPECIAL PROVISIONS, PREPARE TRAFFIC CONTROL WORKING DRAWINGS AND SUBMIT THEM TO THE RESIDENT ENGINEER. THE CONTRACTOR SHALL ALLOW A MINIMUM OF TWENTY (20) WORKING DAYS FOR REVIEW OF THE WORKING DRAWINGS. UPON APPROVAL OF THE TRAFFIC CONTROL PLAN, THE ENGINEER TRAFFIC CONTROL SECTION WILL ISSUE A TRAFFIC CONTROL PLAN (TCP) PERMIT FOR THIS WORK.



CONSTRUCTION NOTES:

1. CONTRACTOR TO PAINT PARKING STALLS WITH 4" WHITE STRIPE AND REMOVE CONFLICTING STRIPING AS SHOWN.
2. CONTRACTOR TO INSTALL 10' MIN. COVERED PEDESTRIAN WALKWAY PER DETAIL "A".
3. TRASH BINS AND CONSTRUCTION STAGING AREA.
4. CONTRACTOR TO INSTALL GATE FOR CONSTRUCTION ACCESS TO WORKZONE.
5. CONTRACTOR TO INSTALL SLIDING GATES ADJACENT TO COVERED WALKWAY FOR CONSTRUCTION ACCESS TO WORKZONE.
6. CONTRACTOR TO INSTALL 15' MIN. COVERED PEDESTRIAN WALKWAY ADJACENT TO CONSTRUCTION ACCESS PER DETAIL "B".
7. REMOVED PARKING STALLS (6 TOTAL).
8. REMOVED GLUE-DOWN DELINEATORS.

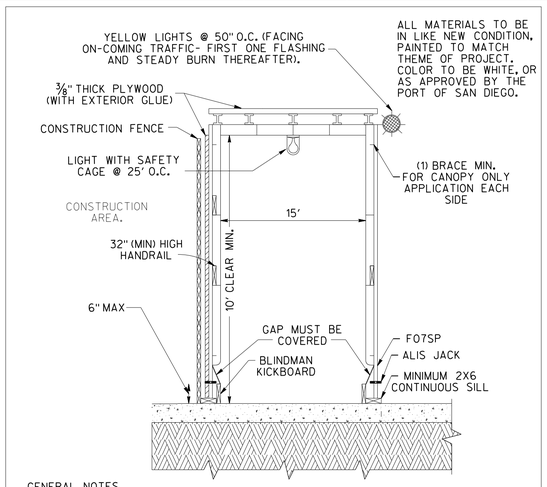
SIGNS THIS SHEET:



GENERAL NOTES
1. PLANKS TO BE SECURELY ATTACHED TO EACH LEVEL TO ALJ'S.
2. ALJ'S TO BE SECURELY ATTACHED TO FRAME WITH T-BOLTS AND 1½" CONDUIT CLAMPS.
3. MAXIMUM FRAME SPACING IS 10'-0".
4. CANOPIES REQUIRING SCAFFOLDING ABOVE MUST BE DESIGNED BY ENGINEERING.
5. DESIGN LOAD: 150 PSF PER UBC/LABC/CABC.

COVERED PEDESTRIAN WALKWAY
NO SCALE

DETAIL "A"



GENERAL NOTES
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5. DESIGN LOAD: 150 PSF PER UBC/LABC/CABC.

COVERED PEDESTRIAN WALKWAY
NO SCALE

DETAIL "B"

LEGEND

TRAFFIC SIGNAL	TS
RELOCATE	RL
REMOVE AND SALVAGE	RS
GRIND	GR
PAVEMENT MARKING	PM
STRIPING DETAIL	B=BEGIN E=END — B 9
EXISTING SIGN	(R1-1)
EXISTING MAST ARM MOUNTED SIGN	(R3-4)
PROPOSED SIGN	W20-1
TYPE III BARRICADE	
TYPE III BARRICADE W/ SIGN	C30
FLASHING ARROW SIGN	FAS
FLASHING BEACON	
FLAGGER	
EXISTING MARKINGS	
PROPOSED MARKINGS	
WORK ZONE	
CONES/GLUED DELINEATORS	
STREET CENTERLINE	
RIGHT-OF-WAY	
CONSTRUCTION FENCE	
VEHICLE DIRECTION OF TRAVEL	

STAGE 1

WORK SCOPE:
DEMOLITION OF FORMER NAVY HEAD HOUSE.

GRAPHIC SCALE 1" = 40'

REGISTERED PROFESSIONAL ENGINEER — BRIAN R. STEPHENSON — NO. 69471 — CIVIL — STATE OF CALIFORNIA

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rickengineering.com
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ENGINEER OF RECORD
DATE:

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REFERENCES	
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CONTRACTOR	
CONSTRUCTION STARTED	
CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO — Waterfront of Opportunity

DESIGNED	P. JOHNSON
DRAWN	P. JOHNSON
CHECKED	B. STEPHENSON

APPROVAL RECOMMENDED — DISTRICT PROJECT MANAGER
APPROVED — DISTRICT MANAGER-DESIGN

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

TRAFFIC CONTROL PLAN- PHASE 1/1

DATE	12/21/2022
A/E NO.	C6
SHEET	9 OF 44
DRAWING NO.	EM-2022-06
REV.	

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A. GENERAL

1. DIMENSIONS AND ELEVATIONS INDICATED FOR EXISTING CONDITIONS ARE AS MEASURED IN THE FIELD OR IDENTIFIED IN PAST DRAWINGS AND SHOULD BE CONSIDERED AS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, STATIONING AND ELEVATIONS AND NOTIFY THE ENGINEER OF ANY SIGNIFICANT DISCREPANCIES FOUND. IN NO CASE SHALL DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THE STRUCTURAL DRAWINGS.
2. PLANS AND DETAILS SHOWN ON THESE DRAWINGS OF THE EXISTING CONDITIONS ARE FROM THE ORIGINAL CONSTRUCTION DOCUMENTS AND AS FOUND IN PAST DEMOLITION PLANS FOR THIS BUILDING (SEE REFERENCE BELOW). THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING ALL ASSOCIATED WORK.
3. IN CASE OF CONFLICT, NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
4. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
5. ALL ELEVATIONS SHOWN ON DRAWINGS ARE BASED ON MLLW (EL 0.00)
6. THE CONTRACTOR SHALL NOT INTERRUPT UTILITY SERVICES WITHOUT 72 HOUR ADVANCED WRITTEN AUTHORIZATION FROM THE DISTRICT.
7. ALL FRESH WATER, ELECTRICAL UTILITIES, VAULTS AND JUNCTION BOXES SERVING THE BUILDING ONLY SHALL BE TERMINATED BELOW DECK AT THEIR PRESENT LOCATIONS.
8. INDICATED SIZE FOR UTILITIES IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY SIZES OF UTILITIES.
9. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER THESE GENERAL NOTES AND TYPICAL DETAILS. TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE.
10. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN THE AREA TO BE EXCAVATED, BEFORE BEGINNING EXCAVATION.
11. NO PIPES, DUCTS, SLEEVES, CHASES, ETC. SHALL BE PLACED IN SLABS, BEAMS, OR WALLS, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.
12. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CBC.
13. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, JOB SITE SAFETY, AND SEQUENCES (EXCEPT DEMOLITION SEQUENCES SPECIFICALLY DEFINED IN CONTRACT DOCUMENTS).
14. EACH SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS RELATING TO HIS WORK BEFORE BEGINNING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE CONTRACTOR IMMEDIATELY. FAILURE TO REPORT SUCH DISCREPANCIES INDICATES THE SUBCONTRACTOR'S ACCEPTANCE OF SUCH CONDITIONS.
15. THE CONTRACTOR SHALL UTILIZE NON-DESTRUCTIVE MEANS TO LOCATE REINF. PRIOR TO CORE DRILLING. PRESERVE CRITICAL BARS INDICATED ON PLANS.

B. SCHEDULING OF WORK

1. THE SCHEDULING AND PHASING OF THE WORK SHALL BE COMPLETED AS REQUIRED BY THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE TRAFFIC, LAYDOWN AREAS, UTILITY SHUTOFFS, ACCESS TO WORK SITES, MATERIAL AND EQUIPMENT STORAGE, ALTERNATE TRAFFIC ROUTES, PARKING AND ANY OTHER ITEMS AS REQUIRED BY THE ENGINEER WHO WILL REVIEW THESE MATTERS WITH THE SITE TENANTS.
2. ALL UTILITIES SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE SHOWN OR SPECIFIED, DURING ALL PHASES OF CONSTRUCTION. IN CASE OF A UTILITY RELATED EMERGENCY IMMEDIATELY CONTACT THE ENGINEER.

C. REFERENCE TO PAST PROJECT DRAWINGS

1. THE FOLLOWING PORT OF SAN DIEGO DRAWINGS PREVIOUSLY PREPARED FOR THIS PROJECT ARE REFERENCED BELOW AND UTILIZED IN THE PRODUCTION OF THIS PLAN SET.

DRAWING(S)	CONSULTANT DRAWING NUMBER	DATE
FORMER NAVY PIER HEAD HOUSE DEMOLITION, SAN DIEGO, CA. SAN DIEGO UNIFIED PORT DISTRICT	HARRIS & ASSOC./TRANSYSTEMS DRAWING NO. 2246 47 SHEETS	APRIL 2012

REGISTERED PROFESSIONAL ENGINEER TROY E. GILLUM 19515 Exp. 6/30/2024 CIVIL STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

D. DESIGN CRITERIA: NEW WORK

1. SCREEN ROOM DECK INFILL
   DEAD LOAD = 225 PSF
   FUTURE DEAD LOAD = 250 PSF
   LIVE LOAD = 600 PSF

E. DEMOLITION AND WORKING CONDITIONS

1. WORK TO BE DONE INCLUDES DEMOLITION AND REMOVAL OF ALL BUILDING STRUCTURAL COMPONENTS ABOVE THE EXISTING PIER DECK. REFER TO SHEETS S1 – S20 FOR INFORMATION INDICATING THE NATURE OF EXISTING BUILDING STRUCTURAL COMPONENTS TO BE DEMOLISHED AND REMOVED. THE INFORMATION SHOWN ON THESE DRAWINGS CONSTITUTE ONLY THE STRUCTURAL BUILDING COMPONENTS. REFER TO OTHER DISCIPLINE DRAWING SHEETS FOR ADDITIONAL INFORMATION.
2. THE CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE SCOPE OF WORK. UNLESS OTHERWISE NOTED THEY DO NOT INDICATE THE METHOD OF DEMOLITION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL DEMOLITION METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES SHALL NOT INCLUDE INSPECTION OF PROTECTIVE MEASURES OR OF THE CONSTRUCTION PROCEDURES REQUIRED FOR SAME, WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY SUPPORT SERVICE PERFORMED BY PROJECT REPRESENTATIVES SHALL NOT BE CONSTRUED AS CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE PERFORMED BY OTHERS. THESE SUPPORT SERVICES ARE PERFORMED SOLELY FOR THE PURPOSE OF EVALUATING CONTRACTOR'S CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS. THEY DO NOT WARRANT CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF DEMOLITION.
3. DEMOLITION SHALL BE IN ACCORDANCE WITH THE APPLICABLE REGULATIONS OF THE CITY OF SAN DIEGO BUILDING DEPARTMENT AND OTHER JURISDICTIONS HAVING AUTHORITY OVER THE WORK.
4. ALL APPLICABLE PERMITS SHALL BE OBTAINED FROM JURISDICTIONS HAVING AUTHORITY OVER THE WORK PRIOR TO COMMENCING WORK.
5. THE INFORMATION CONTAINED ON THESE DRAWINGS IS BASED ON HISTORICAL RECORD DRAWINGS AND ONLY INTEND TO PROVIDE A GENERAL UNDERSTANDING OF THE EXISTING BUILDING STRUCTURAL FRAMING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING AND THOROUGHLY FAMILIARIZING THEMSELVES WITH THE SITE PRIOR TO BIDDING AND IS RESPONSIBLE FOR SITE INVESTIGATIONS NECESSARY TO PROVIDE AN ACCURATE BID.
6. FREE-FALL OF DEMOLITION DEBRIS TO THE PIER DECK IS PROHIBITED. DEMOLITION AND REMOVAL OF ALL BUILDING COMPONENTS SHALL BE DONE IN A CONTROLLED MANNER BY LOWERING TO GROUND TO AVOID FREE-FALL IMPACT OF DEMOLITION DEBRIS TO THE PIER DECK LEVEL. THE CONTRACTORS SHALL SUBMIT A DEMOLITION AND REMOVAL PLAN FOR THE DISTRICT'S APPROVAL, AS SPECIFIED, PRIOR TO STARTING ANY DEMOLITION ACTIVITIES.
7. THE EXISTING PIER DECK (BUILDING FIRST FLOOR) SHALL BE PROTECTED. USE OF STEEL TREAD EQUIPMENT BEARING DIRECTLY ON THE PIER DECK IS PROHIBITED TO AVOID DAMAGE TO THE STRUCTURE. USE OF TEMPORARY PLATING IS ALSO REQUIRED TO PREVENT PIER DECK DAMAGE FROM CONTRACTOR STORAGE BINS AND EQUIPMENT WITH STEEL PAD ROLLERS.
8. ANY DAMAGE TO EXISTING CONCRETE PIER DECK/FLOOR SYSTEM RESULTING FROM CONTRACTOR DEMOLITION WORK SHALL BE REPAIRED TO THE DISTRICT'S SATISFACTION AT NO ADDITIONAL COST TO THE DISTRICT.
9. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF THE DEMOLITION WORK.
10. CONTRACTOR CONSTRUCTION EQUIPMENT, DEBRIS AND MATERIAL STORAGE IS PROHIBITED WITHIN 12 FT OF ALL PUBLIC AREAS AND PUBLIC TRAVEL LANES.
11. A BARRICADE/FENCE SHALL BE INSTALLED AT THE EDGE OF THE PROJECT LIMITS TO MAXIMIZE THE WORK SPACE REQUIRED TO PERFORM THE WORK. THE BARRICADE WILL ALWAYS BE CLOSED DURING DEMOLITION ACTIVITIES EXCEPT WHEN MATERIALS ARE BEING EXPORTED.
12. A DEBRIS NET CURTAIN SHALL BE USED TO CONTAIN FALLING AND/OR FLYING DEBRIS INSIDE THE LIMITS OF THE WORK AREA. THE CRANE THAT WILL HOLD THE DEBRIS SCREEN WILL BE PLACED IN BETWEEN THE BUILDING TO BE DEMOLISHED AND INSIDE THE FENCED AREA.
13. HAZARDOUS MATERIALS (ASBESTOS AND LEAD-BASED PAINT) ARE KNOWN TO EXIST WITHIN THE STRUCTURE. REFERENCE REPORTS FOR SURVEY OF HAZARDOUS BUILDING MATERIALS ARE AVAILABLE. DEMOLITION SHALL NOT OCCUR UNTIL ALL HAZARDOUS MATERIALS INCLUDING BUT NOT LIMITED TO ASBESTOS, LEAD OR ANY OTHER KNOWN HAZARDOUS SUBSTANCE ARE REMOVED AND LEGALLY DISPOSED OF IN AN APPROVED MANNER AND THE BUILDING IS RELEASED FOR DEMOLITION BY A CERTIFIED INDUSTRIAL HYGENIST (CIH).
14. THE CONTRACTOR SHALL PREPARE A DEMOLITION AND REMOVAL PLAN FOR APPROVAL BY THE ENGINEER. THE PLAN SHALL DESCRIBE THE FOLLOWING:
   - DEMOLITION EQUIPMENT
   - TEMPORARY PEDESTRIAN AND VEHICLE TRAFFIC PLAN
   - DEMOLITION METHODOLOGY(S)
   - NOISE AND DUST ABATEMENT (WATER SHALL NOT BE PERMITTED TO ENTER SAN DIEGO BAY)
   - UTILITY DISCONNECT AND CAPPING
   - MATERIAL TRANSFER
   - MATERIAL DISPOSAL AND RECYCLING
   - EFFORTS TO REDUCE DISRUPTION TO THE MIDWAY MUSEUM, HORNBLOWER, ACE PARKING AND FLAGSHIP CRUISES.
15. PRIOR TO COMMENCING DEMOLITION, THE CONTRACTOR SHALL VERIFY THE LOCATION AND SIZE OF ANY EXISTING UTILITIES SERVING OR EMBEDDED IN THE STRUCTURE. VERIFICATION SHALL BE MADE FROM AVAILABLE SOURCES SUCH AS, BUT NOT LIMITED TO, UTILITY COMPANIES, AS-BUILT DRAWINGS, SITE INVESTIGATIONS, ETC.
16. PRIOR TO SUBMITTING BIDS, THE BIDDER SHALL SCHEDULE AND VISIT THE SITE TO REVIEW THE CONDITIONS AFFECTING DEMOLITION AND CONSTRUCTION INCLUDING PIPING, CONDUITS AND SUPPORTS; WALLS AND FENCES; LIGHTS AND UTILITIES. DEVIATIONS TO AS-BUILT DRAWINGS MAY HAVE OCCURRED DURING MODIFICATIONS, REPAIRS OR DETERIORATION OF THE EXISTING STRUCTURE.
17. ALL ITEMS INDICATED "REMOVE AND SALVAGE" FOR RE-USE SHALL BE TAGGED, STORED AND PROTECTED. THESE ITEMS SHALL BE RE-INSTALLED BY THE CONTRACTOR OR GIVEN TO PORT GENERAL SERVICE STAFF WHERE INDICATED AFTER COMPLETION OF ASSOCIATED WORK.
18. UNLESS NOTED OTHERWISE, MATERIAL TO BE "REMOVED" SHALL BE REMOVED AND DISPOSED OFF-SITE AT CONTRACTOR'S EXPENSE.
19. CONTRACTOR SHALL LIMIT LOADING ON PILE-SUPPORTED WHARF AS INDICATED ON SHEET S2, CONCENTRATED LOADS FROM TRUCKS AND CRANES SHALL BE PLACED OVER RAILROAD AND CRANE RAIL GIRDERS HAVING MAX. CAPACITY AS INDICATED ON SHEET S2 OUTRIGGERS FOR MOBILE TRUCK CRANES SHALL USE SPREADER BEAMS OR OTHER MEANS TO DISTRIBUTE LOAD DIRECTLY OVER PILES, USING THE TRIBUTARY AREA OF THE PILE AND 600 PSF TO DETERMINE THE MAXIMUM CAPACITY OF THE PILE.
20. CONTRACTOR SHALL LIMIT TRUCK TRAFFIC THROUGH THE BUILDING AND ON THE NORTH AND SOUTH SIDES OF THE BUILDING TO TRAVEL AREAS AND MAXIMUM LOADING AS INDICATED ON SHEET S2.
21. THE CONTRACTOR SHALL PROTECT THE EXISTING STRUCTURE AND IMPROVEMENTS DURING THE WORK. PROVIDE BRACING, SHORING AND SPREADER BEAMS AS NECESSARY FOR CONSTRUCTION LOADS.
22. EXISTING ASPHALT CONCRETE PAVEMENT ON MOLE PIER VARIES IN THICKNESS.

F. REINFORCED CONCRETE

1. CEMENT SHALL CONFORM TO ASTM C150, TYPE II.
2. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33.
3. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
4. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THESE NOTES.
5. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:
   CONCRETE BEAMS & DECK: 5,000 PSI
6. ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES SHALL COMPLY WITH ASTM C494 & C1017 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE, BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT (CALCIUM CHLORIDE SHALL NOT BE USED).
7. WATER/CEMENT RATIO SHALL NOT EXCEED 0.38 FOR 5,000 PSI.
8. MAXIMUM SLUMP SHALL BE 4" BEFORE THE ADDITION OF ADMIXTURES.
9. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4" CHAMFER.
10. REFER TO DRAWINGS OF OTHER DISCIPLINES FOR MOLDS, GROOVES, CLIPS, ORNAMENTS, OR GROUNDS REQUIRED TO BE CAST INTO CONCRETE.
11. ENGINEER SHALL REVIEW AND APPROVE MIX DESIGNS BEFORE INSTALLATION.

G. REINFORCING STEEL

1. BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60, FOR #5 AND LARGER, GRADE 40 FOR #4 AND SMALLER.
2. MINIMUM LAP SPLICES OF REINFORCING BARS SHALL BE AS FOLLOWS:
   A) CONCRETE: THE GREATER OF 36 BAR DIAMETERS OR 24" MINIMUM.
   STAGGER SPLICE LOCATION 2'-0" MINIMUM.
3. REINFORCING DETAILING, BENDING, AND PLACING SHALL BE IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
4. REINFORCING STEEL SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM AMOUNTS OF COVER FOR CAST-IN-PLACE CONCRETE:
   A) CONCRETE DEPOSITED AGAINST EARTH: 3"
   B) CONCRETE SURFACE (FORMED) EXPOSED TO EARTH OR WEATHER:
      #5 BAR AND SMALLER: 1-1/2"
      #6 THROUGH #18 BARS: 2"
   C) CONCRETE (FORMED) NOT EXPOSED TO EARTH OR WEATHER:
      SLABS AND WALLS: 1-1/2"
5. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS SHALL BE WELL SECURED IN POSITION WITH WIRE POSITIONERS BEFORE PLACING CONCRETE OR GROUT.

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
DATE

NOTE: THIS DRAWING MAY BE A REDUCED SCALE PRINT OF THE ORIGINAL DRAWING. UTILIZE GRAPHIC SCALES TO VERIFY IF DRAWING IS A REDUCTION, AND ADJUST SCALES ACCORDINGLY TO THE GRAPHIC SCALES SHOWN.

SPEC NO. 2022-26 WBS NO. OC-0059-01	100% DESIGN SUBMITTAL	03/29/2023	
REFERENCES			
PROJECT ENGINEER			
CONTRACTOR -			
CONSTRUCTION STARTED -			
CONSTRUCTION COMPLETED -			
COST - INSPECTOR -	REVISIONS	DATE / APPROVED	

PORT of SAN DIEGO Waterfront of Opportunity

DESIGNED TEG	APPROVAL RECOMMENDED	SAN DIEGO, CALIFORNIA
DRAWN TEG	PROJECT MANAGER	NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION
CHECKED JVP	APPROVED	STRUCTURAL NOTES
	ENGINEERING MANAGER	

DATE	12/21/2022
A/E NO.	S1
SHEET	10 OF 44
DRAWING NO.	EM-2022-06
REV.	A

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LEGEND

SYMBOL	ITEM
	600 PSF OR 20 TON TRUCK (H20; 32,000 LB AXLE)
	450 PSF OR 15 TON TRUCK (HS15-44; 24,000 LB AXLE)
	300 PSF OR 10 TON TRUCK (H10; 16,000 LB AXLE)
	300 PSF OR 10 TON TRUCK (H10; 16,000 LB AXLE)
	PIER FRAMING

STRUCTURAL DEMOLITION NOTES

1. WORK TO BE DONE INCLUDES DEMOLITION AND REMOVAL OF ALL BUILDING STRUCTURAL COMPONENTS ABOVE THE EXISTING PIER DECK. REFER TO SHEETS S1 – S20 FOR INFORMATION INDICATING THE NATURE OF EXISTING BUILDING STRUCTURAL COMPONENTS TO BE DEMOLISHED AND REMOVED. THE INFORMATION SHOWN ON THESE DRAWINGS CONSTITUTE ONLY THE STRUCTURAL BUILDING COMPONENTS. REFER TO OTHER DISCIPLINE DRAWING SHEETS FOR ADDITIONAL INFORMATION.
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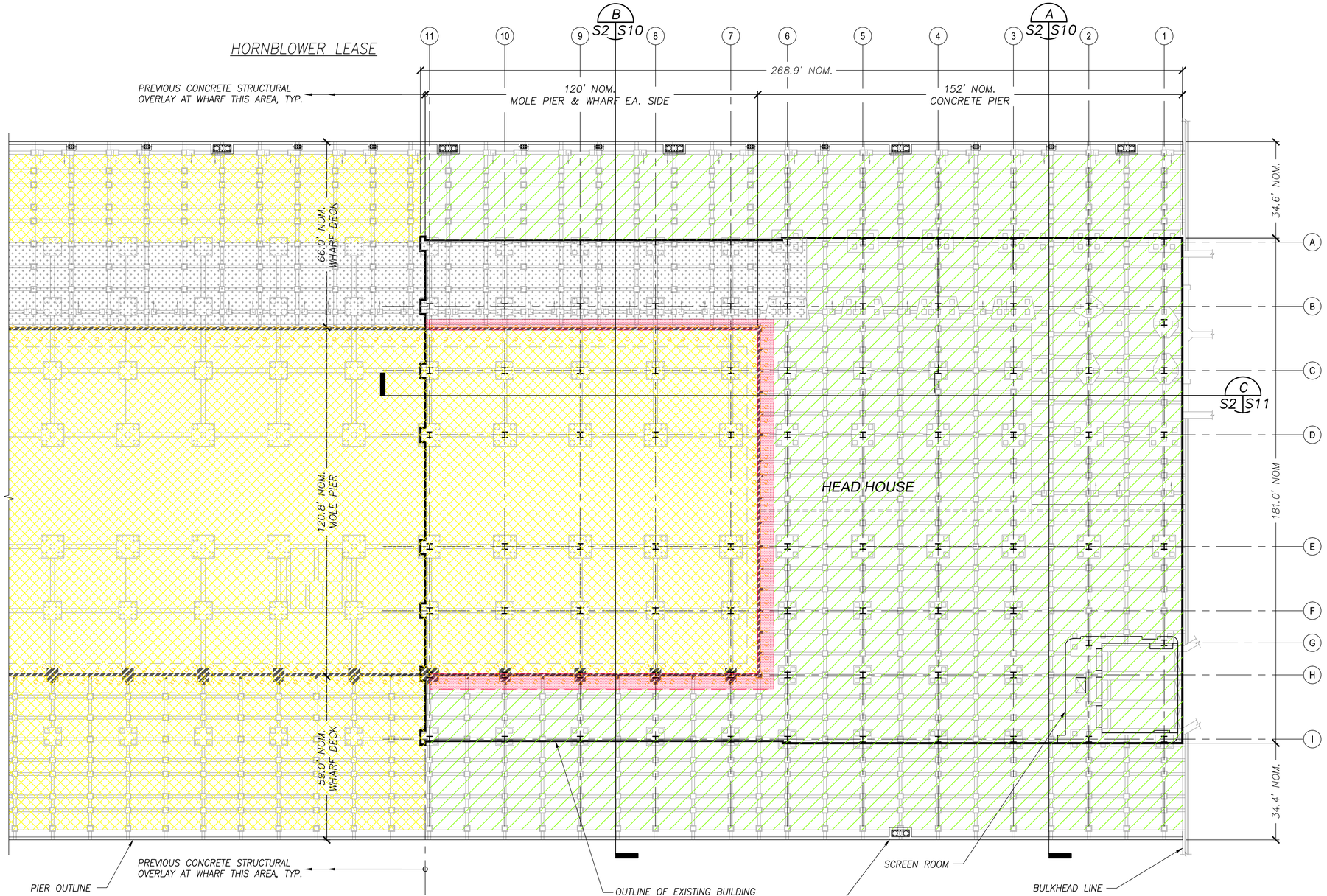

GENERAL PLAN
SCALE: 1" = 20'

NORTH

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
No. C-51511
Exp. 09/30/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
DATE

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PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN: TEG	APPROVED
CHECKED: JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

GENERAL PLAN

DATE 12/21/2022
A/E NO. S2
SHEET 11 OF 44
DRAWING NO. EM-2022-06
REV. A

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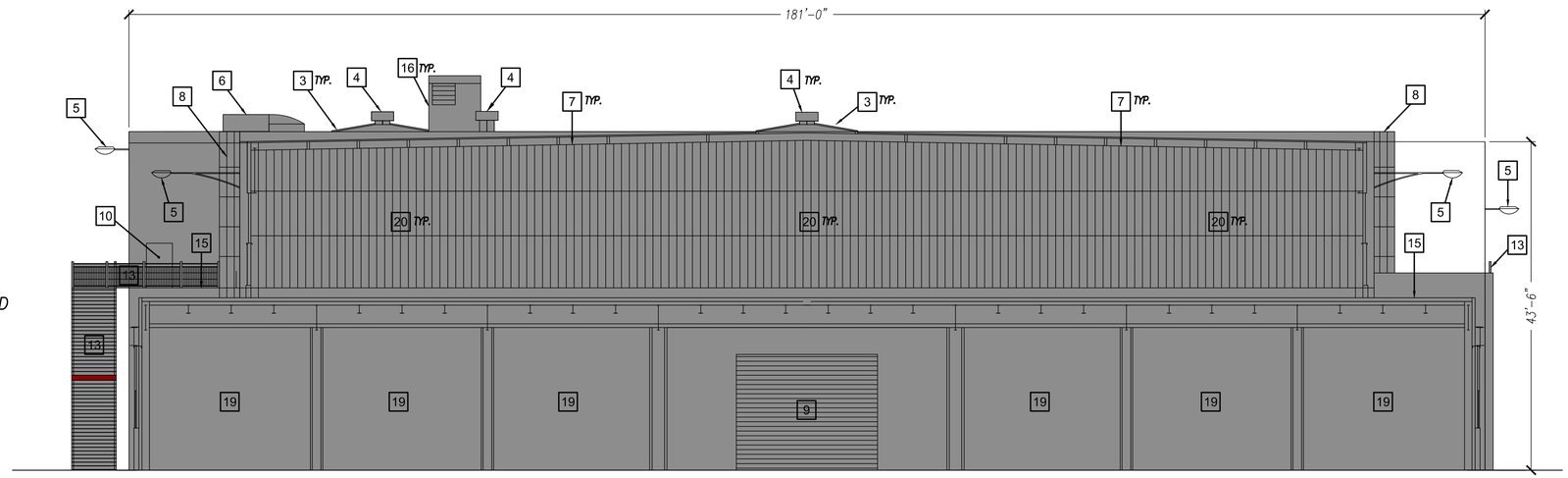


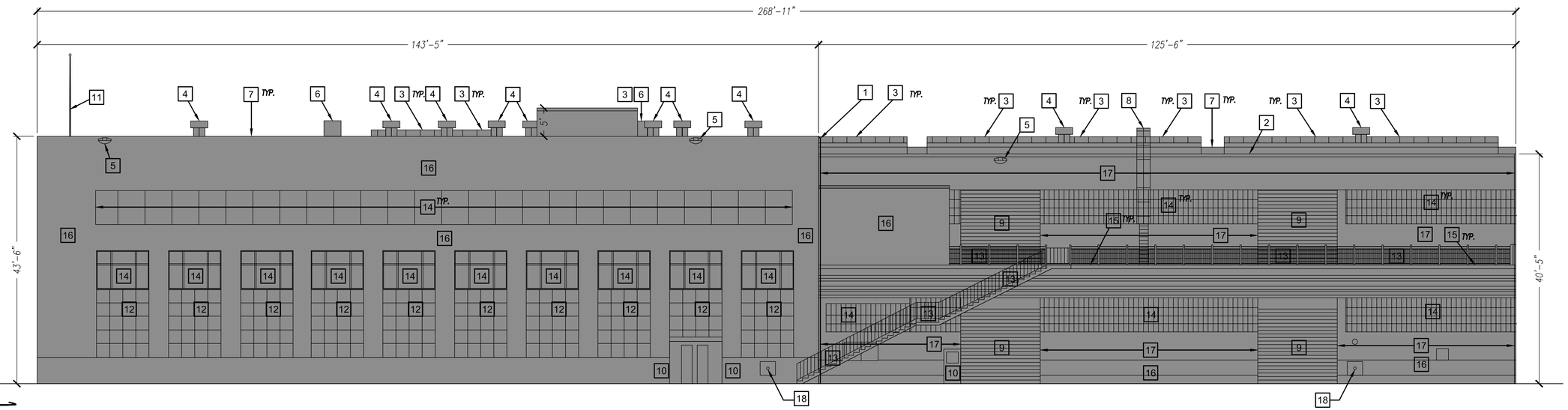
BUILDING WEST ELEVATION
SCALE: 1" = 10'

GENERAL DEMOLITION NOTES:

1. REMOVE ASBESTOS CONTAINING STUCCO FROM STRUCTURAL STEEL, COLUMNS AND BEAMS, PRIOR TO DEMOLITION PER STRUCTURAL PLANS.
2. REMOVE AND ABATE HAZARDOUS MATERIALS, (LBP/ACM) IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO DEMOLITION AND OFFSITE REMOVALS.

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE ROOF DRAINS.
2. DEMOLISH AND REMOVE METAL GUTTER, HANGERS, ETC..
3. WIRE GLASS SKYLIGHT & COPPER FRAME(S) TO BE REMOVED COMPLETE.
4. REMOVE ROOF VENT AND HARDWARE COMPLETE.
5. DEMOLISH AND REMOVE EXTERIOR LIGHTING FIXTURE, HARDWARE AND ELECTRICAL WIRING COMPLETE.
6. DEMOLISH AND REMOVE HVAC UNIT, DUCTS AND HARDWARE PER MECHANICAL PLANS.
7. DEMOLISH AND REMOVE BUILT-UP ROOF SYSTEM W/GRAVEL BALLAST OVER WOOD DECKING.
8. DEMOLISH AND REMOVE STEEL FRAME, ROOF LADDER AND CAGE COMPLETE.
9. DEMOLISH AND REMOVE OVER HEAD COIL DOOR, FRAME ASSEMBLY AND CONTROLS COMPLETE.
10. DEMOLISH AND REMOVE HOLLOW METAL DOOR, FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
11. REMOVE AND HANDOVER FLAG AND FLAGPOLE, COMPLETE, TO MIDWAY.
12. DEMOLISH AND REMOVE STEEL FRAME WINDOWS COMPLETE (TYP.)
13. DEMOLISH AND REMOVE STEEL STAIRS, HANDRAILS, SUPPORTS, AND ALL ASSOCIATED HARDWARE COMPLETE.
14. DEMOLISH AND REMOVE ALUMINUM FRAME WINDOW SYSTEM COMPLETE.
15. ASBESTOS TOPPING ON 2ND FLOOR EXTERIOR DECK TO BE REMOVED COMPLETE.
16. DEMOLISH AND REMOVE CONCRETE WALL COMPLETE.
17. DEMOLISH AND REMOVE CORRUGATED ASBESTOS WALL TRANSITE PANELS
18. DEMOLISH AND REMOVE EXTERIOR FIRE STAND PIPE COMPLETE.
19. DEMOLISH AND REMOVE EXTERIOR METAL STUD AND PLASTER WALL COMPLETE.
20. DEMOLISH AND REMOVE 18 GA. GALVANIZED CORRUGATED METAL PANEL COMPLETE.



BUILDING NORTH ELEVATION
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER TROY E. GILLUM No. C63157 Exp. 09/30/2024 CIVIL STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
DATE

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CONSTRUCTION STARTED -		
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PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN TEG	APPROVED
CHECKED JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

BUILDING ELEVATIONS - NORTH & WEST

DATE 12/21/2022
A/E NO. S3
SHEET 12 OF 44
DRAWING NO. EM-2022-06
REV. A

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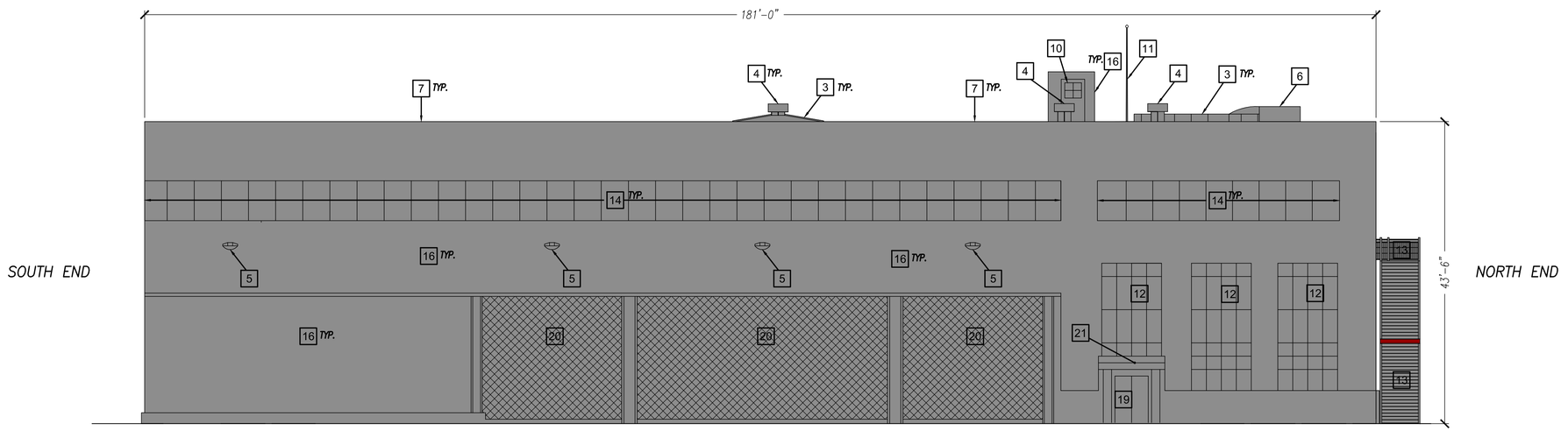
GENERAL DEMOLITION NOTES:

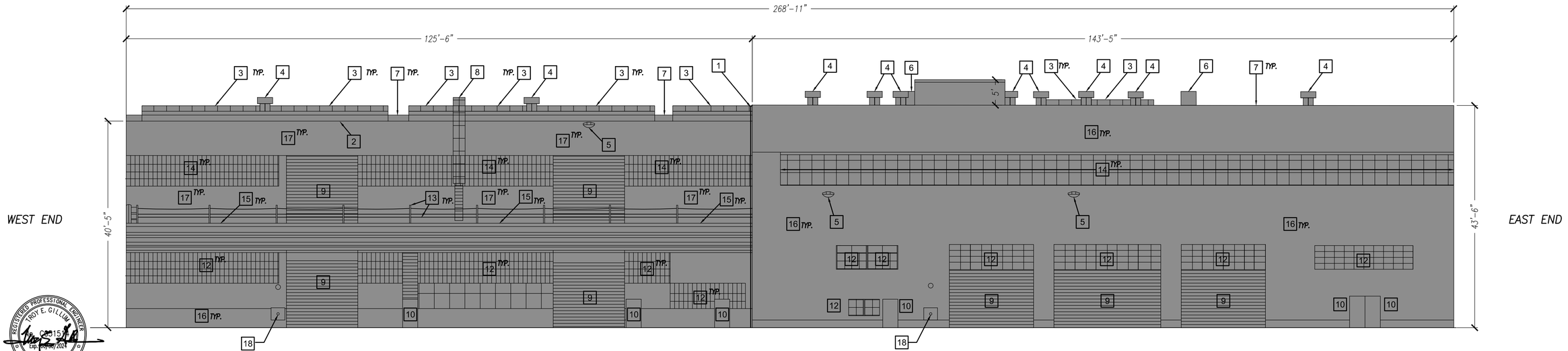
1. REMOVE ASBESTOS CONTAINING STUCCO FROM STRUCTURAL STEEL, COLUMNS AND BEAMS, PRIOR TO DEMOLITION PER STRUCTURAL PLANS.
2. REMOVE AND ABATE HAZARDOUS MATERIALS, (LBP/ACM) IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO DEMOLITION AND OFFSITE REMOVALS.

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE ROOF DRAINS.
2. DEMOLISH AND REMOVE METAL GUTTER, HANGERS, ETC..
3. WIRE GLASS SKYLIGHT & COPPER FRAME(S) TO BE REMOVED COMPLETE.
4. REMOVE ROOF VENT AND HARDWARE COMPLETE.
5. DEMOLISH AND REMOVE EXTERIOR LIGHTING FIXTURE, HARDWARE AND ELECTRICAL WIRING COMPLETE.
6. DEMOLISH AND REMOVE HVAC UNIT, DUCTS AND HARDWARE PER MECHANICAL PLANS.
7. DEMOLISH AND REMOVE BUILT-UP ROOF SYSTEM W/GRAVEL BALLAST OVER WOOD DECKING.
8. DEMOLISH AND REMOVE STEEL FRAME, ROOF LADDER AND CAGE COMPLETE.
9. DEMOLISH AND REMOVE OVER HEAD COIL DOOR, FRAME ASSEMBLY AND CONTROLS COMPLETE.
10. DEMOLISH AND REMOVE HOLLOW METAL DOOR, FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
11. REMOVE FLAG POLE COMPLETE.
12. DEMOLISH AND REMOVE STEEL FRAME WINDOWS COMPLETE (TYP.)
13. DEMOLISH AND REMOVE STEEL STAIRS, HANDRAILS, SUPPORTS, AND ALL ASSOCIATED HARDWARE COMPLETE.
14. DEMOLISH AND REMOVE ALUMINUM FRAME WINDOW SYSTEM COMPLETE.
15. ASBESTOS TOPPING ON 2ND FLOOR EXTERIOR DECK TO BE REMOVED COMPLETE.
16. DEMOLISH AND REMOVE CONCRETE WALL COMPLETE.
17. DEMOLISH AND REMOVE CORRUGATED ASBESTOS WALL TRANSITE PANELS PER ACM RECOMMENDATIONS COMPLETE.
18. DEMOLISH AND REMOVE EXTERIOR FIRE STAND PIPE COMPLETE.
19. DEMOLISH AND REMOVE DOUBLE METAL/GLASS DOOR, FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
20. DEMOLISH AND REMOVE CHAIN LINK FENCE, (GATE WHERE APPLIED), AND ALL ASSOCIATED HARDWARE.
21. DEMOLISH AND REMOVE COPPER OVERHANG



BUILDING EAST ELEVATION
SCALE: 1" = 10'



BUILDING SOUTH ELEVATION
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER TROY E. GILLUM No. C63157 Exp. 09/30/2024 CIVIL STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
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PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN TEG	APPROVED
CHECKED JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

BUILDING ELEVATIONS - SOUTH & EAST

DATE 12/21/2022	
A/E NO. S4	
SHEET 13 OF 44	
DRAWING NO. EM-2022-06	REV. A

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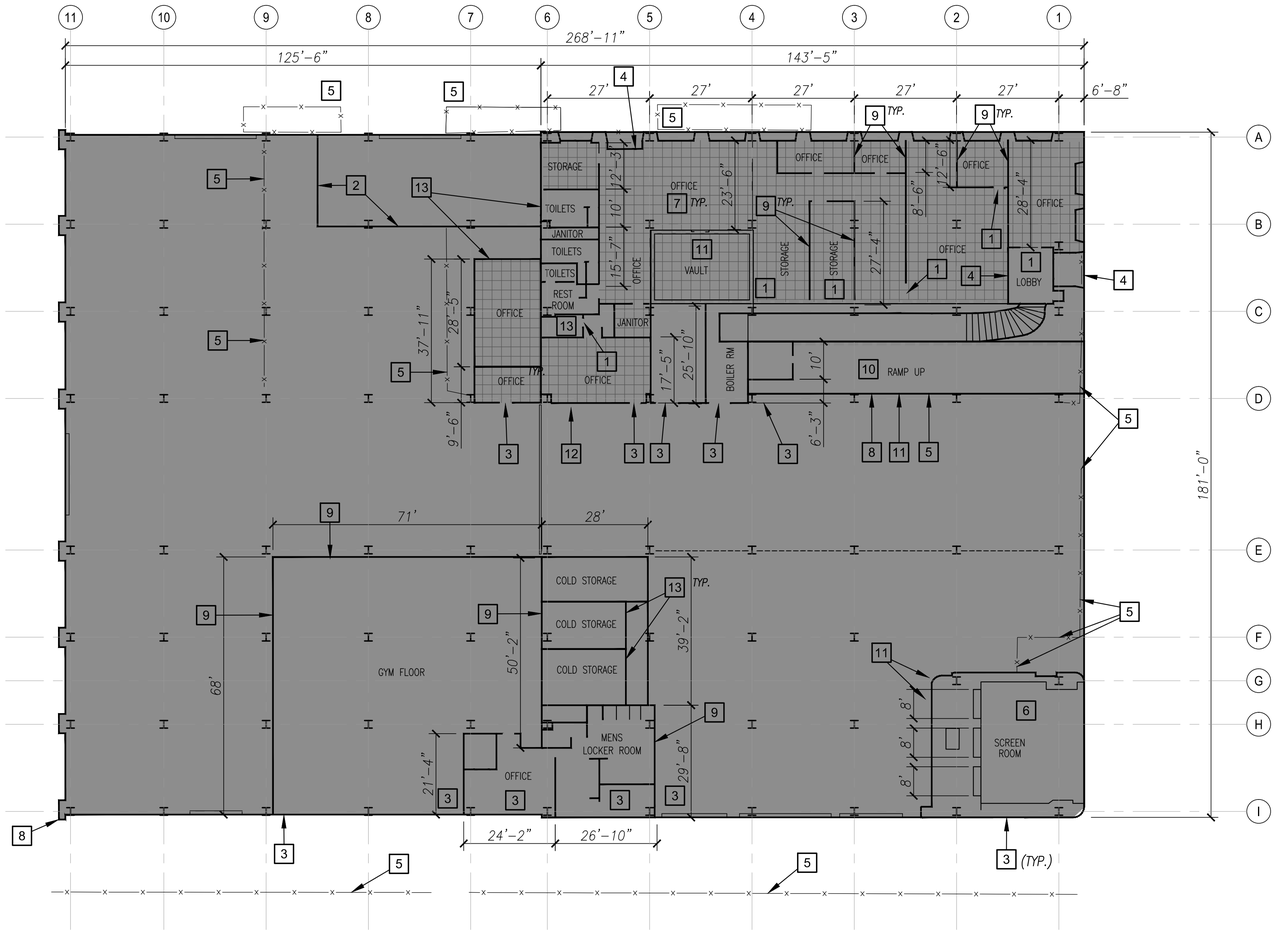


GENERAL DEMOLITION NOTES:

1. REMOVE ASBESTOS CONTAINING STUCCO FROM STRUCTURAL STEEL, COLUMNS AND BEAMS, PRIOR TO DEMOLITION PER STRUCTURAL PLANS.
2. REMOVE AND ABATE HAZARDOUS MATERIALS, (LBP/ACM) IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO DEMOLITION AND OFFSITE REMOVALS.
3. DEMOLITION SHALL NOT OCCUR UNTIL ALL HAZARDOUS MATERIALS ARE REMOVED FROM THE BUILDING AND THE BUILDING IS RELEASED FOR DEMOLITION BY A CERTIFIED INDUSTRIAL HYGENIST (CIH).
4. THE FIRST FLOOR (PIER DECK) SHALL REMAIN INTACT IN ITS CURRENT CONDITION. WALLS, FLOORING, AND APPURTENANCES ARE TO BE REMOVED IN THEIR ENTIRETY.

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE WOOD DOOR, FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
2. DEMOLISH AND REMOVE WOOD STUD WALLS, PLASTER FINISH, AND WOOD FRAME WINDOWS COMPLETE, TYPICAL.
3. DEMOLISH AND REMOVE HOLLOW METAL DOOR FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
4. DEMOLISH AND REMOVE DOUBLE METAL/GLASS DOOR, FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
5. DEMOLISH AND REMOVE CHAIN LINK FENCE, (GATE WHERE APPLIED), AND ALL ASSOCIATED HARDWARE.
6. DEMOLISH AND REMOVE MECHANICAL EQUIPMENT
7. DEMOLISH AND REMOVE VINYL FLOOR TILES (NON ACM TILES).
8. DEMOLISH AND REMOVE 8" CONCRETE CURB AND/OR STEEL 4" DIA. PIPE BOLLARDS COMPLETE.
9. DEMOLISH AND REMOVE WOOD STUD WALLS W/ GYPSUM BOTH SIDES COMPLETE.
10. DEMOLISH AND REMOVE REINFORCED CONCRETE WALLS AND RAMP AT 1ST AND 2ND FLOOR COMPLETE.
11. DEMOLISH AND REMOVE REINFORCED CONCRETE WALL COMPLETE.
12. DEMOLISH AND REMOVE STEEL LADDER COMPLETE.
13. DEMOLISH AND REMOVE 3"-6" THERMAL SYSTEM INSULATION COMPLETE AT COLD STORAGE AREAS.

THE FIRST FLOOR (PIER DECK) SHALL REMAIN INTACT IN ITS CURRENT CONDITION.

FIRST FLOOR PLAN

SCALE: 1" = 20'

NORTH

LEGEND

ITEM		SYMBOL
9"X 9" AND/OR 12"X 12" VINYL FLOOR TILES (SOME LOCATED UNDER CARPETING)	7	

REGISTERED PROFESSIONAL ENGINEER — TROY E. GILLUM — C-51515 — Exp. August 2024 — CIVIL — STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
DATE

NOTE: THIS DRAWING MAY BE A REDUCED SCALE PRINT OF THE ORIGINAL DRAWING. UTILIZE GRAPHIC SCALES TO VERIFY IF DRAWING IS A REDUCTION, AND ADJUST SCALES ACCORDINGLY TO THE GRAPHIC SCALES SHOWN.

SPEC NO. 2022-26	WBS NO. OC-0059-01	100% DESIGN SUBMITTAL	03/29/2023
REFERENCES			
PROJECT ENGINEER			
CONTRACTOR -			
CONSTRUCTION STARTED -			
CONSTRUCTION COMPLETED -			
COST -	INSPECTOR -	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO — Waterfront of Opportunity

DESIGNED	TEG
DRAWN	TEG
CHECKED	JVP

APPROVAL RECOMMENDED
PROJECT MANAGER
APPROVED
ENGINEERING MANAGER

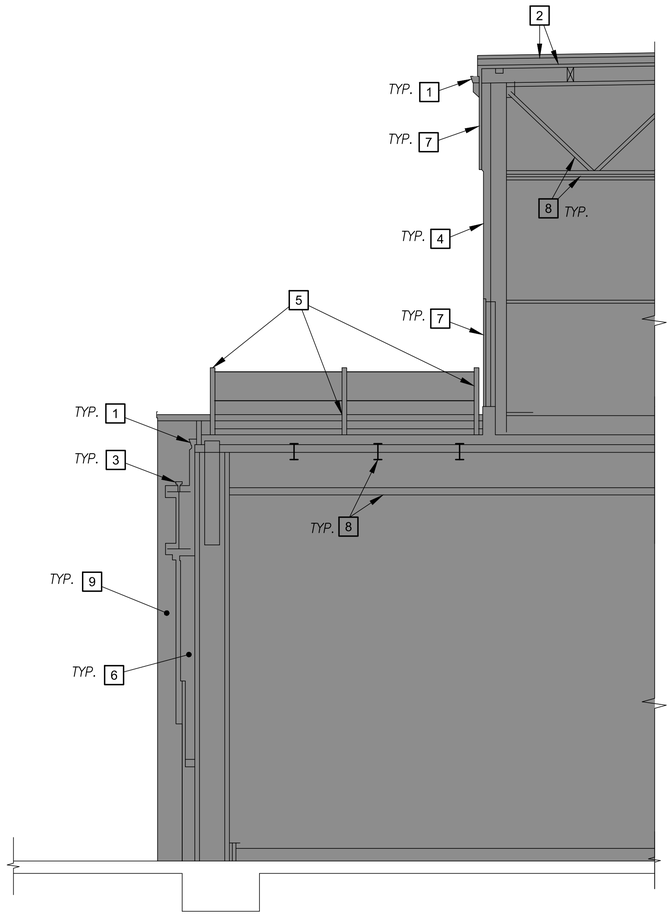
SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

FIRST FLOOR PLAN

DATE 12/21/2022
A/E NO. S5
SHEET 14 OF 44
DRAWING NO. EM-2022-06
REV. A

T:\PROJECTS\22-2827 Navy Pier Freedom Park Phase 1 Demo\City Submittal\5-8_15-18.dwg / Apr 27, 2023 - 11:29am / CAD Machine



TYPICAL BUILDING WALL SECTION

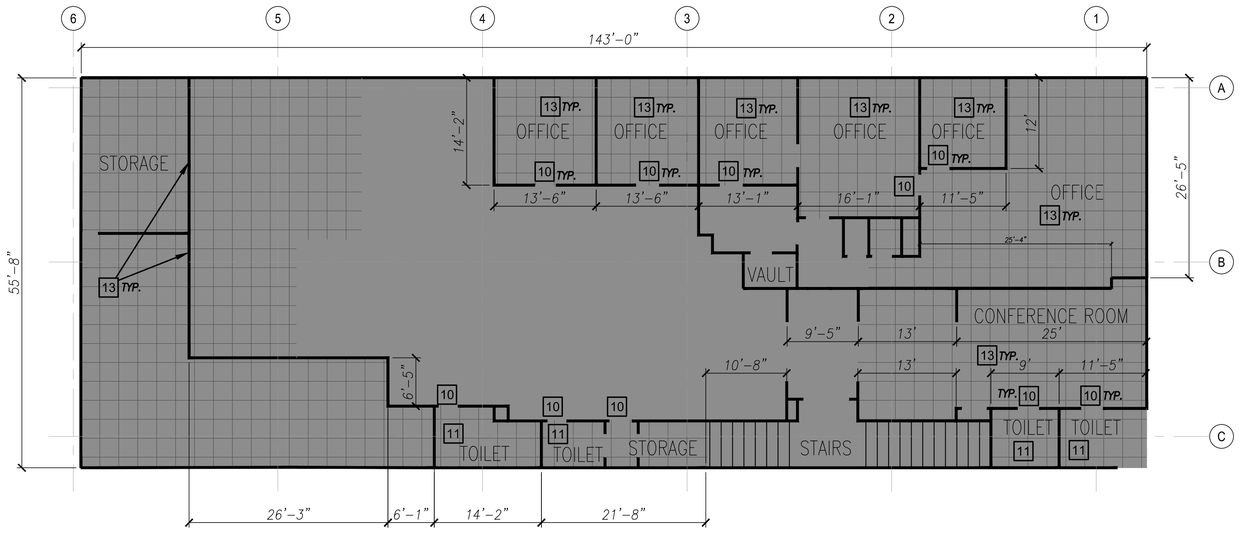
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

1. REMOVE ASBESTOS CONTAINING STUCCO FROM STRUCTURAL STEEL, COLUMNS AND BEAMS, PRIOR TO DEMOLITION PER STRUCTURAL PLANS.
2. REMOVE AND ABATE HAZARDOUS MATERIALS, (LBP/ACM) IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO DEMOLITION AND OFFSITE REMOVALS.
3. DEMOLITION SHALL NOT OCCUR UNTIL ALL HAZARDOUS MATERIALS ARE REMOVED FROM THE BUILDING AND THE BUILDING IS RELEASED FOR DEMOLITION BY A CERTIFIED INDUSTRIAL HYGENIST (CIH).
4. MEZZANINE FLOOR SYSTEM AND ASSOCIATED WALLS, CEILINGS AND APPURTENANCES SHALL BE REMOVED IN THEIR ENTIRETY.

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE METAL GUTTER, HANGERS, ETC..
2. DEMOLISH AND REMOVE BUILT-UP ROOF SYSTEM W/GRAVEL BALLAST OVER WOOD DECKING.
3. DEMOLISH AND REMOVE ALL BUILDING WALL MOUNTED STEEL CRANE RAILS COMPLETE.
4. DEMOLISH AND REMOVE STEEL FRAME WINDOWS COMPLETE (TYP.)
5. DEMOLISH AND REMOVE STEEL STAIRS, HANDRAILS, SUPPORTS, AND ALL ASSOCIATED HARDWARE COMPLETE.
6. DEMOLISH AND REMOVE REINFORCED CONCRETE WALL COMPLETE.
7. DEMOLISH AND REMOVE CORRUGATED ASBESTOS WALL TRANSITE PANELS PER ACM RECOMMENDATIONS COMPLETE.
8. DEMOLISH AND REMOVE SECOND FLOOR STEEL FRAMING PER STRUCTURAL PLANS.
9. DEMOLISH AND REMOVE PLASTER WALL COMPLETE.
10. DEMOLISH AND REMOVE WOOD DOOR, FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
11. DEMOLISH AND REMOVE SUMP, PIPING, PLUMBING AND FIXTURES/TOILETS, SINKS, PARTITIONS, ETC. COMPLETE.
12. DEMOLISH AND REMOVE VINYL FLOOR TILES (NON ACM TILES)
13. DEMOLISH AND REMOVE WOOD STUD WALLS W/ GYPSUM BOTH SIDES COMPLETE.



MEZZANINE FLOOR PLAN

SCALE: 1" = 10'

NORTH

LEGEND

ITEM		SYMBOL
9"X 9" AND/OR 12"X 12" VINYL FLOOR TILES (SOME LOCATED UNDER CARPETING)	12	

REGISTERED PROFESSIONAL ENGINEER — TROY E. GILLUM — No. C85151 — Exp. 6/30/2024 — CIVIL — STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING

REVIEWED BY:

ENGINEER OF RECORD

DATE

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SPEC NO. 2022-26	WBS NO. OC-0059-01	100% DESIGN SUBMITTAL	03/29/2023
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CONTRACTOR -			
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CONSTRUCTION COMPLETED -			
COST -	INSPECTOR -	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO — Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN: TEG	APPROVED
CHECKED: JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

MEZZANINE FLOOR PLAN & TYPICAL BUILDING WALL SECTION

DATE 12/21/2022

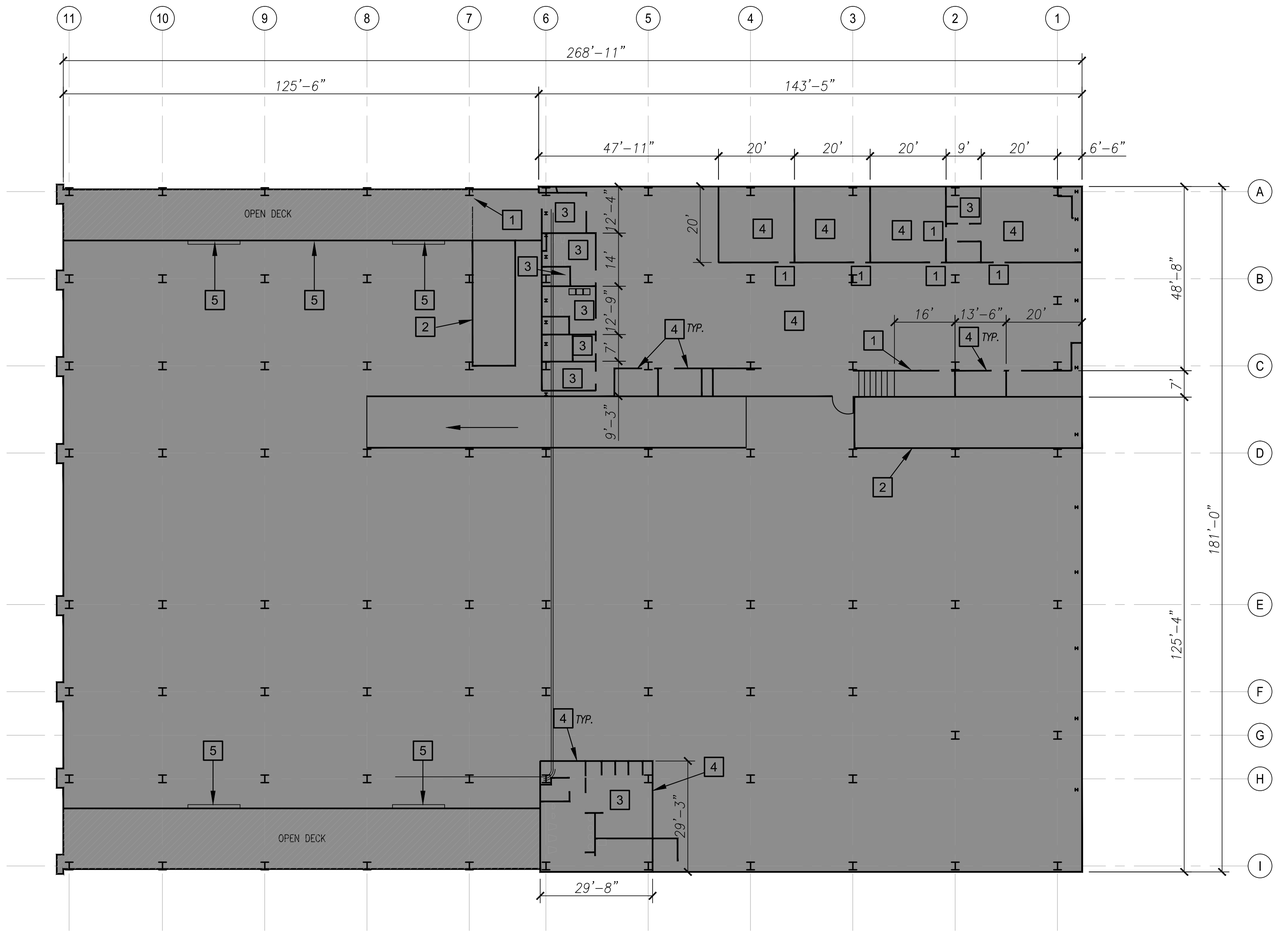
A/E NO. S6

SHEET 15 OF 44

DRAWING NO. EM-2022-06

REV. A

T:\PROJECTS\22-2827 Navy Pier Freedom Park Phase 1 Demo\City Submittal\5-8_15-18.dwg / Apr 27, 2023 - 11:30am / CAD Machine



SECOND FLOOR PLAN
SCALE: 1" = 20'

NORTH

GENERAL DEMOLITION NOTES:

1. REMOVE ASBESTOS CONTAINING STUCCO FROM STRUCTURAL STEEL, COLUMNS AND BEAMS, PRIOR TO DEMOLITION PER STRUCTURAL PLANS.
2. REMOVE AND ABATE HAZARDOUS MATERIALS, (LBP/ACM) IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO DEMOLITION AND OFFSITE REMOVALS.
3. DEMOLITION SHALL NOT OCCUR UNTIL ALL HAZARDOUS MATERIALS ARE REMOVED FROM THE BUILDING AND THE BUILDING IS RELEASED FOR DEMOLITION BY A CERTIFIED INDUSTRIAL HYGENIST (CIH).
4. ENTIRE FLOOR SYSTEM INCLUDING WALLS, CEILINGS AND APPURTENANCES TO BE REMOVED IN THEIR ENTIRETY.

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE WOOD DOOR, FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
2. DEMOLISH AND REMOVE WOOD STUD WALLS, PLASTER FINISH, AND WOOD FRAME WINDOWS COMPLETE.
3. DEMOLISH AND REMOVE SUMP, PIPING, PLUMBING AND FIXTURES/TOILETS, SINKS, PARTITIONS, ETC. COMPLETE.
4. DEMOLISH AND REMOVE WOOD STUD WALLS W/ GYPSUM BOTH SIDES COMPLETE.
5. DEMOLISH AND REMOVE OVERHEAD COIL DOOR, FRAME ASSEMBLY AND CONTROLS COMPLETE.

REGISTERED PROFESSIONAL ENGINEER
TROY E. GIELLUM
C-51511
Exp. October 31, 2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
REVIEWED BY:

ENGINEER OF RECORD

DATE

NOTE:
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SPEC NO. 2022-26 WBS NO. OC-0059-01	100% DESIGN SUBMITTAL	03/29/2023
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PROJECT ENGINEER		
CONTRACTOR -		
CONSTRUCTION STARTED -		
CONSTRUCTION COMPLETED -		
COST - INSPECTOR -	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED TEG	APPROVAL RECOMMENDED
DRAWN TEG	PROJECT MANAGER
CHECKED JVP	APPROVED
	ENGINEERING MANAGER

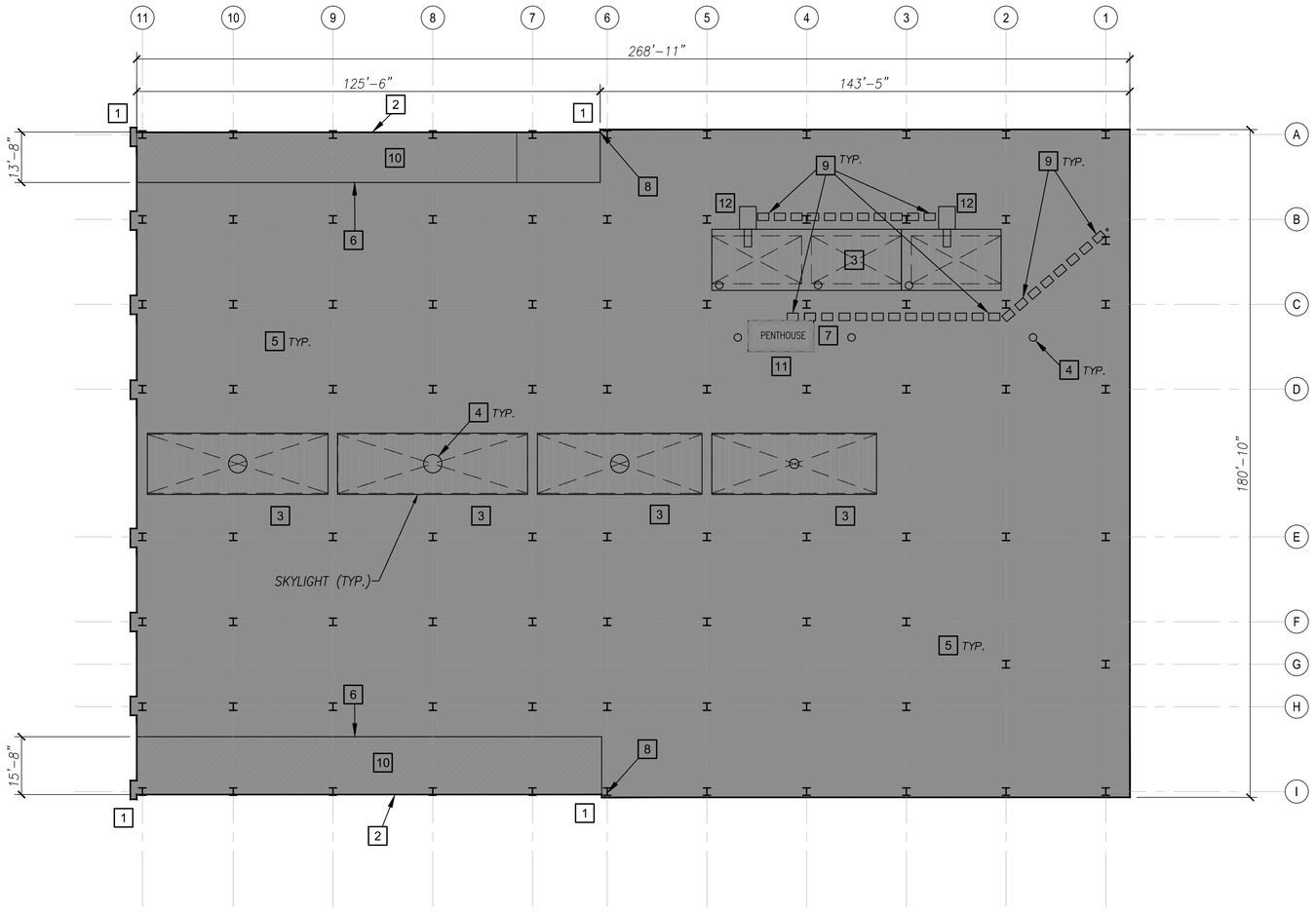
SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

SECOND FLOOR PLAN

DATE 12/21/2022
A/E NO. S7
SHEET 16 OF 44
DRAWING NO. EM-2022-06
REV. A

T:\PROJECTS\22-2827 Navy Pier Freedom Park Phase 1 Demo\City Submittal\5-8_15-18.dwg / Apr 27, 2023 - 11:30am / CAD Machine



ROOF PLAN
SCALE: 1" = 20'

NORTH

GENERAL DEMOLITION NOTES:

1. REMOVE ASBESTOS CONTAINING STUCCO FROM STRUCTURAL STEEL, COLUMNS AND BEAMS, PRIOR TO DEMOLITION PER STRUCTURAL PLANS.
2. REMOVE AND ABATE HAZARDOUS MATERIALS, (LBP/ACM) IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO DEMOLITION AND OFFSITE REMOVALS.
3. DEMOLITION SHALL NOT OCCUR UNTIL ALL HAZARDOUS MATERIALS ARE REMOVED FROM THE BUILDING AND THE BUILDING IS RELEASED FOR DEMOLITION BY A CERTIFIED INDUSTRIAL HYGENIST (CIH).
4. ENTIRE ROOF STRUCTURE, WALLS, MECHANICAL EQUIPMENT, AND APPURTENANCES ARE TO BE REMOVED IN THEIR ENTIRETY.

DEMOLITION NOTES:

1 DEMOLISH AND REMOVE ROOF DRAINS.
2 DEMOLISH AND REMOVE METAL GUTTER, HANGERS, ETC..
3 WIRE GLASS SKYLIGHT & COPPER FRAME(S) TO BE REMOVED COMPLETE.
4 REMOVE ROOF VENT AND HARDWARE COMPLETE.
5 DEMOLISH AND REMOVE BUILT-UP ROOF SYSTEM W/GRAVEL BALLAST OVER WOOD DECKING.
6 DEMOLISH AND REMOVE STEEL FRAME, ROOF LADDER AND CAGE COMPLETE.
7 DEMOLISH AND REMOVE HOLLOW METAL DOOR FRAME AND ASSEMBLY AND HARDWARE COMPLETE.
8 4" DIA. ROOF DRAIN AND STEEL ANGLE FRAME GUARD TO BE REMOVED COMPLETE.
9 REMOVE TREADS COMPLETE.
10 ASBESTOS TOPPING ON 2ND FLOOR EXTERIOR DECK TO BE REMOVED COMPLETE.
11 DEMOLISH AND REMOVE CONCRETE WALL.
12 DEMOLISH AND REMOVE HVAC UNIT, DUCTS AND HARDWARE.

REGISTERED PROFESSIONAL ENGINEER
TROY E. GIELLUM
No. C 51514
Exp. 09/30/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
REVIEWED BY:

ENGINEER OF RECORD

DATE

NOTE:
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CONTRACTOR -			
CONSTRUCTION STARTED -			
CONSTRUCTION COMPLETED -			
COST -	INSPECTOR -	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	TEG
DRAWN	TEG
CHECKED	JVP

APPROVAL RECOMMENDED
PROJECT MANAGER
APPROVED
ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

ROOF PLAN

DATE 12/21/2022
A/E NO. S8
SHEET 17 OF 44
DRAWING NO. EM-2022-06
REV. A

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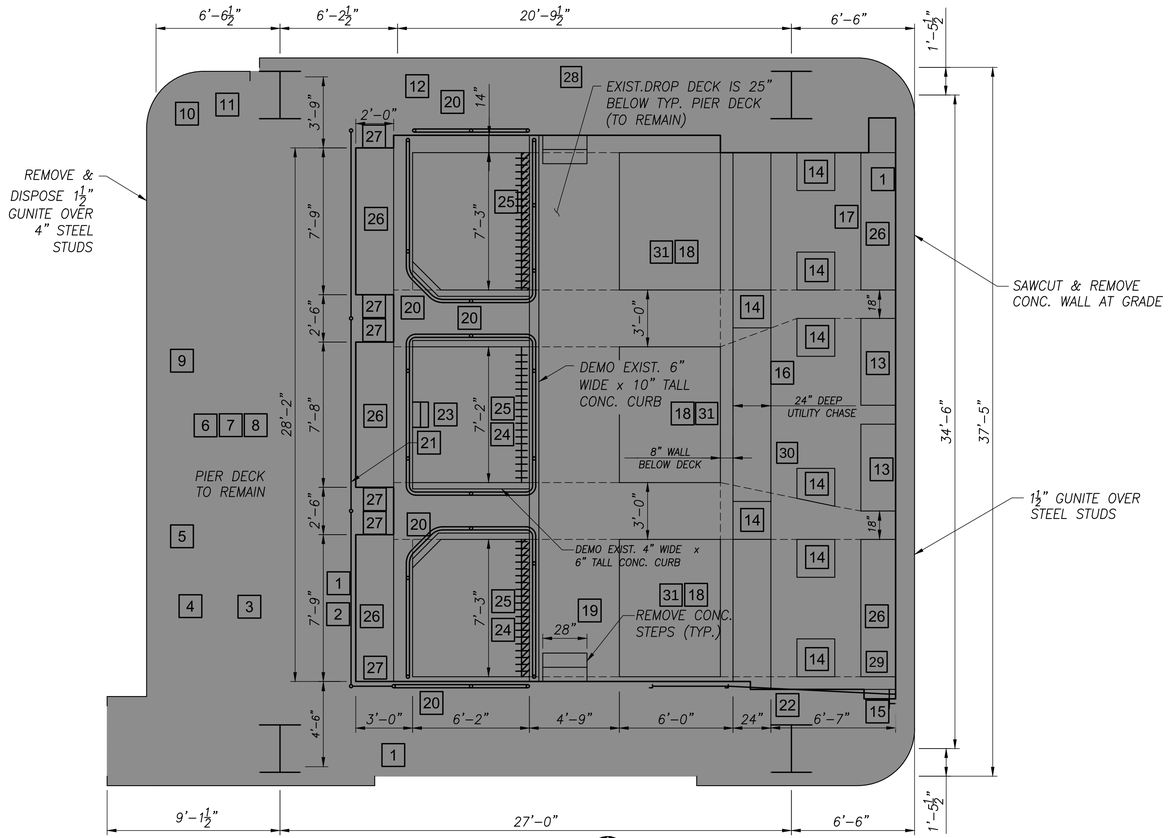
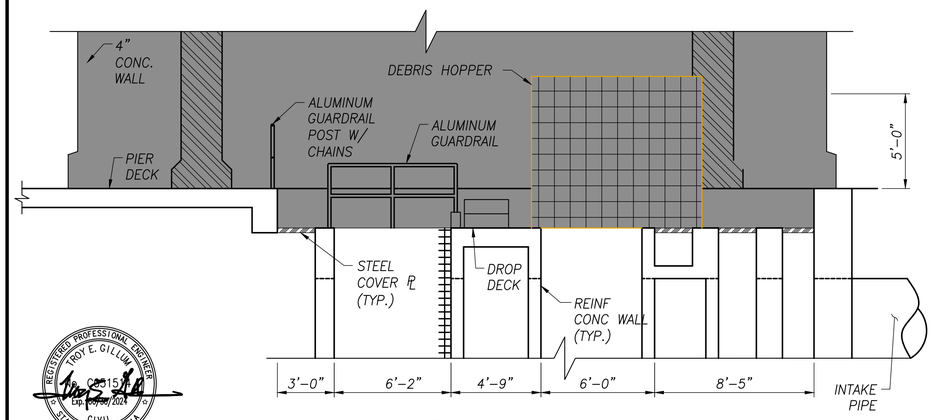
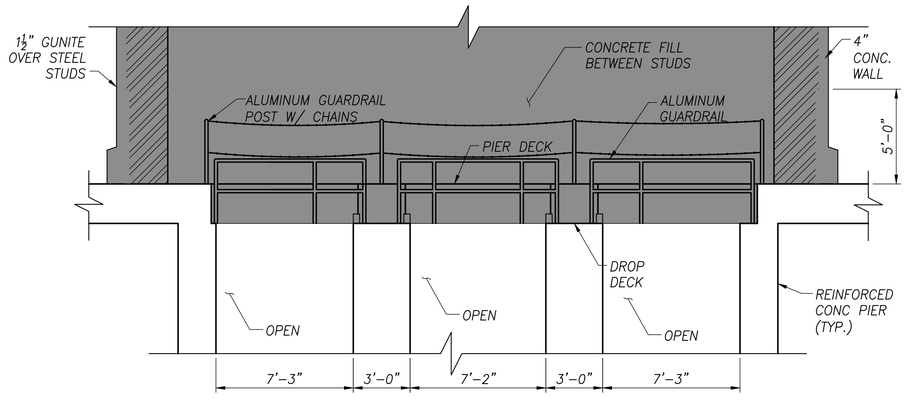


SCREEN ROOM FLOOR PLAN
SCALE: ¼" = 1'-0"

NORTH



SCREEN ROOM DECK SECTION
SCALE: ¼" = 1'-0"



SCREEN ROOM DECK SECTION
SCALE: ¼" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
No. C61515
Exp. 09/30/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

GENERAL DEMOLITION NOTES:

1. REMOVE ASBESTOS CONTAINING STUCCO FROM STRUCTURAL STEEL, COLUMNS AND BEAMS, PRIOR TO DEMOLITION PER STRUCTURAL PLANS.
2. REMOVE AND ABATE HAZARDOUS MATERIALS, (LBP/ACM) IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO DEMOLITION AND OFFSITE REMOVALS.
3. DEMOLITION SHALL NOT OCCUR UNTIL ALL HAZARDOUS MATERIALS ARE REMOVED FROM THE BUILDING AND THE BUILDING IS RELEASED FOR DEMOLITION BY A CERTIFIED INDUSTRIAL HYGENIST (CIH).

DEMOLITION NOTES:

1. (3) STEEL GATES (7'x10"x9'-7" TALL)
2. (4) STEEL SCREEN IN FRAME (7'x5"x9'-7" TALL)
3. (1) STEEL LADDER (10' TALL) W/ PLATFORM (2'x3') & BRACED FRAME
4. (1) STEEL TUBE TABLE FRAME (5'x7')
5. (1) WOOD CABINET (4'x14"x4' TALL) W/ HARDWARE CONTENTS
6. (1) STEEL HANGING RACK (7'-4"x8"x8' TALL)
7. (1) STEEL DEBRIS RAKE (7' LONGx4' TALL)
8. (1) DOUBLE BLOCK AND TACKLE FOR DEBRIS RAKE
9. (1) STEEL PIPE JIB BOOM MOUNTED TO WALL (4' REACH x 6' TALL)
10. (6) MISC. WOOD FRAMING (16' TALL) AND (2) PIPE TOOLS (1"ø x 20' TALL)
11. (1) HOSE RACK
12. (1) CATWALK W/ GUARDRAIL (25' LONG), WORK PLATFORM, 16' BAR LADDER, 8' BAR LADDER AND PLATFORM (2'x3')
13. (2) STEEL FLOOR COVER PLATES (2'x7'x2")
14. (8) STEEL FLOOR COVER PLATES (2'x2'x2")
15. (1) STEEL LADDER (14' TALL) W/ PLATFORM (5'x5'), GUARDRAIL AND WALL MOUNTS
16. (1) STEEL CONDUIT FRAME (25' LONG x 10' HIGH)
17. (1) OVERHEAD CRANE W/ (2) RAILS, MOTOR, CHAIN AND CONDUIT
18. (3) DEBRIS HOPPERS (8'-6"x7'x8' TALL) W/ HEAVY MOTOR AND PUMP (CUT OFF AT ELEVATION TO CLEAR)
19. (1) OVERHEAD CRANE, (3) 30' BEAMS, TRAVEL FRAME, (2) HOISTS, (2) BLOCK & TACKLE, (2) POSITION CHAINS, AND ELECTRICAL CONDUIT
20. (5) ALUMINUM PIPE GUARDRAIL SETS (2"ø)
21. (4) ALUMINUM GUARDRAIL POSTS W/ (2) CHAINS (32'± LONG)
22. (2) STEEL ANGLE GUARDRAIL POSTS W/ CHAIN (13'± LONG)
23. (1) STEEL PIPE FRAME LADDER INTO WATER
24. (2) WOOD DECKS OVER HOLES (3'-4"x7'-10") CONSISTING OF (6) 2X6 & (3) 4X4
25. (3) BAR GRATE SCREENS W/ (2) PANELS (3'-6"x20' W/ ⅝"x5" GRATES
26. (4) STEEL FLOOR COVER PLATES (2'x7'-6"x2")
27. (6) STEEL GATE RAILS ON SIDES OF INTAKE WALLS (ABANDON IN PLACE)
28. HYDRAULIC FLUID RESERVOIRS WITH FEED LINES
29. HYDRANT WITH FOUNTAIN AND HOSE
30. HYDRAULIC BOXES, HYDRAULIC LINES AND PRESSURE GAUGES
31. PVC WATER CONNECTION AT DEBRIS HOPPER

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
DATE

NOTE:
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PROJECT ENGINEER			
CONTRACTOR -			
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COST - INSPECTOR -	REVISIONS	DATE / APPROVED	

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	TEG
DRAWN	TEG
CHECKED	JVP

APPROVAL RECOMMENDED
PROJECT MANAGER
APPROVED
ENGINEERING MANAGER

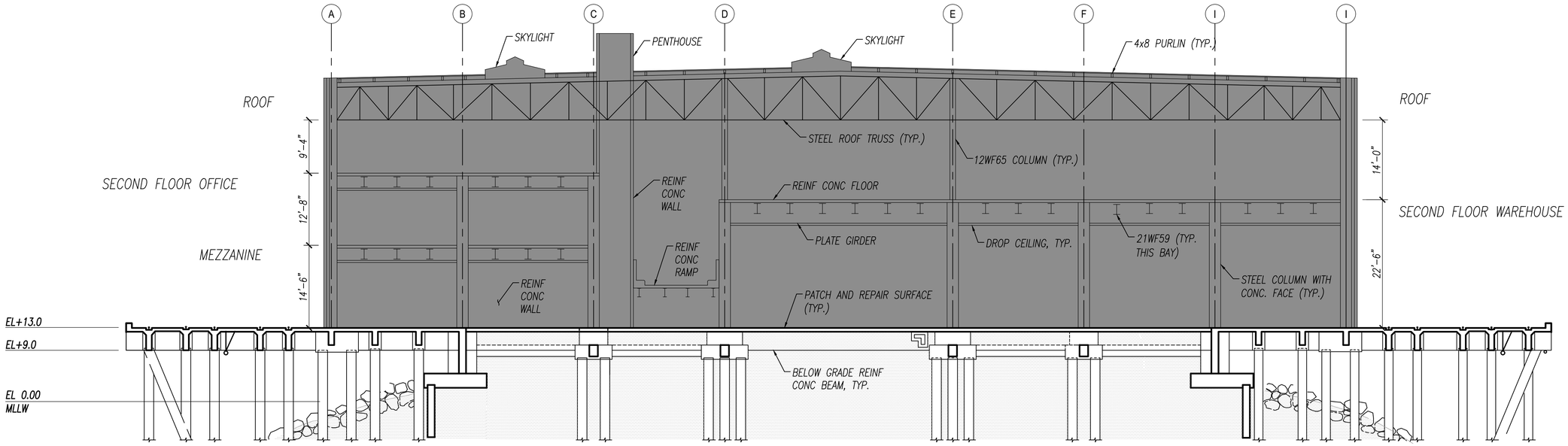
SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

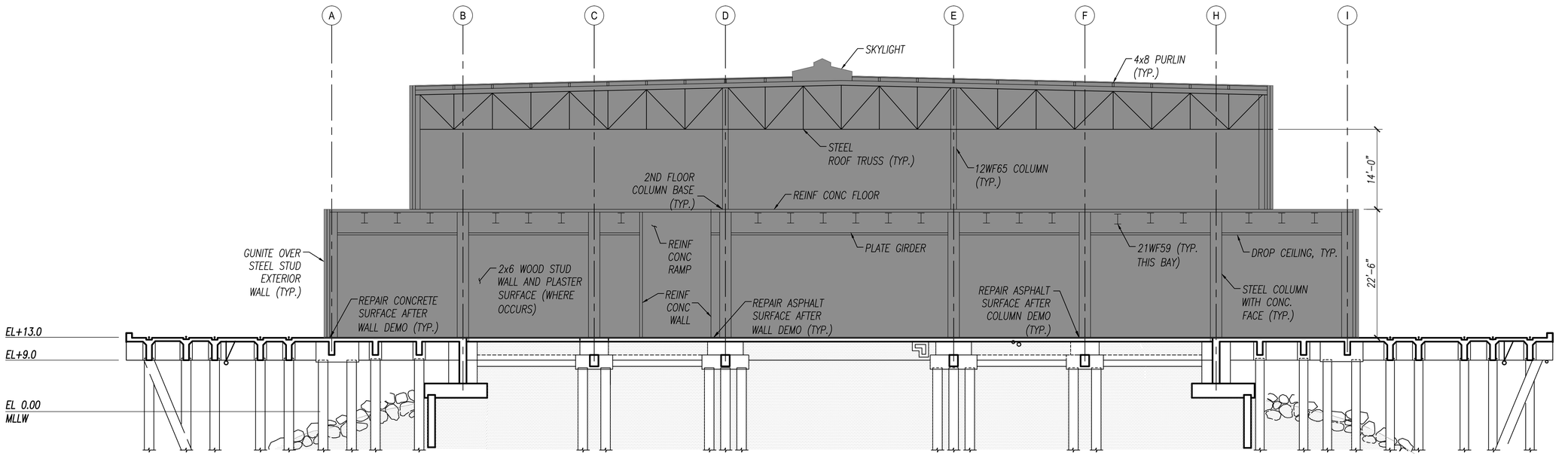
SCREEN ROOM FLOOR PLAN & SECTIONS

DATE	12/21/2022
A/E NO.	S9
SHEET	18 OF 44
DRAWING NO.	EM-2022-06
REV.	A

T:\PROJECTS\22-2827 Navy Pier Freedom Park Phase 1 Demo\City Submittal\9.dwg / Apr 27, 2023 - 11:37am / CAD Machine



A S2 S10 GENERAL BUILDING AND PIER TRANSVERSE SECTION
SCALE: 1" = 10'



B S2 S10 GENERAL BUILDING AND PIER TRANSVERSE SECTION
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
C-51511
Exp. 8/31/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
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ENGINEER OF RECORD

DATE

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PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN: TEG	APPROVED
CHECKED: JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

BUILDING AND PIER TRANSVERSE SECTIONS

DATE 12/21/2022
A/E NO. S10
SHEET 19 OF 44
DRAWING NO. EM-2022-06
REV. A

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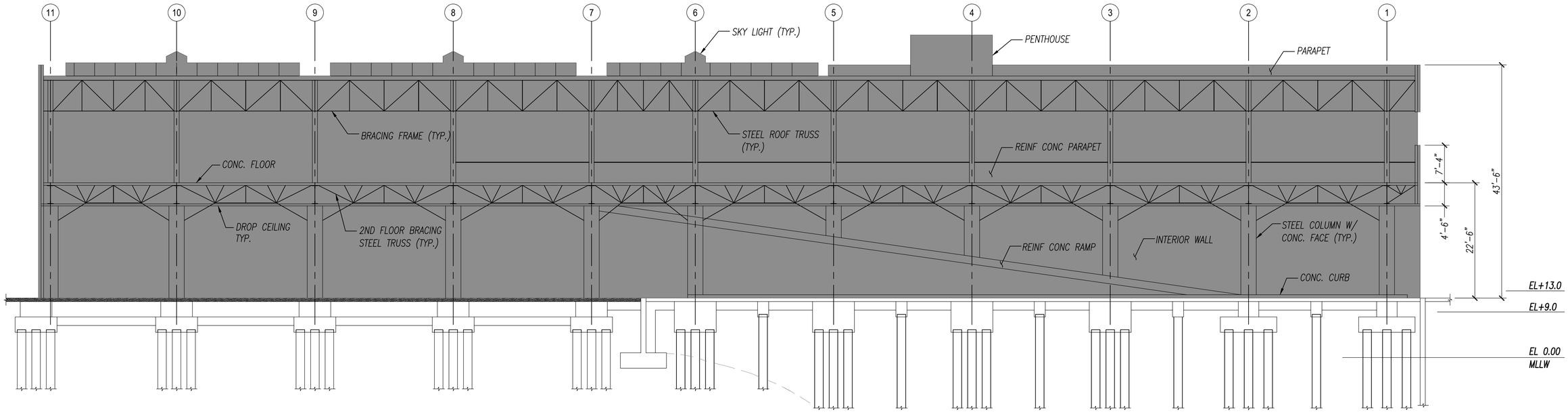

C
S2 S11 GENERAL BUILDING AND PIER LONGITUDINAL SECTION
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
C 81515
Exp. 6/30/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
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ENGINEER OF RECORD

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PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN TEG	APPROVED
CHECKED JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

BUILDING AND PIER LONGITUDINAL SECTION

DATE 12/21/2022
A/E NO. S11
SHEET 20 OF 44
DRAWING NO. EM-2022-06
REV. A

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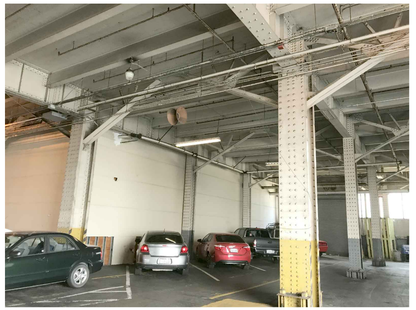
1 SOUTH ELEVATION – LOOKING EAST

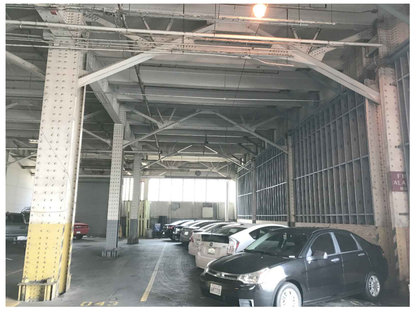
2 EAST ELEVATION

3 SOUTH ELEVATION – WEST END

4 SECOND FLOOR FRAMING



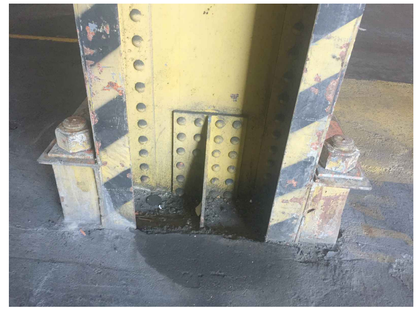
5 SECOND FLOOR FRAMING AT GYM



6 SECOND FLOOR FRAMING – WEST END

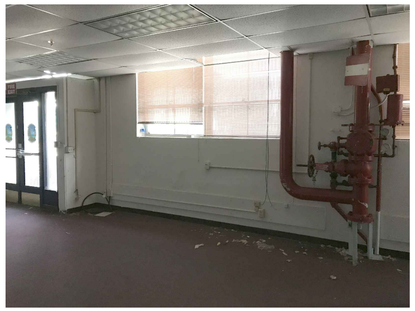
7 SECOND FLOOR FRAMING – NEAR RAMP

8 SECOND FLOOR FRAMING AT SCREEN

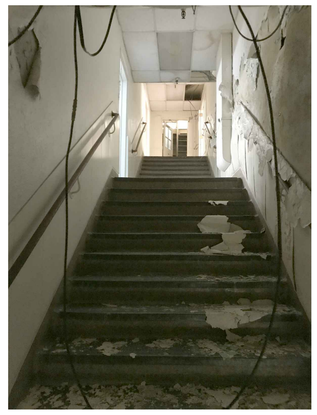


9 TYPICAL FIRST FLOOR COLUMN CONNECTION

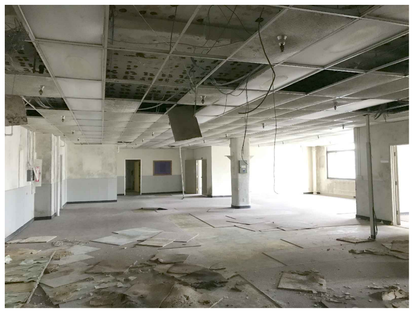
10 TYPICAL FIRST FLOOR COLUMN CONNECTION



11 FIRST FLOOR OFFICE – EAST END



12 OFFICE STAIRWAY



13 MEZZANINE – LOOKING WEST

14 MEZZANINE – LOOKING EAST

15 ROOF FRAMING – SOUTH EAST CORNER

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
C-85154
Exp. August 2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
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ENGINEER OF RECORD

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REFERENCES			
PROJECT ENGINEER			
CONTRACTOR -			
CONSTRUCTION STARTED -			
CONSTRUCTION COMPLETED -			
COST -	INSPECTOR -	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED TEG	APPROVAL RECOMMENDED
DRAWN TEG	PROJECT MANAGER
CHECKED JVP	APPROVED
	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

EXISTING CONDITIONS - PHOTOGRAPHS (1 OF 3)

DATE 12/21/2022
A/E NO. S12
SHEET 21 OF 44
DRAWING NO. EM-2022-06
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16 NORTH DECK AT SECOND FLOOR

17 ROOF FRAMING – RAMP IN FOREGROUND

18 ROOF FRAMING – SOUTH WALL

19 ROOF FRAMING – SOUTH EDGE

20 ROOF FRAMING – SOUTH WEST CORNER

21 ROOF / WALL FRAMING – EAST WALL

22 ROOF / WALL FRAMING – EAST WALL

23 ROOF / WALL FRAMING – SOUTH EAST CORNER

24 ROOF / WALL FRAMING – SOUTH WALL

25 ROOF / WALL FRAMING AT DECK

26 ROOF / WALL FRAMING SOUTH WALL

27 ROOF / WALL FRAMING – SOUTH WEST CORNER

28 ROOF / WALL FRAMING – SOUTH WEST CORNER

29 ROOF / WALL FRAMING – WEST END WALL

30 ROOF / WALL FRAMING – NORTH WEST CORNER

REGISTERED PROFESSIONAL ENGINEER TROY E. GILLUM No. C61515 Exp. 6/30/2024 CIVIL STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

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PORT of SAN DIEGO Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN TEG	APPROVED
CHECKED JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

EXISTING CONDITIONS - PHOTOGRAPHS (2 OF 3)

DATE 12/21/2022

A/E NO. S13

SHEET 22 OF 44

DRAWING NO. EM-2022-06

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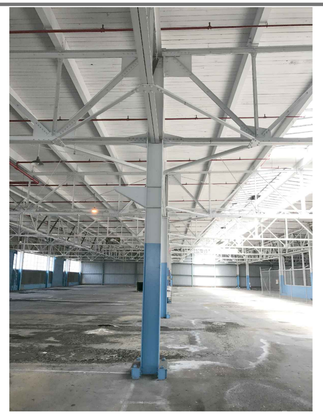
31 ROOF / WALL FRAMING – NORTH WEST CORNER

32 VIEW DOWN RAMP

33 SECOND FLOOR – OFFICE WALL



34 SECOND FLOOR – VIEW TO WEST

35 TYPICAL SECOND FLOOR POST CONNECTION

36 SECOND FLOOR OFFICE WALL

37 SCREEN ROOM – INTAKE

38 SCREEN ROOM – SOUTH WALL

39 SCREEN ROOM – DEBRIS HOPPER

40 SCREEN ROOM – DROPPED DECK

41 SCREEN ROOM – VIEW ALONG EAST WALL

42 SCREEN ROOM – VIEW DOWN INTAKE

REGISTERED PROFESSIONAL ENGINEER TROY E. GILLUM C 81515 CIVIL STATE OF CALIFORNIA Exp. 09/30/2024

TRITON ENGINEERS, INC.

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	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

EXISTING CONDITIONS - PHOTOGRAPHS (3 OF 3)

DATE 12/21/2022
A/E NO. S14
SHEET 23 OF 44
DRAWING NO. EM-2022-06
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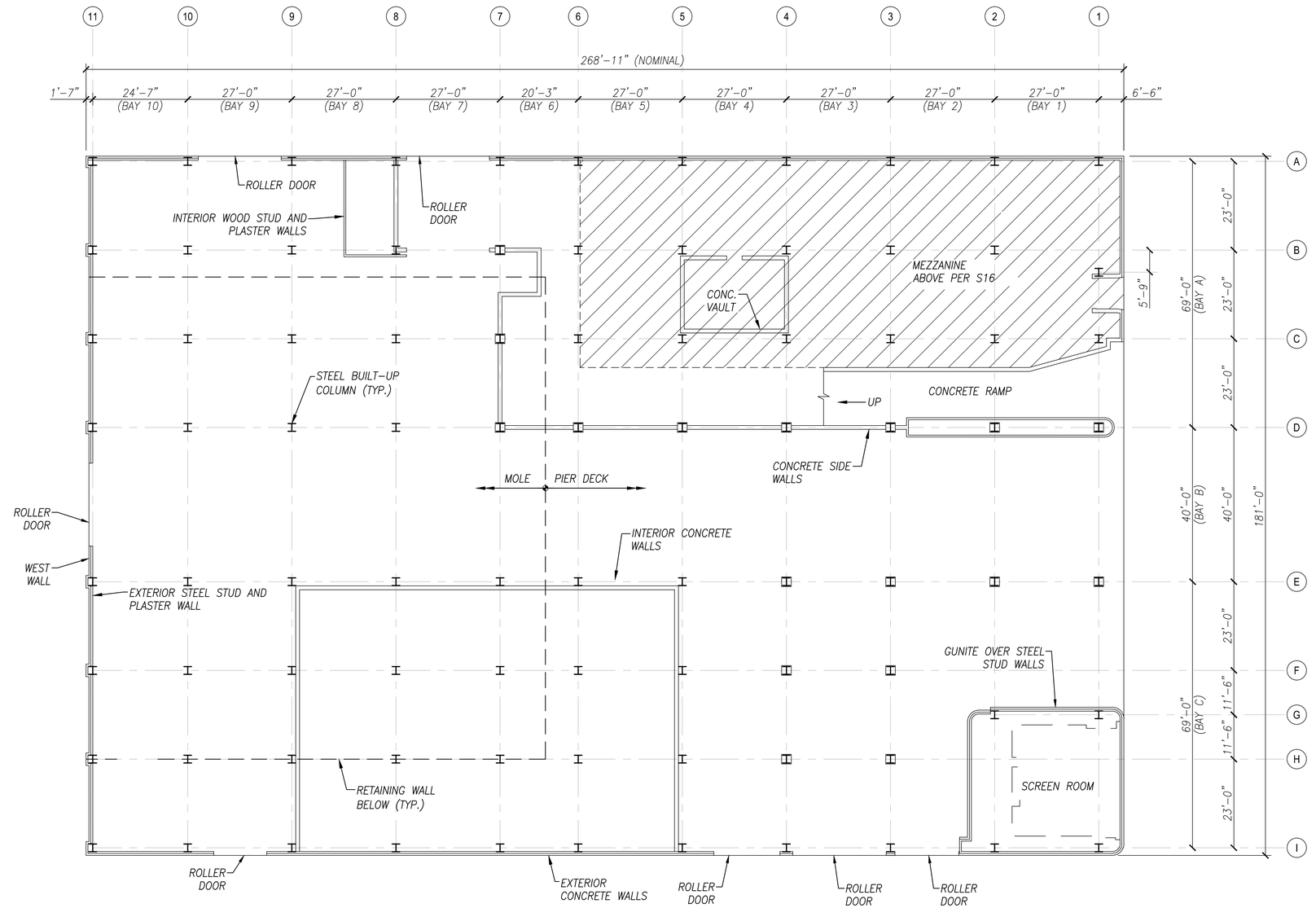

FOUNDATION PLAN
SCALE: 1" = 20'

NORTH

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
C-51511
Exp. 09/30/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

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Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN TEG	APPROVED
CHECKED JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

FOUNDATION PLAN

DATE 12/21/2022
A/E NO. S15
SHEET 24 OF 44
DRAWING NO. EM-2022-06
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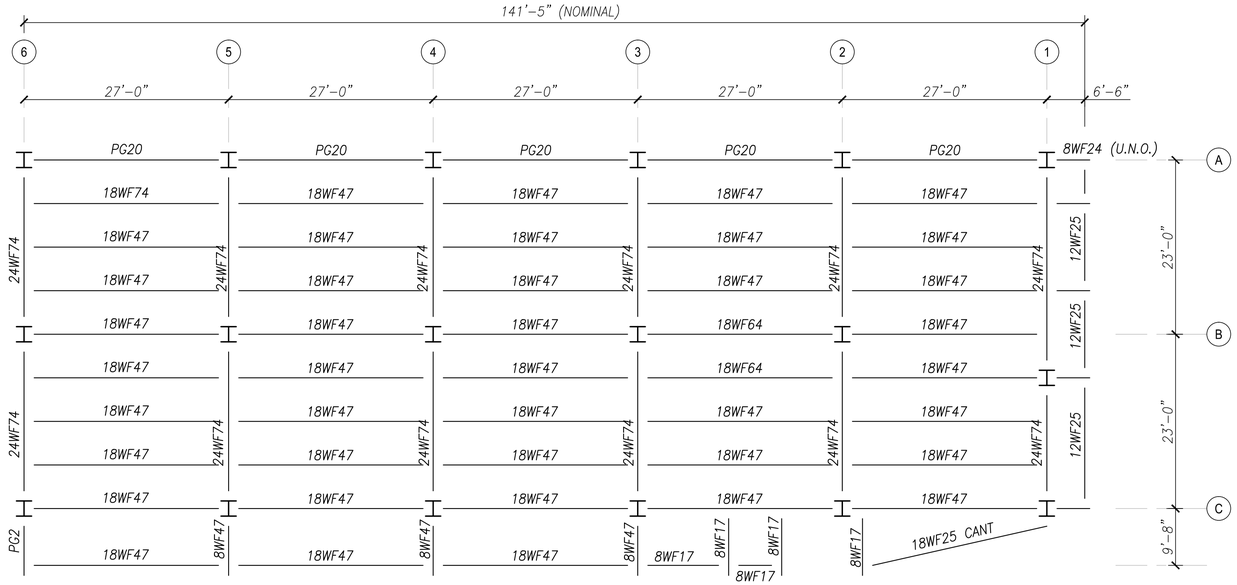

MEZZANINE FLOOR FRAMING PLAN

SCALE: 1" = 10'

NORTH

EXISTING RAMP STEEL BEAM SCHEDULE

SYMBOL	DESCRIPTION
PG11	PLATE GIRDER – SEE TYP. DETAIL N S20
RB1	RAMP BEAM 18WF47
RB2	RAMP BEAM 18WF47
RB4	RAMP BEAM 18WF47
RG1	RAMP GIRDER 27WF91
RG2	RAMP GIRDER 24WF74
RG3	RAMP GIRDER 24WF50
RG4	RAMP GIRDER 24WF74

EXISTING OFFICE STEEL BEAM SCHEDULE

SYMBOL	DESCRIPTION
B1	BEAM 12WF25
B5	BEAM 18WF47
B6	BEAM 18WF47
B15	BEAM 8WF17
B17	BEAM 8WF17
B18	BEAM 8WF24
B19	BEAM 8WF47
B20	BEAM 8WF17
B21	BEAM 8WF17
B22	BEAM 8WF17
B24	BEAM 12WF25
B25	BEAM 12WF25
B26	BEAM 24WF74
B28	BEAM 18WF64
CB1	CANTILEVER BEAM 18WF25
G1	GIRDER 24WF74
G2	GIRDER 24WF74
G3	GIRDER 24WF74
G4	GIRDER 24WF74
PG2	PLATE GIRDER – SEE TYP. DETAIL S20
PG15	PLATE GIRDER – SEE TYP. DETAIL S20
PG16	PLATE GIRDER – SEE TYP. DETAIL S20
PG20	PLATE GIRDER – SEE TYP. DETAIL S20
PG21	PLATE GIRDER – SEE TYP. DETAIL S20

EXISTING TIMBER BEAM SCHEDULE

SYMBOL	DESCRIPTION
P1	PURLIN 6x14 D.F.
P3	PURLIN 6x14 D.F.
P4	PURLIN 6x14 D.F.
P6	PURLIN 6x14 D.F.
P7	PURLIN 8x14 D.F.

EXISTING STEEL BEAM SCHEDULE

SYMBOL	DESCRIPTION
BF1	BRACED FRAME – SEE TYP DETAIL ON S20
BF2	BRACED FRAME – SEE TYP DETAIL ON S20
BF3	BRACED FRAME – SEE TYP DETAIL ON S20
BF13	BRACED FRAME – SEE TYP DETAIL ON S20
BF14	BRACED FRAME – SEE TYP DETAIL ON S20
BF15	BRACED FRAME – SEE TYP DETAIL ON S20
BF17	BRACED FRAME – SEE TYP DETAIL ON S20
BF18	BRACED FRAME – SEE TYP DETAIL ON S20
BF19	BRACED FRAME – SEE TYP DETAIL ON S20
BF22	BRACED FRAME – SEE TYP DETAIL ON S20
BF24	BRACED FRAME – SEE TYP DETAIL ON S20
BF25	BRACED FRAME – SEE TYP DETAIL ON S20
T1	TRUSS – SEE TYP DETAIL ON S20
T2	TRUSS – SEE TYP DETAIL ON S20
T8	TRUSS – SEE TYP DETAIL ON S20
T9	TRUSS – SEE TYP DETAIL ON S20
T10	TRUSS – SEE TYP DETAIL ON S20
T11	TRUSS – SEE TYP DETAIL ON S20
T12	TRUSS – SEE TYP DETAIL ON S20
T13	TRUSS – SEE TYP DETAIL ON S20
T14	TRUSS – SEE TYP DETAIL ON S20
T15	TRUSS – SEE TYP DETAIL ON S20
T16	TRUSS – SEE TYP DETAIL ON S20
T17	TRUSS – SEE TYP DETAIL ON S20
T18	TRUSS – SEE TYP DETAIL ON S20
T19	TRUSS – SEE TYP DETAIL ON S20

DEMOLITION NOTES

1. REFER TO DEMOLITION NOTES ON SHEET S1.
2. ITEMS TO BE DEMOLISHED AND REMOVED THAT PROJECT INTO THE CONCRETE OR ASPHALT DECK SHALL BE CUT–OFF AND REMOVED BELOW THE DECK SURFACE TO ALLOW THE REPAIRED SURFACES TO BE FLUSH WITH ADJACENT SURFACES. DEPTH AND DETAILS OF REMOVAL AND REPAIR ARE SHOWN ON DETAILS ON SHEET S19.

REGISTERED PROFESSIONAL ENGINEER — TROY E. GILLUM — No. C63157 — Exp. 09/30/2024 — CIVIL — STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

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PORT of SAN DIEGO — Waterfront of Opportunity

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TEG	PROJECT MANAGER
DRAWN: TEG	APPROVED
CHECKED: JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

MEZZANINE FLOOR FRAMING PLAN

DATE 12/21/2022
A/E NO. S16
SHEET 25 OF 44
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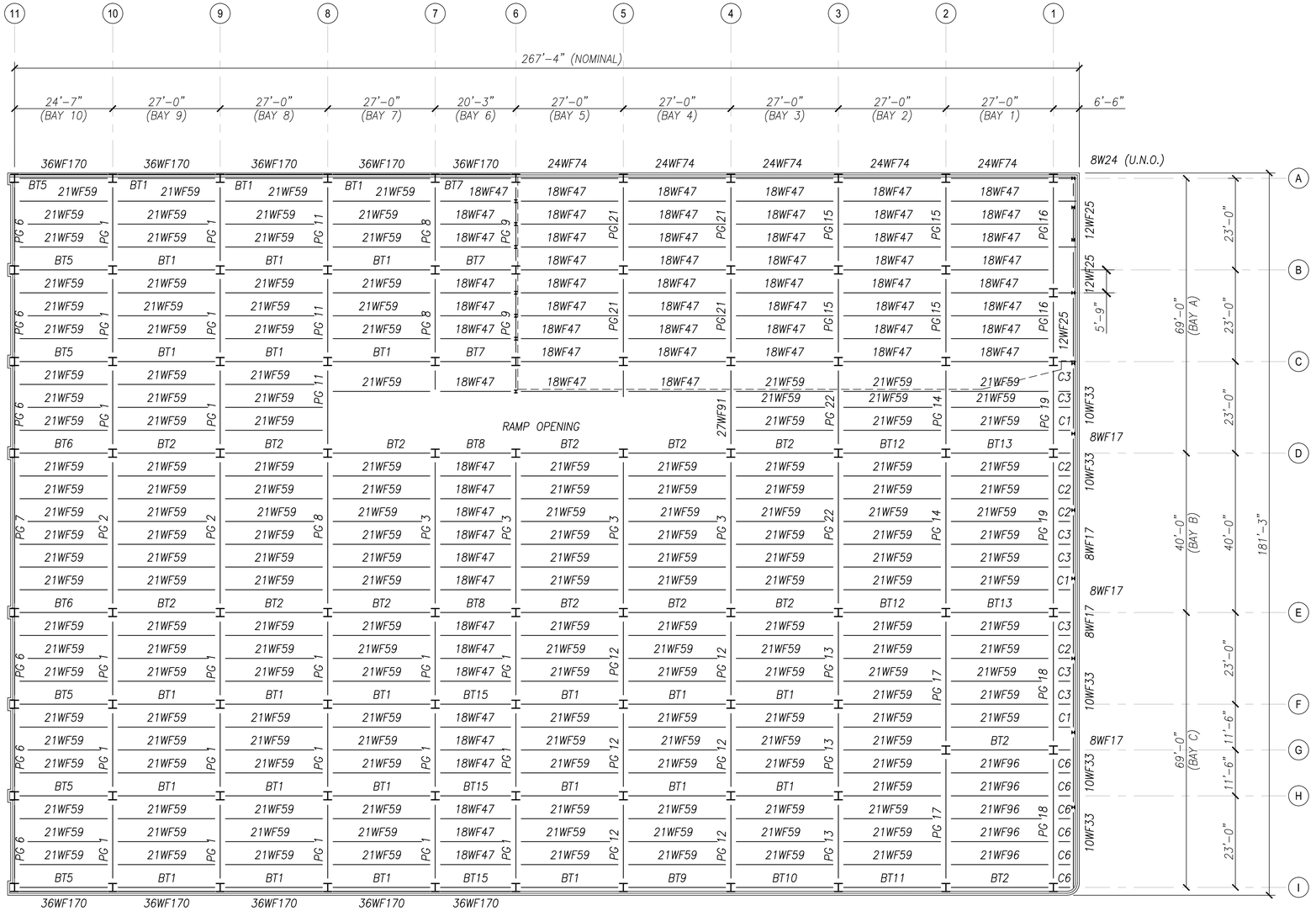

SECOND FLOOR FRAMING PLAN

SCALE: 1" = 20'

NORTH

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
C-51511
Exp. 09/30/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

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SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

SECOND FLOOR FRAMING PLAN

DATE 12/21/2022
A/E NO. S17
SHEET 26 OF 44
DRAWING NO. EM-2022-06
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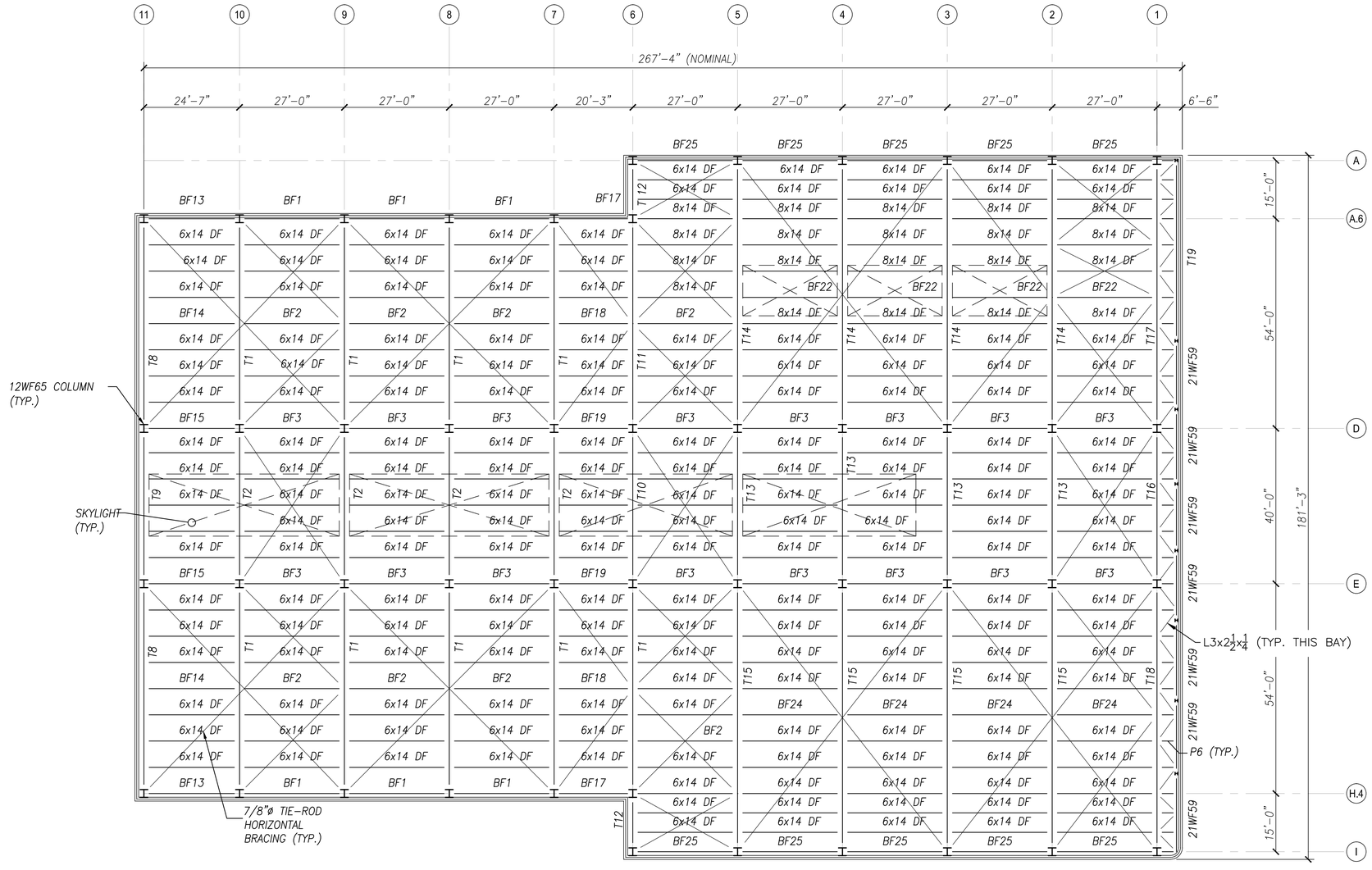

ROOF FRAMING PLAN

SCALE: 1" = 20'

NORTH

REGISTERED PROFESSIONAL ENGINEER — TROY E. GIELUM — C-15134 — Exp. 12/31/2024 — CIVIL — STATE OF CALIFORNIA

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TEG	PROJECT MANAGER
DRAWN: TEG	APPROVED
CHECKED: JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ROOF FRAMING PLAN

DATE 12/21/2022
A/E NO. S18
SHEET 27 OF 44
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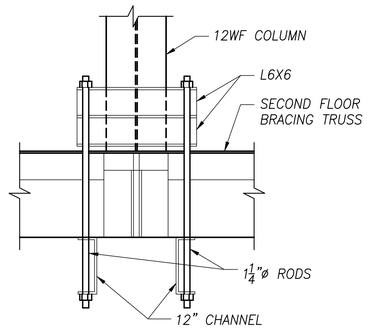
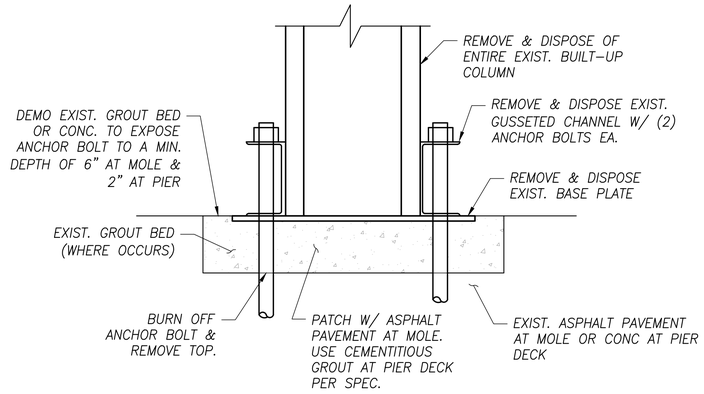


EXIST. SECOND FLOOR COLUMN BASE

SCALE: ¾" = 1'-0"



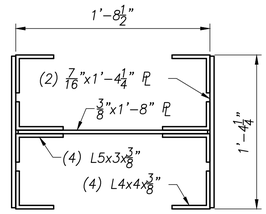
COLUMN CONNECTION

SCALE: ¾" = 1'-0"

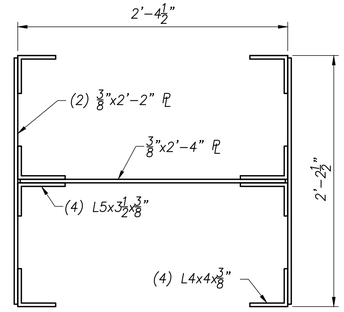
DEMOLITION NOTES

1. CONTRACTOR SHALL TREAT ENDS OF ALL CUT-OFF REBAR AND ANCHOR BOLTS WITH CORROSION PROTECTIVE COATING PER SPECIFICATIONS.

NOTE: COLUMN CONNECTIONS ARE RIVETED WITH SOME AFTER ERECTION FIELD WELDS.



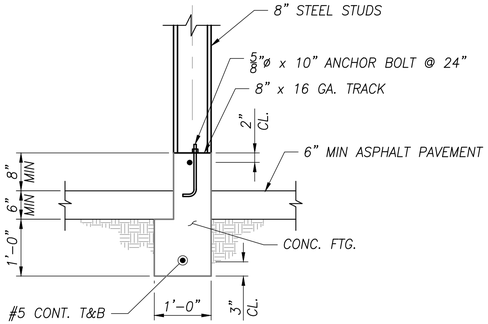
TYPICAL COLUMN AT NF, NI, NM, SF, SI & SM



TYPICAL COLUMN AT NQ & SQ

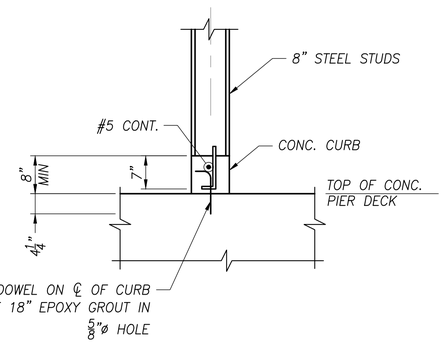
EXISTING BUILT-UP COLUMNS

SCALE: 1½" = 1'-0"



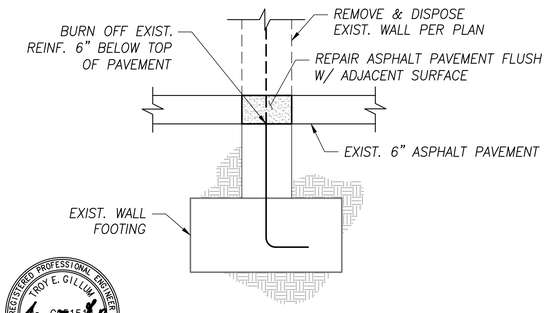
WEST WALL AT MOLE

SCALE: ¾" = 1'-0"



WEST WALL AT PIER DECK

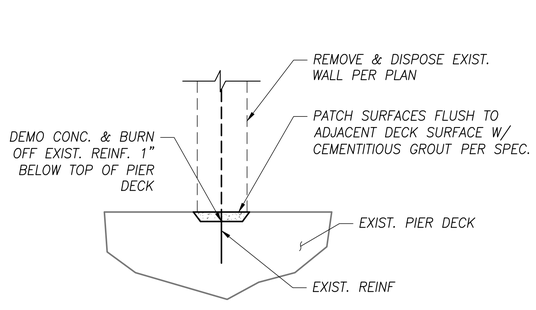
SCALE: ¾" = 1'-0"



WALL DEMOLITION AT MOLE

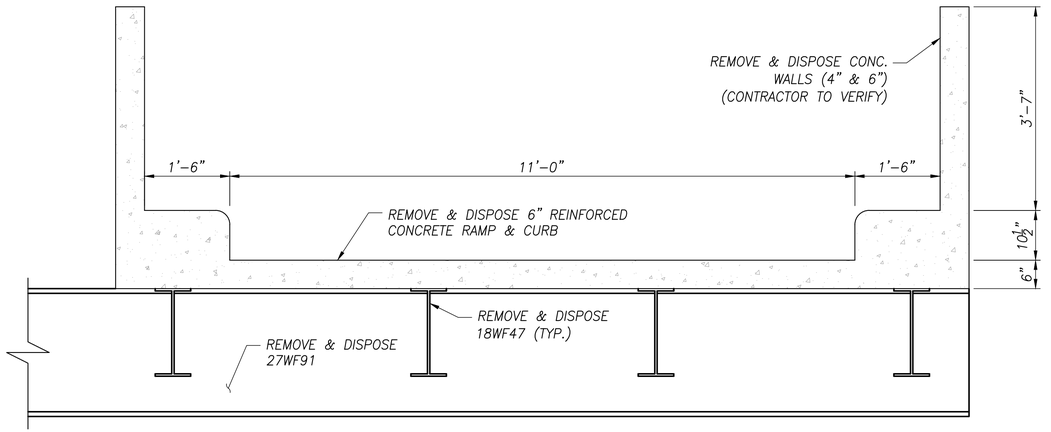
NOT TO SCALE

TRITON ENGINEERS, INC.



WALL DEMOLITION AT PIER DECK

NOT TO SCALE



EXIST. CONCRETE RAMP

SCALE: ¾" = 1'-0"

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ENGINEER OF RECORD
DATE

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SPEC NO. 2022-26	WBS NO. CC-0059-01	100% DESIGN SUBMITTAL	03/29/2023
REFERENCES			
PROJECT ENGINEER			
CONTRACTOR -			
CONSTRUCTION STARTED -			
CONSTRUCTION COMPLETED -			
COST -	INSPECTOR -	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	APPROVAL RECOMMENDED
TEG	PROJECT MANAGER
DRAWN: TEG	APPROVED
CHECKED: JVP	ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

BUILDING DETAILS

DATE	12/21/2022
A/E NO.	S19
SHEET	28 OF 44
DRAWING NO.	EM-2022-06
REV.	A

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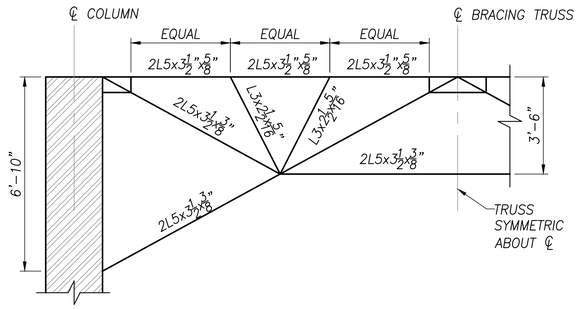
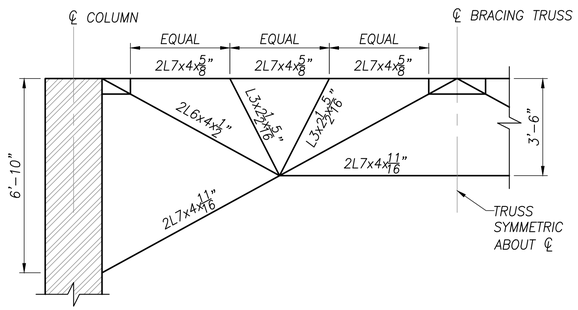
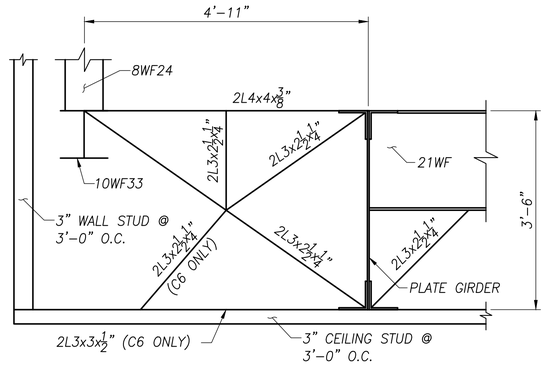


TYPICAL BRACING TRUSS @ COLUMNS ON LINES SF, SI, SM, NF, NI & NM



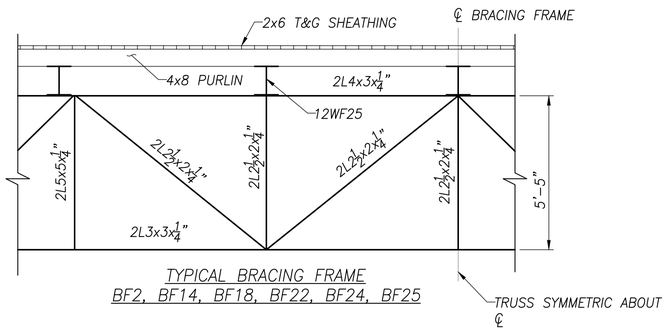
TYPICAL BRACING TRUSS @ COLUMNS ON LINES SQ & NQ



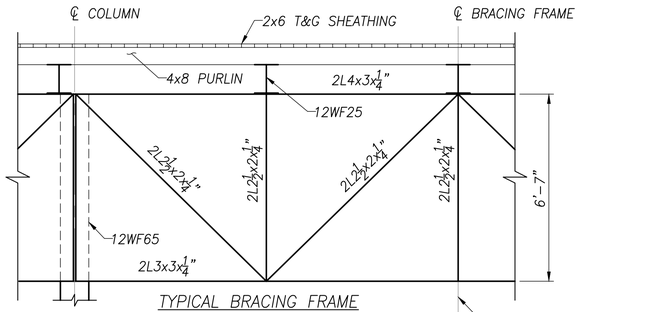
TYPICAL CANTILEVER TRUSS: C1 THRU C6

DEMOLITION NOTES

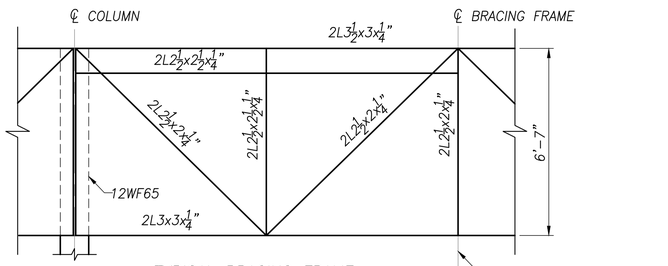
1. ALL PLATE GIRDER CONNECTIONS ARE RIVETED WITH SOME FIELD WELDS.
2. STIFFENER PLATES ARE SPACED ALONG LENGTH OF GIRDERS.
3. ALL BRACING TRUSS & CANTILEVER TRUSS CONNECTIONS ARE RIVETED WITH GUSSET PLATES.
4. THERE ARE SLIGHT VARIANCES IN MEMBER SIZE & GEOMETRY.
2. ALL BRACING FRAME & TRUSS CONNECTIONS ARE RIVETED WITH GUSSET PLATES.
3. THERE ARE SLIGHT VARIANCES IN MEMBER SIZE & GEOMETRY.



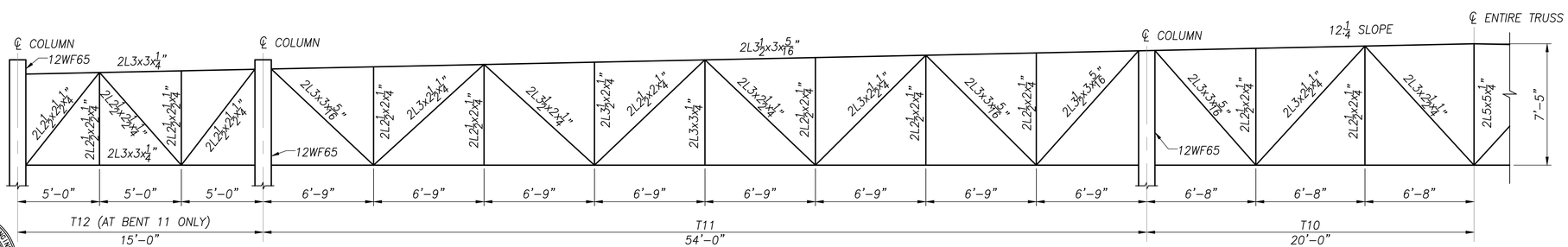
TYPICAL BRACING FRAME BF2, BF14, BF18, BF22, BF24, BF25



TYPICAL BRACING FRAME AT COLUMNS ON LINES SQ & NQ

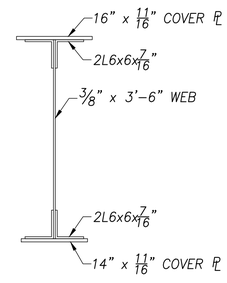


TYPICAL BRACING FRAME AT COLUMNS ON LINES SH & NH



TRUSS T10, T11 & T12 SHOWN

[OTHER TRUSSES HAVE SLIGHT VARIANCES IN GEOMETRY & MEMBER SIZE]



TYPICAL PLATE GIRDER: PG1 THRU PG22

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
No. 85151
Exp. 6/30/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

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REVIEWED BY:
ENGINEER OF RECORD
DATE

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Waterfront of Opportunity

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DRAWN	TEG
CHECKED	JVP

APPROVAL RECOMMENDED
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APPROVED
ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

STEEL TRUSS DETAILS

DATE 12/21/2022
A/E NO. S20
SHEET 29 OF 44
DRAWING NO. EM-2022-06
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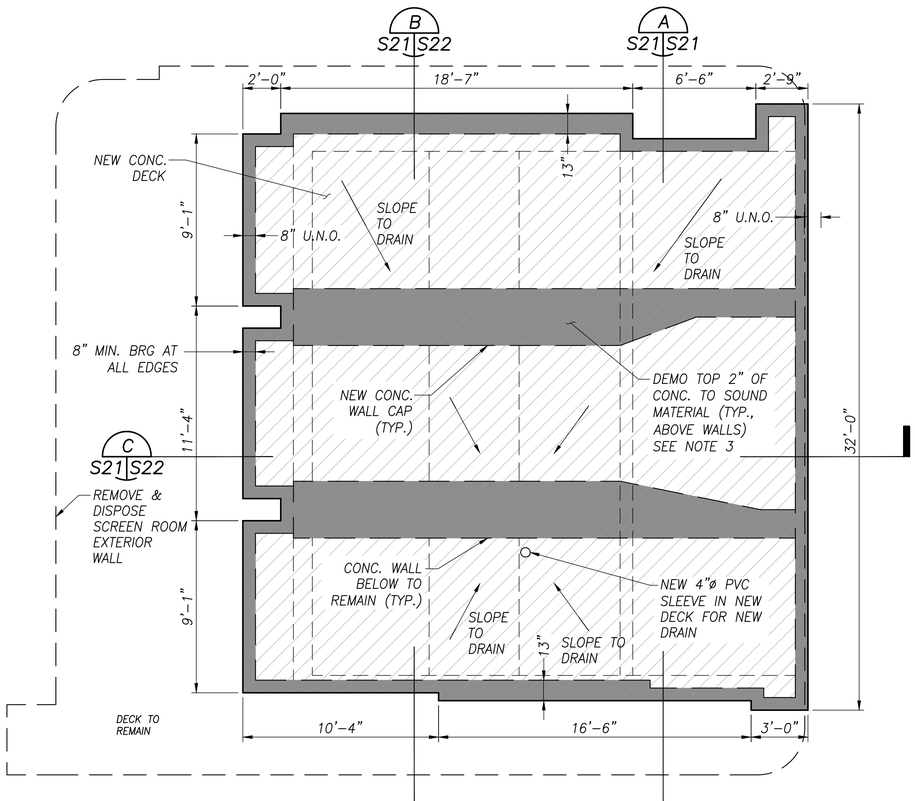
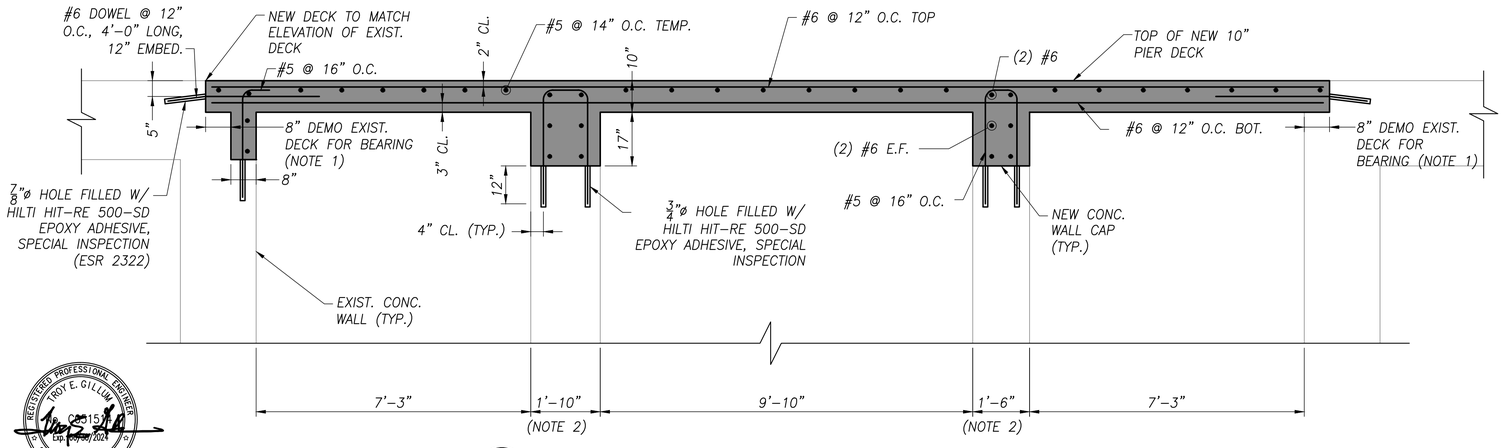


CONCRETE SLAB INFILL PLAN

SCALE: $\frac{1}{4}$" = 1'–0"



A S21|S21 NEW SCREEN ROOM DECK SECTION

SCALE: $\frac{1}{2}$" = 1'–0"

NOTES:

1. PRESERVE EXIST. REINFORCING DURING DEMOLITION. SAWCUT EXISTING WALL & DECK 2" DEEP MIN.
2. WALL WIDTH VARIES FROM 1'–6" TO 3'–0".
3. ROUGHEN CONCRETE SURFACE TO 1/4" AMPLITUDE (MIN.).
4. ALL REINFORCING STEEL SHALL BE FULL LENGTH BARS, U.N.O.

REGISTERED PROFESSIONAL ENGINEER — TROY E. GILLUM — C-35154 — Exp. August 2024 — CIVIL — STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

RECORD DRAWING
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DESIGNED	TEG
DRAWN	TEG
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APPROVAL RECOMMENDED
PROJECT MANAGER
APPROVED
ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

SCREEN ROOM CONCRETE SLAB INFILL PLAN & SECTION

DATE 12/21/2022
A/E NO. S21
SHEET 30 OF 44
DRAWING NO. EM-2022-06
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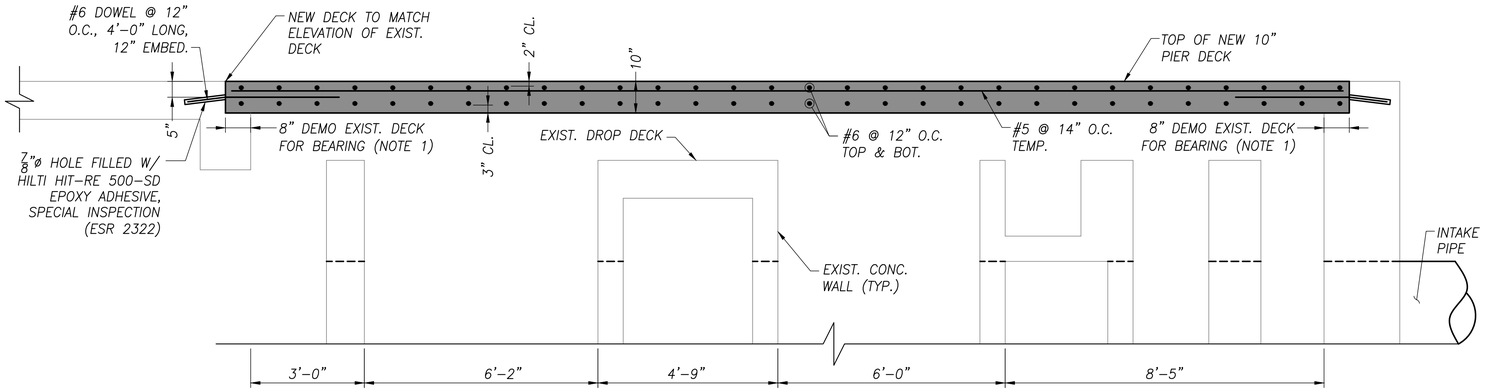
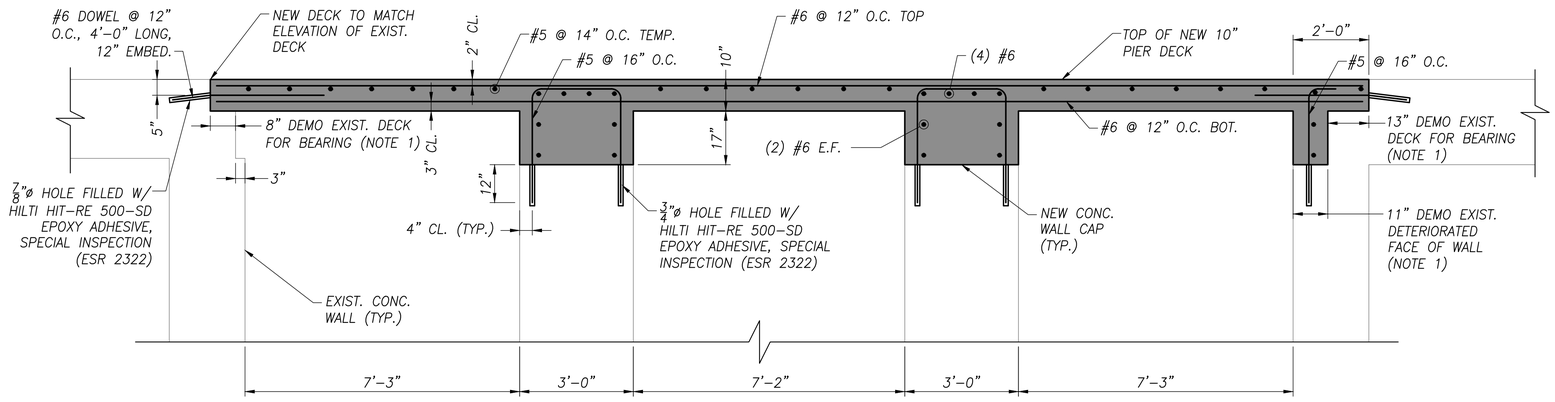


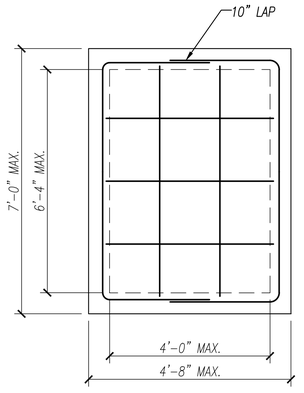
C S21 S22 NEW SCREEN ROOM DECK SECTION
SCALE: 1/2" = 1'-0"



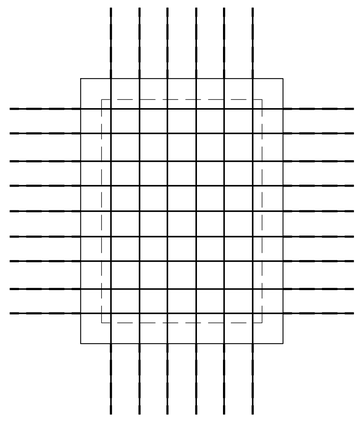
B S21 S22 NEW SCREEN ROOM DECK SECTION
SCALE: 1/2" = 1'-0"

NOTES:

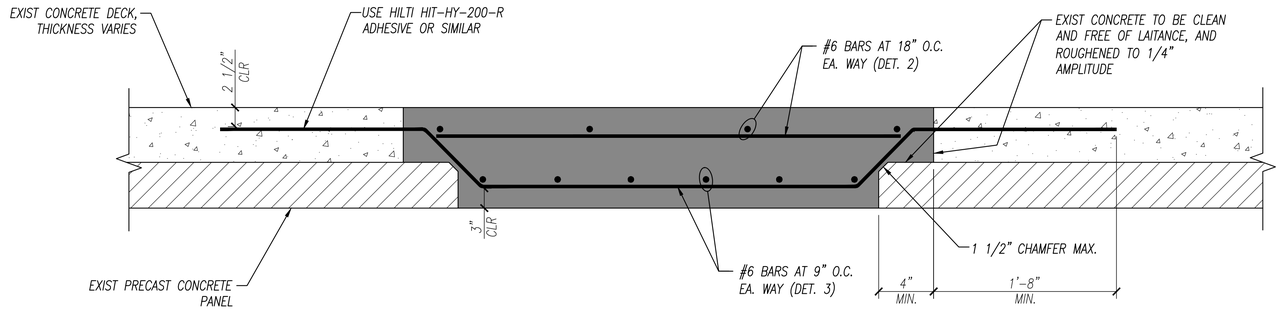
1. PRESERVE EXIST. REINFORCING DURING DEMOLITION. SAWCUT EXISTING WALL & DECK 2" DEEP MIN.
2. WALL WIDTH VARIES FROM 1'-6" TO 3'-0".
3. ROUGHEN CONCRETE SURFACE TO 1/4" AMPLITUDE (MIN.).
4. ALL REINFORCING STEEL SHALL BE FULL LENGTH BARS, U.N.O.



2 S22 S22 TOP REINFORCEMENT



3 S22 S22 BOTTOM REINFORCEMENT



1 S22 S22 DECK PENETRATION – MISC. DETAIL

REGISTERED PROFESSIONAL ENGINEER
TROY E. GILLUM
C-51534
Exp. 12/31/2024
CIVIL
STATE OF CALIFORNIA

TRITON ENGINEERS, INC.

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APPROVED
ENGINEERING MANAGER

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

SCREEN ROOM CONCRETE SLAB INFILL SECTIONS

DATE 12/21/2022
A/E NO. S22
SHEET 31 OF 44
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ELECTRICAL SYMBOLS

GENERAL SYMBOLS

- DASHED SYMBOL INDICATES LUMINAIRE, DEVICE, OUTLET OR EQUIPMENT EXISTING TO REMAIN
- SOLID SYMBOL INDICATES NEW FIXTURE, DEVICE, OUTLET
- DASHED SYMBOL WITH HATCH INDICATES FIXTURE, DEVICE, OUTLET OR EQUIPMENT TO BE DEMOLISHED
- EX — CONDUIT OR WIRING EXISTING TO REMAIN
- CONDUIT OR WIRING TO BE REMOVED
- A — ABANDON CONDUIT IN PLACE
- XN — NEW WIRE INSTALLED IN EXISTING CONDUIT
- XR — REMOVE EXISTING WIRE EXISTING CONDUIT TO REMAIN
- 1 (1) — NOTE REFERENCE
- # — FEEDER REFERENCE, SEE FEEDER SCHEDULE
- 42,000 — SHORT CIRCUIT CURRENT, AMPS
- 3 / E1E — DETAIL NUMBER DESIGNATION; SHEET DETAIL APPEARS ON; SHEET DETAIL REFERENCED FROM
- 3 / E1 — DETAIL NUMBER DESIGNATION; SHEET DETAIL APPEARS ON
- A / E1 — PHOTO NUMBER DESIGNATION; SHEET PHOTO APPEARS ON
- 3/E39 — DETAIL OR SECTION REFERENCES IN NOTES
- +48" — INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR

LIGHTING FIXTURES

- SINGLE LUMINAIRE POLE MOUNTED SITE LIGHTING FIXTURE
- TWIN LUMINAIRE POLE MOUNTED SITE LIGHTING FIXTURE

SITE WORK

- E — ELECTRICAL UNDERGROUND DUCTBANK
- T — TELLECOMMUNICATIONS SYSTEM UNDERGROUND DUCTBANK
- EMH — UNDERGROUND ELECTRIC MANHOLE
- TMH — UNDERGROUND TELECOMMUNICATIONS MANHOLE
- EHH — UNDERGROUND ELECTRIC HANDHOLE
- LHH — UNDERGROUND LIGHTING HANDHOLE

SCHEMATIC AND SINGLE LINE DIAGRAM SYMBOLS

- LOW VOLTAGE CIRCUIT BREAKER
- GROUNDING ELECTRODE
- PANEL XXXX — PANELBOARD
- MEDIUM VOLTAGE CABLE TERMINATOR
- MEDIUM VOLTAGE ELBOW TYPE CONNECTOR
- TRANSFORMER, PAD MOUNTED TYPE

SCHEMATIC AND SINGLE LINE DIAGRAM SYMBOLS

- CURRENT TRANSFORMER
- 3–PHASE, 3–WIRE DELTA CONNECTION
- 3–PHASE, 4–WIRE WYE CONNECTION (GROUNDED NEUTRAL)
- MEDIUM VOLTAGE TERMINATION CABINET
- (M) — UTILITY KWH METER

ELECTRICAL ABBREVIATIONS

ABBREV	DESCRIPTION
A OR AMP	AMPERE
AF	AMP FUSE
AIC	AMPS INTERRUPTING CAPACITY
AS	AMP SWITCH
AT	AMP TRIP
BCG	BARE COPPER GROUND
C	CONDUIT
C.O.	CONDUIT ONLY
CEC	CALIFORNIA ELECTRICAL CODE
CWP	COLD WATER PIPE
EG	EQUIPMENT GROUND
EMT	ELECTRICAL METALLIC TUBING
EXIST, (E)	EXISTING
G	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GR	GROUND ROD
KAIC	THOUSAND AMPERE INTERRUPT CURRENT
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILO–VOLTAMP (POWER)
KW	KILOWATT(S)
LHH	LIGHTING HANDHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MPOE	MINIMUM POINT OF ENTRY
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PB	PULLBOX
PCBs	POLYCHLORINATED BIPHENYLS
PH, ø	PHASE
PNL	ELECTRICAL POWER DISTRIBUTION PANEL
PVC	POLYVINYL CHLORIDE
REC	RECEPTACLE
SDG&E	SAN DIEGO GAS & ELECTRIC COMPANY
SWBD	SWITCHBOARD
TYP	TYPICAL
TRANSF	TRANSFORMER
3W	THREE WIRE
3PH	THREE PHASE
V	VOLT
WP	WEATHERPROOF

GENERAL NOTES

1. THE FOLLOWING GENERAL NOTES APPLY TO ALL ELECTRICAL DRAWINGS.
2. INSTALLATION OF ELECTRICAL MATERIAL SHALL CONFORM WITH LOCAL REGULATIONS AND THE 2022 CALIFORNIA ELECTRICAL CODE (CEC) AND OTHER GOVERNING CODES AND ORDINANCES.
3. ALL ELECTRICAL EQUIPMENT SHALL BE NRTL LABELED.
4. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH HE SHALL BE REQUIRED TO PERFORM HIS WORK.
5. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS. HE SHALL CHECK THE DRAWINGS OF THE OTHER TRADES AND SHALL CAREFULLY READ THE ENTIRE SPECIFICATIONS AND DETERMINE HIS RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM DOING THE WORK IN COMPLETE ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
6. WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, TRANSFORMERS, GROUND FAULT PROTECTION SYSTEM, ETC. (ALL MATERIALS, ARISES ON THE DRAWINGS AND/OR SPECIFICATIONS), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER OR ENGINEER.
7. ALL CONDUIT SIZES ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION UNLESS OTHERWISE NOTED. ALL CONDUCTORS SHALL BE COPPER. CONDUCTOR INSULATION SHALL BE THHN/THWN–2 UNLESS OTHERWISE NOTED.
8. PROVIDE PROPERLY SIZED LUGS AT ALL CIRCUIT BREAKER PANELS, FOR THE CONDUCTORS SHOWN TO CONNECT TO THESE LUGS.
9. ALL CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM SIZE, TYPE THHN/THWN–2 THERMOPLASTIC, 600 VOLT, 75 DEGREES CELSIUS WET AND 90 DEGREES CELSIUS DRY AND UL LISTED UNLESS NOTED OTHERWISE. CONDUCTORS #12 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS #10 AWG AND LARGER SHALL BE STRANDED.
10. INSTALL ALL EXTERIOR MOUNTED ELECTRICAL EQUIPMENT IN WEATHERPROOF, NEMA 3R ENCLOSURES.
11. SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR, SIZED PER CEC TABLE 250.122, SHALL BE PROVIDED, INSTALLED IN THE SAME CONDUIT AS THE CIRCUIT CONDUCTORS, FOR ALL FEEDER AND BRANCH CIRCUITS.
12. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:

FIXED EQUIPMENT ON GRADE	20% OF OPERATING WEIGHT
FIXED EQUIPMENT ON STRUCTURE	30% OF OPERATING WEIGHT

    FOR FLEXIBLY MOUNTED EQUIPMENT USED FOUR (4) TIMES THE ABOVE VALUES, AND FOR SIMULTANEOUS VERTICAL FORCE USE ONE–THIRD (1/3) TIMES THE HORIZONTAL FORCE. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE CONSTRUCTION MANAGER AND FIELD INSPECTOR.
13. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY WHERE UL DOES NOT HAVE A LISTING. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:

    AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
    INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
    NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
    AMERICAN STANDARD ASSOCIATION (ASSA)
    NATIONAL FIRE PROTECTION AGENCY (NFPA)
    AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
    CALIFORNIA ELECTRICAL CODE (CEC) – LATEST EDITION
    CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
    INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
    ALL LOCAL CODES HAVING JURISDICTION
14. ALL INTERRUPTION OF ELECTRICAL POWER SHALL BE KEPT TO A MINIMUM. HOWEVER, WHEN AN INTERRUPTION IS NECESSARY, THE SHUTDOWN MUST BE COORDINATED WITH THE OWNER 72 HOURS PRIOR TO THE OUTAGE. ANY OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
15. RIGID GALVANIZED STEEL CONDUIT FITTINGS SHALL BE THREADED AND THOROUGHLY GALVANIZED. ELECTRICAL METALLIC TUBING (EMT) CONDUIT FITTINGS SHALL BE STEEL, RAINTIGHT THREADLESS COMPRESSION TYPE. DIE CAST, SET SCREW, OR INDENTER TYPES ARE NOT ACCEPTABLE. FLEXIBLE STEEL CONDUIT FITTINGS SHALL BE MALLEABLE IRON CLAMP, SQUEEZE TYPE OR STEEL TWIST–IN TYPE WITH INSULATED THROAT. SET SCREW TYPE IS NOT ACCEPTABLE.
16. JUNCTION AND PULL BOXES: FOR OUTSIDE, DAMP, OR SURFACE LOCATIONS, BOXES SHALL BE HEAVY CAST ALUMINUM OR CAST IRON WITH REMOVABLE, GASKETED, NON–FERROUS MACHINE SCREW SECURED COVERS. BOXES SHALL BE SIZED FOR THE NUMBER AND SIZES OF CONDUCTORS AND CONDUIT ENTERING THE BOX AND EQUIPPED WITH PLASTER EXTENSION RINGS WHERE REQUIRED. BOXES SHALL BE LABELED TO INDICATE PANEL AND CIRCUIT NUMBER, OR TYPE OF SIGNAL OR COMMUNICATIONS SYSTEM.

PHASING AND DEMOLITION NOTES

1. PROJECT REQUIRES NEW ELECTRICAL SERVICE AND DISTRIBUTION FOR EXISTING PIER PARKING LOT TICKET BOOTH AND LIGHTING. THE EXISTING PARKING LOT ELECTRICAL SERVICE IS METER PEDESTAL 960A N HARBOR DRIVE, LOCATED INSIDE THE HEAD HOUSE SDG&E ELECTRICAL ROOM. CONTRACTOR SHALL PROVIDE AND CONNECT NEW METER PEDESTAL AND DISTRIBUTION FOR PARKING LOT PRIOR TO DEMOLITION OF EXISTING METER PEDESTAL OR CONNECTED WIRING ROUTING THROUGH HEAD HOUSE TO PARKING LOT.
2. PROJECT REQUIRES COMPLETE DEMOLITION OF HEAD HOUSE BUILDING. THE ELECTRICAL, TELECOMMUNICATION AND FIRE/LIFE SAFTEY ITEMS INCLUDED IN THIS DEMOLITION ARE SWITCHBOARDS, PANELBOARD, LOAD CENTERS, METER PEDESTAL, SAFETY SWITCHES, MOTOR CONTROLS, CRANE SYSTEMS, WIRE AND CABLE, RACEWAY SYSTEMS, JUNCTION BOXES, LUMINAIRES AND LAMPS, EXIT SIGNS, EMERGENCY LIGHTING UNITS, WIRING DEVICES, TELECOMMUNICATIONS CABLING, TERMINATION BLOCKS, FIRE ALARM CONTROLS PANELS AND DEVICES, AND OTHER RELATED EQUIPMENT.
3. COORDINATE AND SCHEDULE SDG&E DISCONNECTION AND REMOVAL OF SDG&E SERVICE CABLING PER PROJECT REQUIREMENTS.
4. COORDINATE AND SCHEDULE TELECOMMUNICATION COMPANIES DISCONNECTION AND REMOVAL OF ENTRANCE FACILITIES UP TO THE MPOE FOR ALL ACTIVE AND INACTIVE SERVICES.

RECYCLING AND HAZARDOUS WASTE DISPOSAL FOR ELECTRICAL SYSTEMS

1. DISPOSAL OF LAMPS AND TUBES: FLUORESCENT LAMPS AND TUBES AND HIGH–INTENSITY DISCHARGE (HID) LAMPS ARE CONSIDERED HAZARDOUS WASTE AND SHALL BE RECYCLED BY STATE OF CALIFORNIA AUTHORIZED RECYCLING FACILITY. DO NOT BREAK LAMPS OR TUBES. LAMPS SHALL BE STORED AND SHIPPING IN A SAFE MANNER TO AVOID BREAKAGE AND RELEASE OF MERCURY.
2. DISPOSAL OF FLUORESCENT LIGHT BALLASTS: FLUORESCENT LIGHT BALLASTS MANUFACTURED THROUGH 1979 MAY CONTAIN PCBS. IF BALLAST HAS A "NO PCBS" LABEL OR LESS THAN 50 PPM THAN IT IS NOT REGULATED FOR STORAGE OR DISPOSAL. OTHERWISE, THE STORAGE AND DISPOSAL IS REGULATED IN ACCORDANCE WITH EPA TOXIC SUBSTANCES CONTROL ACT (TSCA). ALL STORAGE AND DISPOSAL SHALL MEET THESE REQUIREMENTS.
3. SUBMIT ALL CERTIFICATION DOCUMENTS RECEIVED AS RECORD OF PROPER DISPOSAL.

REGISTERED PROFESSIONAL ENGINEER — ALAN J. BRO — No. 13– — 08-30-24 — ELECTRICAL — STATE OF CALIFORNIA — NOT FOR CONSTRUCTION

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
REVIEWED BY:
PROJECT-MANAGER/ENGINEER
DATE

NOTE: THIS DRAWING MAY BE A REDUCED SCALE PRINT OF THE ORIGINAL DRAWING. UTILIZE GRAPHIC SCALES TO VERIFY IF DRAWING IS A REDUCTION, AND ADJUST SCALES ACCORDINGLY TO THE GRAPHIC SCALES SHOWN.

SPEC NO. 2022–26 WBS NO. OC–0059–01			
REFERENCES			
PROJECT ENGINEER			
CONTRACTOR			
CONSTRUCTION STARTED			
CONSTRUCTION COMPLETED			
COST INSPECTOR	REVISIONS	DATE / APPROVED	

PORT of SAN DIEGO — Waterfront of Opportunity

DESIGNED A. BROWN	APPROVAL RECOMMENDED	DISTRICT PROJECT MANAGER
DRAWN J. CARNAHAN	APPROVED	DISTRICT MANAGER-DESIGN
CHECKED R. SLOCUM		

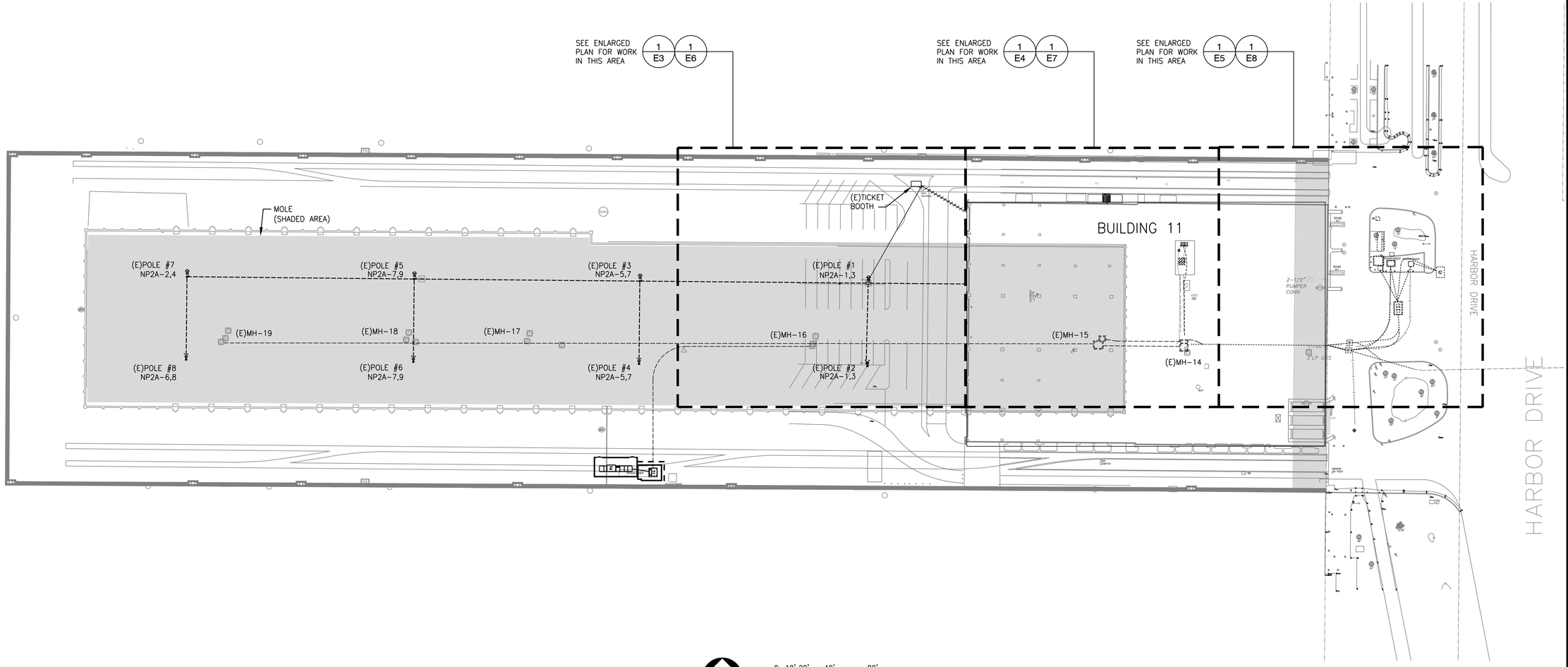
SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL LEGENDS, GENERAL NOTES

DATE	4/27/2023
A/E NO.	E1
SHEET	32 OF 44
DRAWING NO.	EM-2022-06
REV.	-

K:\Projects\Rick Engineering - 0288\22-1059 Navy Pier Freedom Park\Dwgs\CAD v2020\Elec\E1.dwg / Apr 27, 2023 - 10:04am / padams



1 E2 ELECTRICAL KEY PLAN
SCALE: 1" = 40'-0"

N

0 10' 20' 40' 80'
SCALE: 1"=40'-0"

REGISTERED PROFESSIONAL ENGINEER ALAN J. BROWN No. 13** 06-30-24 ELECTRICAL STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

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SAN DIEGO, CA 92131
TEL: 858.800.6000
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BSE PROJECT NO. 22-0288-1059

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DATE

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PROJECT ENGINEER			
CONTRACTOR			
CONSTRUCTION STARTED			
CONSTRUCTION COMPLETED			
COST INSPECTOR	REVISIONS	DATE / APPROVED	

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED A. BROWN
DRAWN J. CARNAHAN
CHECKED R. SLOCUM

APPROVAL RECOMMENDED _____ DISTRICT PROJECT MANAGER
APPROVED _____ DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

ELECTRICAL KEY PLAN

DATE 4/27/2023
A/E NO. E2
SHEET 33 OF 44
DRAWING NO. EM-2022-06
REV. -

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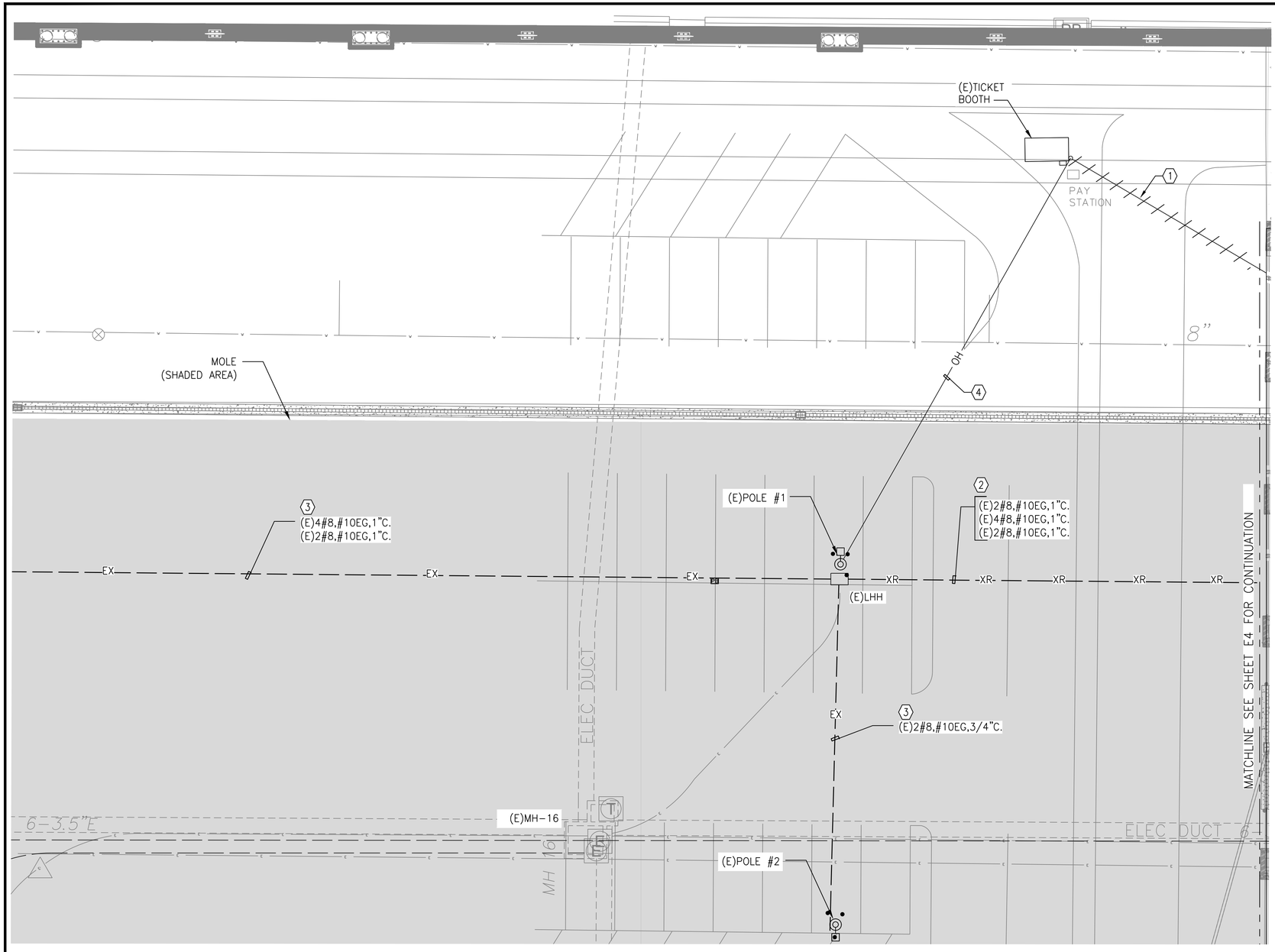


GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK. INFORMATION PROVIDED AND SHOWN ON THE DRAWINGS IS FROM AVAILABLE AS-BUILT DOCUMENTATION.
2. ALL UTILITIES ARE SHOWN EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
3. WIRE AND CONDUIT RUNS SHOWN ARE DIAGRAMMATIC.
4. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN REMOVING EXISTING CONDUIT, WIRING, CONCRETE BASES, POLES, AND ANY OTHER ITEMS AFFECTED BY THE SCOPE OF WORK.
5. REFER TO SHEET E11 FOR DEMOLITION SINGLE LINE DIAGRAM.
6. CONTRACTOR SHALL MARKOUT ALL UTILITIES PRIOR TO TRENCHING OR DIGGING.
7. ANY UTILITIES THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL FEE.
8. COORDINATE ELECTRICAL AND TELECOMMUNICATIONS DEMOLITION AND NEW CONSTRUCTION FOR TICKET BOOTH AND PARKING LOT LIGHTING TO MINIMIZE OUTAGES.

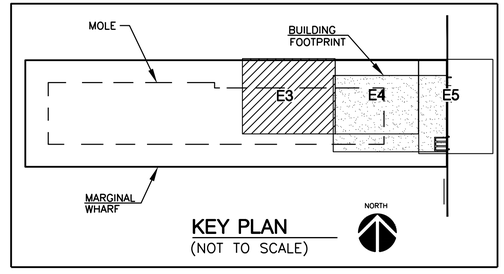
KEY NOTES:

(1) DISCONNECT OVERHEAD TELECOMMUNICATION CABLES FROM HEAD HOUSE TO MAST POLE AT TICKET BOOTH. RETAIN MAST POLE, CABLING AND CONNECTIONS AT HEAD HOUSE FOR RE-USE.

(2) REMOVE ELECTRICAL WIRING FOR LIGHTING CIRCUITS FROM METER PEDESTAL IN BLDG 11 ELECTRICAL ROOM TO LHH ADJACENT TO POLE #1. ABANDON CONDUIT IN PLACE. COORDINATE WITH NEW CONSTRUCTION.

(3) EXISTING DUCTBANK AND WIRING TO REMAIN.

(4) REMOVE OVERHEAD 600V CABLING, MESSENGER WIRE, AND RISER CONDUCTORS. RETAIL MAST POLE AT TICKET BOOTH FOR RE-USE.



1/E3 ELECTRICAL SITE PLAN DEMOLITION 1
SCALE: 1" = 10'-0"

SCALE: 1"=10'-0"

REGISTERED PROFESSIONAL ENGINEER — ALAN J. BROWN — No. 13... — 08-30-24 — ELECTRICAL — STATE OF CALIFORNIA — NOT FOR CONSTRUCTION

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9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
REVIEWED BY:
PROJECT-MANAGER/ENGINEER
DATE

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SPEC NO. 2022-26 WBS NO. OC-0059-01			
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PROJECT ENGINEER			
CONTRACTOR			
CONSTRUCTION STARTED			
CONSTRUCTION COMPLETED			
COST INSPECTOR	REVISIONS	DATE / APPROVED	

PORT of SAN DIEGO Waterfront of Opportunity

DESIGNED A. BROWN
DRAWN J. CARNAHAN
CHECKED R. SLOCUM

APPROVAL RECOMMENDED _____ DISTRICT PROJECT MANAGER
APPROVED _____ DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL SITE PLAN DEMOLITION 1

DATE 4/27/2023
A/E NO. E3
SHEET 34 OF 44
DRAWING NO. EM-2022-06
REV. -

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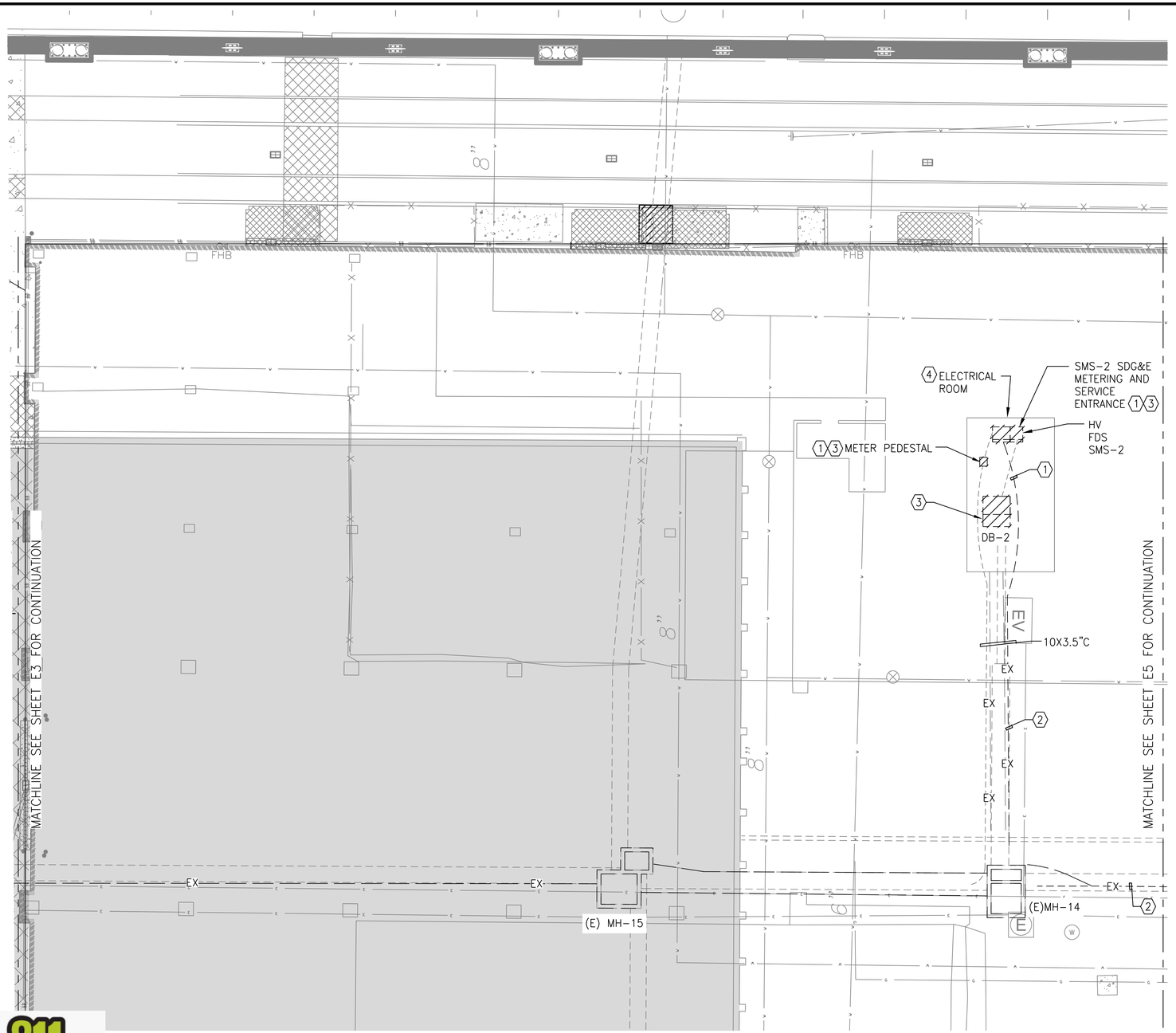

1 / E4 ELECTRICAL SITE PLAN DEMOLITION 2
SCALE: 1" = 10'-0"

0 5' 10' 20'
SCALE: 1"=10'-0"

GENERAL NOTES:

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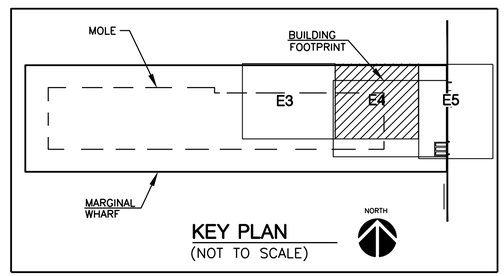
2. ALL UTILITIES ARE SHOWN EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
3. WIRE AND CONDUIT RUNS SHOWN ARE DIAGRAMMATIC.
4. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN REMOVING EXISTING CONDUIT, WIRING, CONCRETE BASES, POLES, AND ANY OTHER ITEMS AFFECTED BY THE SCOPE OF WORK.
5. REFER TO SHEET E11 FOR DEMOLITION SINGLE LINE DIAGRAM.
6. CONTRACTOR SHALL MARKOUT ALL UTILITIES PRIOR TO TRENCHING OR DIGGING.
7. ANY UTILITIES THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL FEE.

KEY NOTES:

1. SDG&E TO REMOVE SERVICE CABLES AND METER. COORDINATE WITH SDG&E.
2. SDG&E TO REMOVE CABLES. CONDUITS TO BE ABANDONED. COORDINATE WITH SDG&E.
3. REMOVE AND DISPOSE OF ELECTRICAL EQUIPMENT PER SINGLE LINE DIAGRAM, SHEET E11.
4. REMOVE AND DISPOSE OF ALL ELECTRICAL EQUIPMENT IN ELECTRICAL ROOM.



REGISTERED PROFESSIONAL ENGINEER ALAN J. BRO No. 13** NOT FOR CONSTRUCTION 06-30-24 ELECTRICAL STATE OF CALIFORNIA

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9903 BUSINESSPARK AVE. SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
REVIEWED BY:
PROJECT-MANAGER/ENGINEER
DATE

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SPEC NO. 2022-26	WBS NO. OC-0059-01		
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CONTRACTOR			
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CONSTRUCTION COMPLETED			
COST	INSPECTOR	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED A. BROWN
DRAWN J. CARNAHAN
CHECKED R. SLOCUM

APPROVAL RECOMMENDED _____ DISTRICT PROJECT MANAGER
APPROVED _____ DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL SITE PLAN DEMOLITION 2

DATE 4/27/2023
A/E NO. E4
SHEET 35 OF 44
DRAWING NO. EM-2022-06
REV. -

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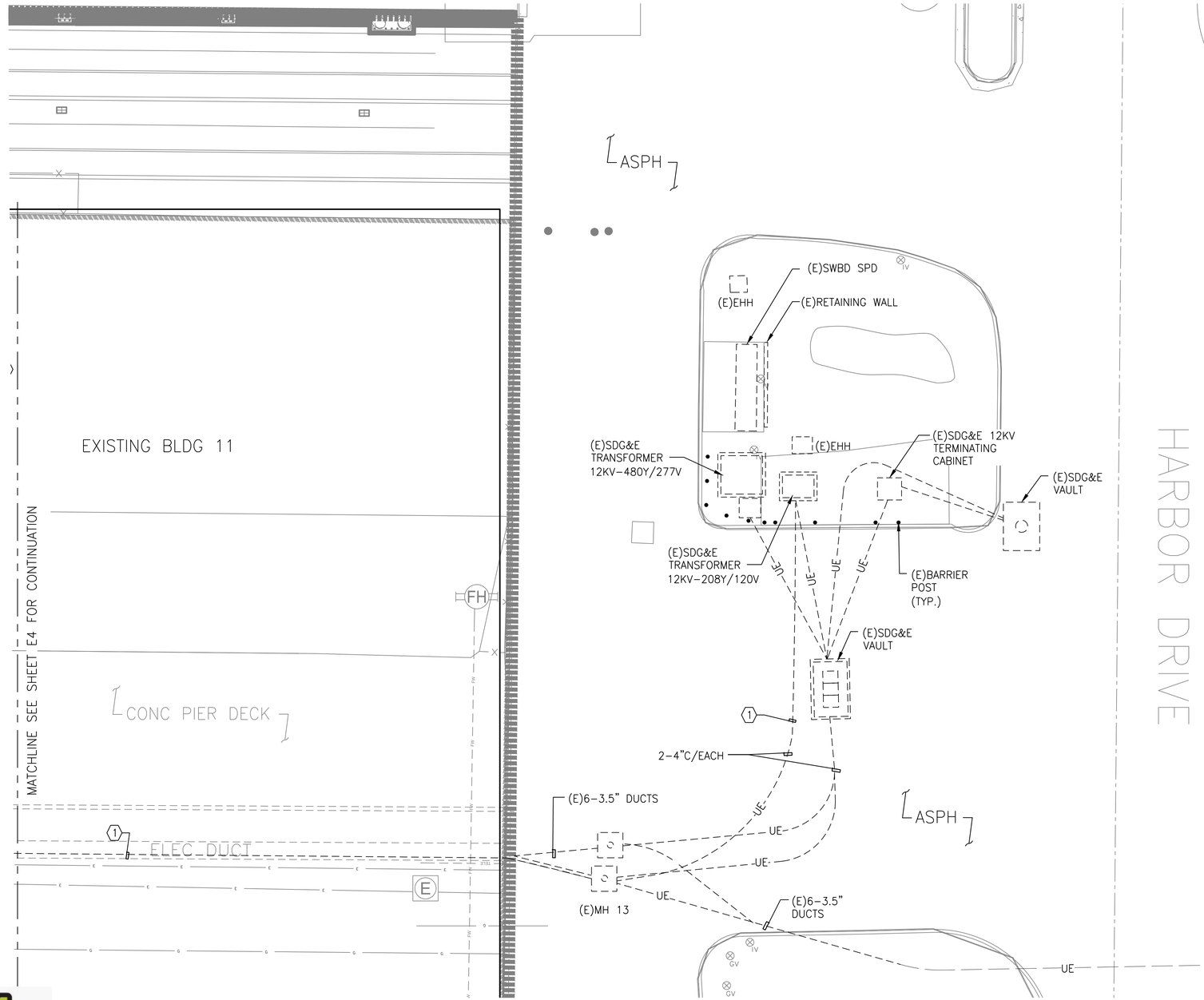

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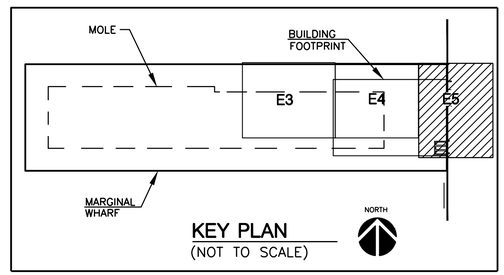
7. ANY UTILITIES THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL FEE.

KEY NOTES:

1. SDG&E TO REMOVE CABLES. CONDUITS TO BE ABANDONED. COORDINATE WITH SDG&E.



1 / E5 ELECTRICAL SITE PLAN DEMOLITION 3
SCALE: 1" = 10'-0"

SCALE: 1"=10'-0"

REGISTERED PROFESSIONAL ENGINEER ALAN J. BROWN No. 13... NOT FOR CONSTRUCTION 12-31-24 ELECTRICAL STATE OF CALIFORNIA

811 Know what's below. Call before you dig.

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
REVIEWED BY:
PROJECT-MANAGER/ENGINEER
DATE

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SPEC NO. 2022-26 WBS NO. OC-0059-01			
REFERENCES			
PROJECT ENGINEER			
CONTRACTOR			
CONSTRUCTION STARTED			
CONSTRUCTION COMPLETED			
COST INSPECTOR	REVISIONS	DATE / APPROVED	

PORT of SAN DIEGO Waterfront of Opportunity

DESIGNED A. BROWN
DRAWN J. CARNAHAN
CHECKED R. SLOCUM

APPROVAL RECOMMENDED ____ DISTRICT PROJECT MANAGER
APPROVED ____ DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL SITE PLAN DEMOLITION 3

DATE 4/27/2023
A/E NO. E5
SHEET 36 OF 44
DRAWING NO. EM-2022-06
REV. -

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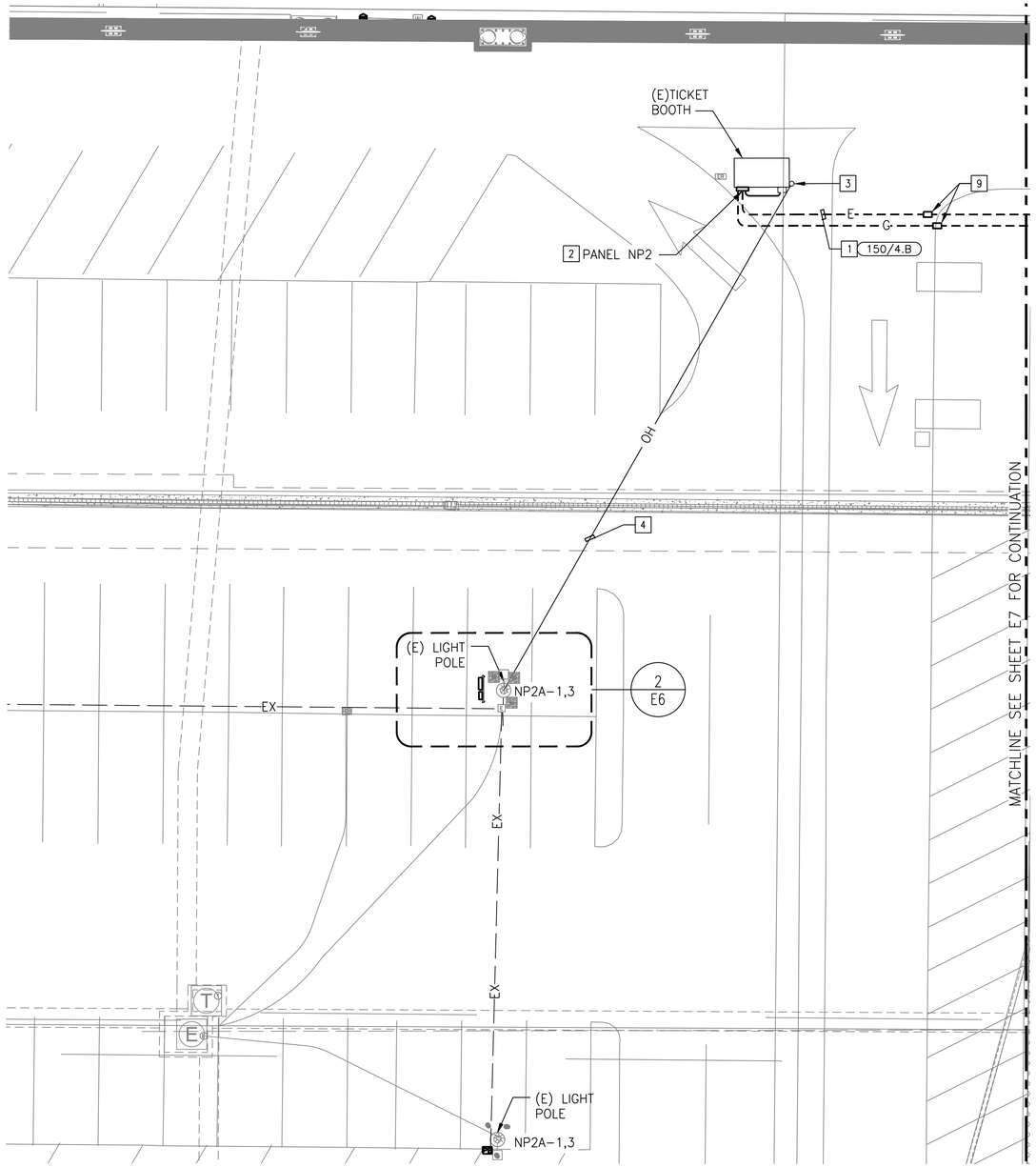
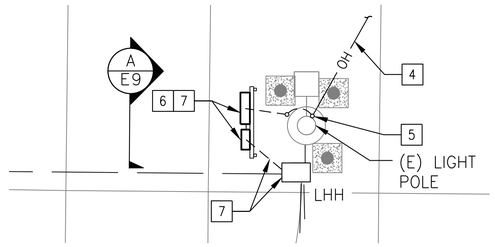


1 E6 ELECTRICAL SITE PLAN RENOVATION 1
SCALE: 1" = 10'-0"

0 5' 10' 20'
SCALE: 1"=10'-0"



2 E6 ENLARGED PLAN
SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8'
SCALE: 1/4"=1'-0"

GENERAL NOTES:

1. REFER TO DETAIL 1/E12 FOR SINGLE LINE DIAGRAM FOR EQUIPMENT, CONDUIT AND WIRING REQUIREMENTS.

KEY NOTES:

1 ROUTE ELECTRICAL CIRUIT UNDERNEATH PIER DECK. EXPOSED UNDERDECK CONDUIT SHALL BE PVC SCHEDULE 80. SUPPORT CONDUIT FROM PIER CONCRETE STRUCTURE. SEE DETAIL 7/E9 FOR CONDUIT ATTACHMENT.

2 PENETRATE PIER DECK ADJACENT TO TICKET BOOTH AND INSTALL PANELBOARD ON SIDE OF STRUCTURE. REFER TO SINGLE LINE DIAGRAM.

3 REUSE EXISTING MAST ARM AND SERVICEHEAD FOR OVERHEAD CABLE BETWEEN TICKET BOOTH AND LIGHT POLE. PROVIDE 3 #4, #6G XHWW-2, IN EXISTING SERVICE MAST. EXTEND CABLE IN 1-1/4" CONDUIT TO PANEL NP2.

4 PROVIDE OVERHEAD MESSENGER WIRE TO PARKING LOT LIGHTING PER SINGLE LINE DIAGRAM, SHEET E12. MINIMUM CLEARANCE OF OVERHEAD CABLE ABOVE GRADE SHALL BE 18 FEET.

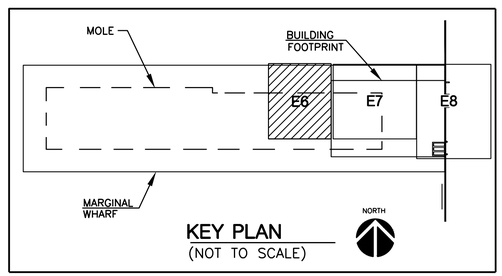
5 PROVIDE RISER CABLES AND CONDUIT, 3 #6 & #8G XHHW-2, 1-1/4"C WITH SERVICEHEAD FOR POLE RISER. SERVICEHEAD TO BE 1 FOOT ABOVE POINT OF CABLE ATTACHMENT TO PREVENT MOISTURE ENTERING CONDUIT RISER. SERVICE DROP ATTACHMENT SHALL BE FACING AERIAL CONDUCTORS. RISER CONDUIT SHALL BE PVC SCHEDULE 80.

6 PROVIDE PANEL NP2A AND LIGHTING TIME SWITCH MOUNTED ON SLOTTED CHANNEL RACK. SEE DETAIL 2/E10 FOR RACK ELEVATION AND DETAIL 1/E10 FOR OUTDOOR LIGHTING CONTROL DIAGRAM.

7 PROVIDE CONDUIT AND WIRING TO PANEL NP2A AND TO LIGHTING HANDHOLE PER SINGLE LINE DIAGRAM AND LIGHTING CONTROL DIAGRAM DETAIL 1/E10. SPLICE INTO EXISTING LIGHTING CIRCUITS IN LIGHTING HANDHOLE.

8 PROVIDE #2 BCG, 1"C, UNDERNEATH PIER DECK. EXPOSED UNDERDECK CONDUIT SHALL BE PVC SCHEDULE 80. SUPPORT CONDUIT FROM PIER DECK STRUCTURE.

9 PROVIDE POLYCARBONATE JUNCTION BOX ENCLOSURES, NEMA 4X AND IP67 RATED. MINIMUM SIZE SHALL BE 16"X14"X8" FOR 2"C AND 10"X8"X4" FOR 1"C. FEEDER CIRCUIT CONDUCTORS AND GROUNDING ELECTRODE CONDUCTOR SHALL NOT BE PERMITTED TO BE IN THE SAME ENCLOSURE.



KEY PLAN
(NOT TO SCALE)

REGISTERED PROFESSIONAL ENGINEER
ALAN J. BROWN
No. 12345
06-30-24
ELECTRICAL
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

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9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
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SPEC NO. 2022-26	WBS NO. OC-0059-01
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PROJECT ENGINEER	
CONTRACTOR	
CONSTRUCTION STARTED	
CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	A. BROWN
DRAWN	J. CARNAHAN
CHECKED	R. SLOCUM

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL SITE PLAN RENOVATION 1

DATE	4/27/2023
A/E NO.	E6
SHEET	37 OF 44
DRAWING NO.	EM-2022-06
REV.	-

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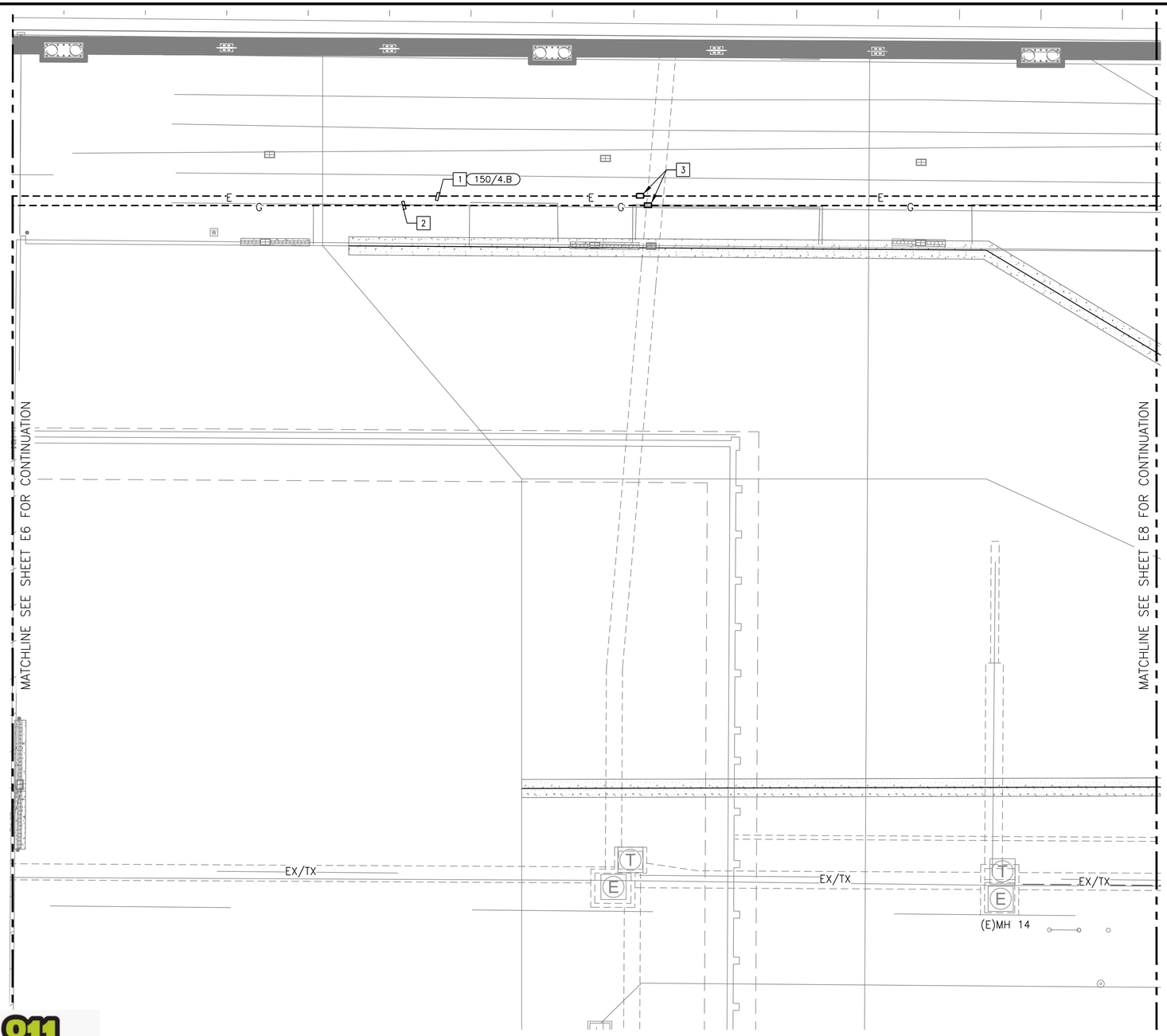


GENERAL NOTES:

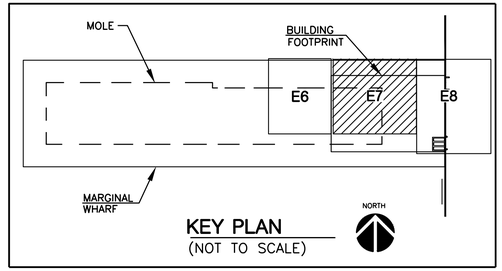
1. REFER TO DETAIL 1/E12 FOR SINGLE LINE DIAGRAM FOR EQUIPMENT, CONDUIT AND WIRING REQUIREMENTS.

KEY NOTES:

[1] ROUTE ELECTRICAL CIRUIT UNDERNEATH PIER DECK. EXPOSED UNDERDECK CONDUIT SHALL BE PVC SCHEDULE 80. SUPPORT CONDUIT FROM PIER CONCRETE STRUCTURE. SEE DETAIL 7/E9 FOR CONDUIT ATTACHMENT.

[2] PROVIDE #2 BCG, 1"C, UNDERNEATH PIER DECK. EXPOSED UNDERDECK CONDUIT SHALL BE PVC SCHEDULE 80. SUPPORT CONDUIT FROM PIER DECK STRUCTURE.

[3] PROVIDE POLYCARBONATE JUNCTION BOX ENCLOSURES, NEMA 4X AND IP67 RATED. MINIMUM SIZE SHALL BE 16"X14"X8" FOR 2"C AND 10"X8"X4" FOR 1"C. FEEDER CIRCUIT CONDUCTORS AND GROUNDING ELECTRODE CONDUCTOR SHALL NOT BE PERMITTED TO BE IN THE SAME ENCLOSURE.



1/E7 ELECTRICAL SITE PLAN RENOVATION 2
SCALE: 1" = 10'-0"

SCALE: 1"=10'-0"

REGISTERED PROFESSIONAL ENGINEER ALAN J. BRO No. 13?? 08-30-24 ELECTRICAL STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

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CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS | DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	A. BROWN
DRAWN	J. CARNAHAN
CHECKED	R. SLOCUM

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION

ELECTRICAL SITE PLAN RENOVATION 2

DATE	4/27/2023
A/E NO.	E7
SHEET	38 OF 44
DRAWING NO.	EM-2022-06
REV.	-

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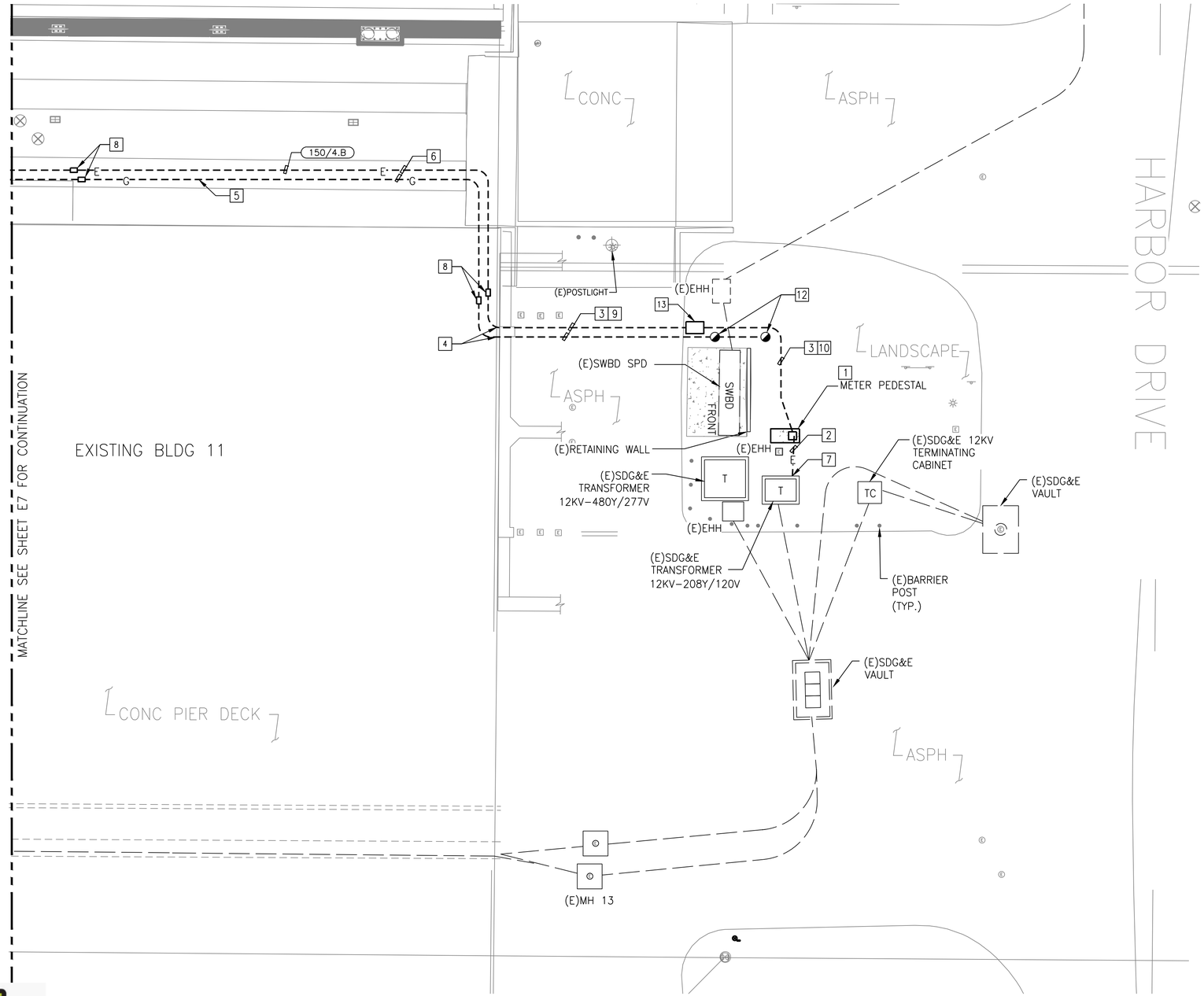
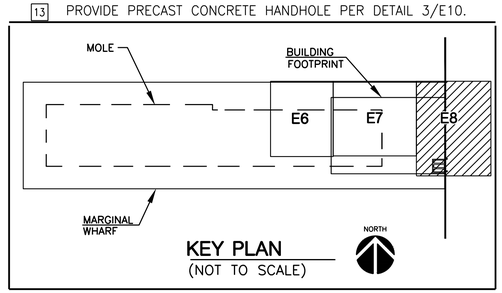


GENERAL NOTES:

1. REFER TO DETAIL 1/E12 FOR SINGLE LINE DIAGRAM FOR EQUIPMENT, CONDUIT AND WIRING REQUIREMENTS.
2. MARKOUT ALL EXISTING UTILITIES PRIOR TO TRENCHING. ALL DAMAGED UTILITIES SHALL BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST.

KEY NOTES:

1. PROVIDE METERED PEDESTAL ON CONCRETE PAD. REFER TO DETAIL 4/E9 FOR REQUIREMENTS.
2. PROVIDE 1-3"C.O. SDG&E TO FURNISH AND INSTALL CABLES. REFER TO DETAIL 2/E9.
3. PROVIDE CONDUIT AND WIRING INSTALLED IN UNDERGROUND DUCTBANK ON LAND. SEE DUCTBANK SECTION, DETAIL 1/E9.
4. CORE DRILL QUAYWALL AND PROVIDE EXPANSION/DEFLECTION FITTING FOR EACH CONDUIT. EXTEND PVC SCHEDULE 80 CONDUIT UNDERNEATH PIER DECK. X-RAY CONCRETE TO LOCATE REBAR PRIOR TO CORE DRILL.
5. PROVIDE #2 BCG, 1"C, UNDERNEATH PIER DECK. EXPOSED UNDERDECK CONDUIT SHALL BE PVC SCHEDULE 80. SUPPORT CONDUIT FROM PIER DECK STRUCTURE.
6. ROUTE ELECTRICAL CIRCUIT UNDERNEATH PIER DECK. EXPOSED UNDERDECK CONDUIT SHALL BE PVC SCHEDULE 80. SUPPORT CONDUIT FROM PIER CONCRETE STRUCTURE. SEE DETAIL 7/E9 FOR CONDUIT ATTACHMENT.
7. PROVIDE CONDUIT TO EDGE OF SDG&E TRANSFORMER PAD PER SINGLE LINE, SHEET E12. SDG&E WILL INSTALL RISER CONDUIT INTO TRANSFORMER COMPARTMENT, COORDINATE WITH SDG&E.
8. PROVIDE POLYCARBONATE JUNCTION BOX ENCLOSURES, NEMA 4X AND IP67 RATED. MINIMUM SIZE SHALL BE 16"x14"x8" FOR 2"C AND 10"X8"X4" FOR 1"C. FEEDER CIRCUIT CONDUCTORS AND GROUNDING ELECTRODE CONDUCTOR SHALL NOT BE PERMITTED TO BE IN THE SAME ENCLOSURE.
9. SAWCUT ASPHALT FOR TRENCH AND PATCH TO MATCH EXISTING.
10. TRENCH THROUGH LANDSCAPE AREA. COORDINATE LOCATION OF DUCTBANK WITH EXISTING TREES AND RESTORE AREA TO ORIGINAL APPEARANCE.
11. PROVIDE #2 BCG, 1"C, UNDERNEATH PIER DECK OR IN DUCTBANK ON LAND SIDE. EXPOSED UNDERDECK CONDUIT SHALL BE PVC SCHEDULE 80 AND SUPPORTED FROM PIER DECK STRUCTURE.
12. PROVIDE 3/4" X 10' COPPER CLAD STEEL GROUND RODS. GROUND RODS SHALL BE SPACED MINIMUM OF 6 FEET APART. REFER TO DETAIL 4/E9.
13. PROVIDE PRECAST CONCRETE HANDHOLE PER DETAIL 3/E10.



1/E8 ELECTRICAL SITE PLAN RENOVATION 3
SCALE: 1" = 10'-0"

SCALE: 1"=10'-0"

REGISTERED PROFESSIONAL ENGINEER ALAN J. BROWN No. 12- 08-30-24 ELECTRICAL STATE OF CALIFORNIA — NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
REVIEWED BY:
PROJECT-MANAGER/ENGINEER
DATE

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SPEC NO. 2022-26	WBS NO. OC-0059-01
REFERENCES	
PROJECT ENGINEER	
CONTRACTOR	
CONSTRUCTION STARTED	
CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	A. BROWN
DRAWN	J. CARNAHAN
CHECKED	R. SLOCUM

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL SITE PLAN RENOVATION 3

DATE	4/27/2023
A/E NO.	E8
SHEET	39 OF 44
DRAWING NO.	EM-2022-06
REV.	-

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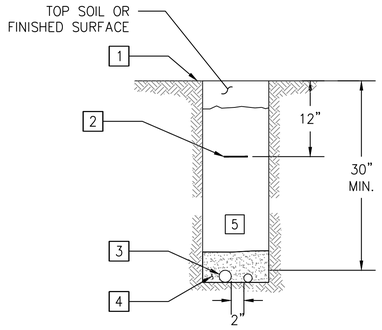
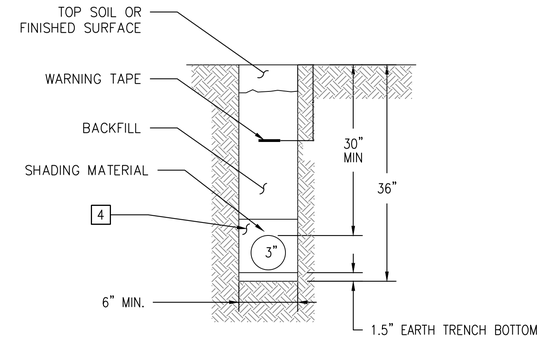


DETAIL NOTES:

1. FINISHED GRADE.
2. DETECTABLE WARNING TAPE.
3. SCHEDULE 40 PVC CONDUIT OR AS INDICATED.
4. SHADING MATERIAL: SAND OR ROCK-FREE SOIL.
5. BACKFILL COMPACT TO 95% RELATIVE DENSITY.

DUCTBANK SECTION - SAND ENCASED

SCALE: NONE | 1

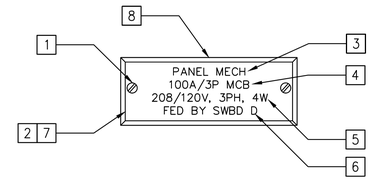


GENERAL NOTES:

1. TRENCH CONSTRUCTED TO SDG&E STANDARDS 3365.1, 3365.2 AND 3370.2.
2. ALL BASE, SHADING AND BACK FILL MATERIAL MUST BE APPROVED BY AN SDG&E INSPECTOR.
3. CONDUIT TYPE SHALL BE DB 60 FOR 3" AND 5" CONDUITS, AND DB 100 FOR 4" CONDUITS PER SDG&E STANDARD UG3373.1.
4. PROVIDE QUANTITY OF CONDUITS PER ELECTRICAL SITE PLANS, SHEETS E6 TO E8.

SDG&E DUCTBANK SECTION

SCALE: NONE | 2

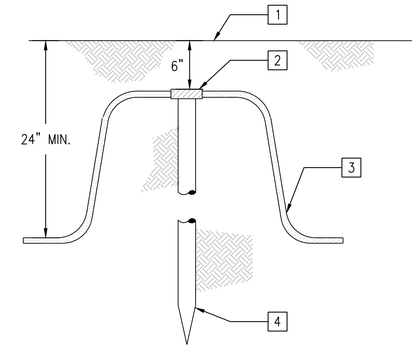


DETAIL NOTES:

1. CADMIUM OR STAINLESS STL. ROUNDHEAD SCREWS.
2. BLACK ON WHITE LAMINATED PLASTIC 1/16" THICK MIN. WITH BEVELED EDGE.
3. LINE 1-EQUIPMENT NAME.
4. LINE 2-MAIN CIRCUIT BREAKER OR LUGS ONLY BUS RATING.
5. LINE 3-VOLTAGE.
6. LINE 4-FED BY SOURCE.
7. ALL LETTERS 3/16".
8. NAMEPLATE TEXT IS SAMPLE. PROVIDE NAMEPLATE TEXT PER EQUIPMENT IDENTIFICATION AND RATINGS.

NAMEPLATE DETAIL

SCALE: NONE | 3

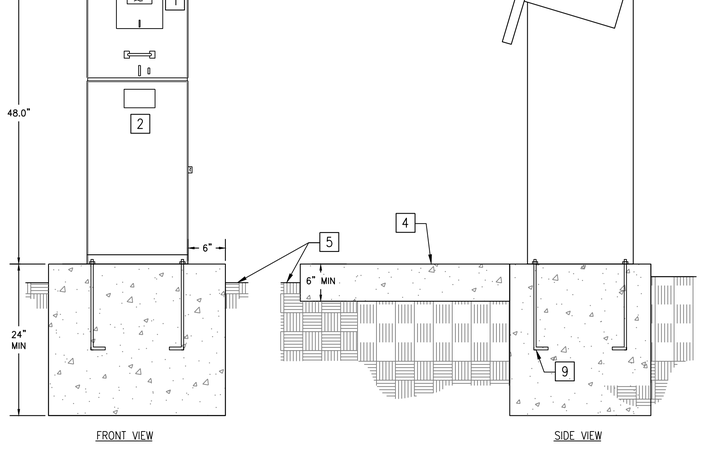


DETAIL NOTES:

1. FINISH GRADE.
2. CONNECT GROUND ROD TO GROUND GRID WITH EXOTHERMIC WELD.
3. #4 BCG STRANDED GROUND WIRE.
4. 3/4" DIA. X 10' LONG COPPER CLAD GROUND ROD.

GROUND ROD INSTALLATION DETAIL

SCALE: NONE | 4

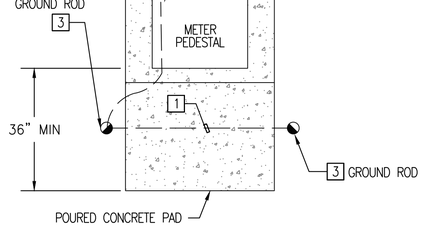


DETAIL NOTES:

1. DEMAND RESET COVER. HINGED PADLOCKABLE, AND SEALABLE
2. NAMPLATE PER DETAIL 3/E9.
3. HINGED EXTERIOR DOOR.
4. CONCRETE SLAB, EXTEND 3 FEET IN FRONT OF EQUIPMENT. REFER TO 6/E9 FOR PEDESTAL PAD GROUNDING.
5. FINISH GRADE.
6. ANCHOR BOLTS, 5/8" DIAMETER MIN X 18" GALVANIZED, 4" 90 DEGREE BEND (4 REQUIRED).

METER PEDESTAL DETAIL

SCALE: NONE | 5

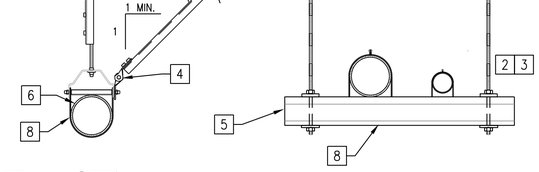


DETAIL NOTES:

1. #2 BARE COPPER WIRE.
2. 20" EXPOSED TAILOUT. CONNECT TO EQUIPMENT OR GROUND BUS.
3. GROUND ROD AT CONCRETE PAD. REFER TO DETAIL 4/E9.

PEDESTAL PAD GROUNDING DETAIL

SCALE: NONE | 6



DETAIL NOTES:

1. ROD STIFFENER, AS REQUIRED.
2. CHANNEL TRANSVERSE BRACING SHALL BE PROVIDE AT 40 FEET MAXIMUM SPACING. ALL BRACES SHALL BE LOCATED WITHIN 6 INCHES OF A VERTICAL SUPPORT.
3. CHANNEL LONGITUDINAL BRACING SHALL BE PROVIDE AT 80 FEET MAXIMUM SPACING.
4. BOLT SIZE ADJUSTABLE HINGE.
5. STAINLESS STEEL SLOTTED SUPPORT.
6. PVC COATED CLEVIS HANGER.
7. THREADED ROD, 3/8", STAINLESS STEEL.
8. ALL BRACING AND ATTACHMENTS SHALL COMPLY WITH CALIFORNIA BUILDING CODE (CBC) AND BE CERTIFIED BY MANUFACTURER.

UNDER PIER CONDUIT MOUNTING DETAIL

SCALE: NONE | 7

REGISTERED PROFESSIONAL ENGINEER
ALAN J. BROWN
No. 12345
ELECTRICAL
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION
10-03-24

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

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REVIEWED BY:
PROJECT-MANAGER/ENGINEER
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CONTRACTOR			
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COST	INSPECTOR	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	A. BROWN
DRAWN	J. CARNAHAN
CHECKED	R. SLOCUM

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL DETAILS

DATE	4/27/2023
A/E NO.	E9
SHEET	40 OF 44
DRAWING NO.	EM-2022-06
REV.	-

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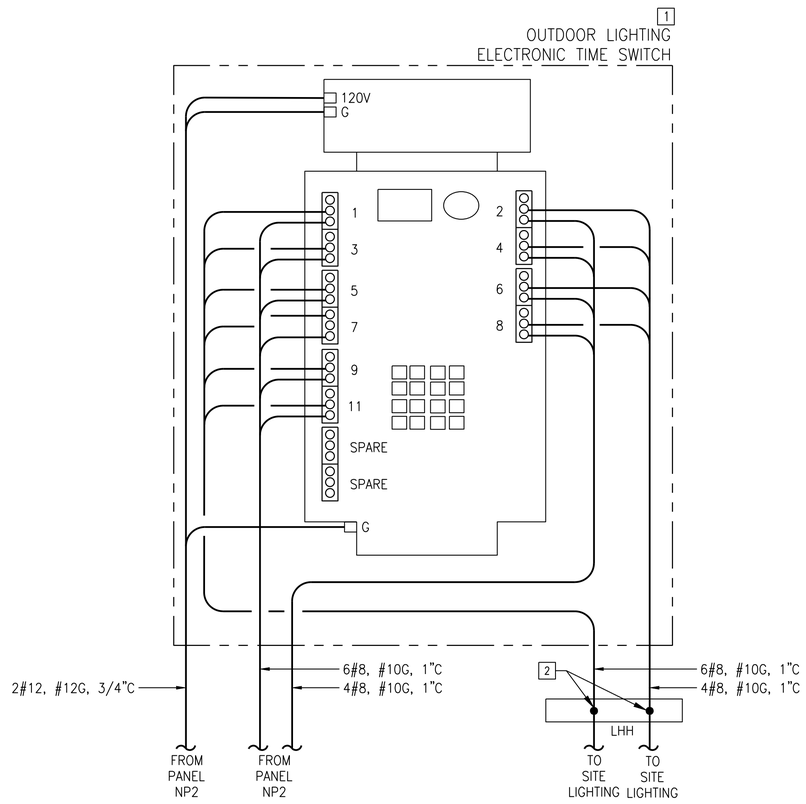
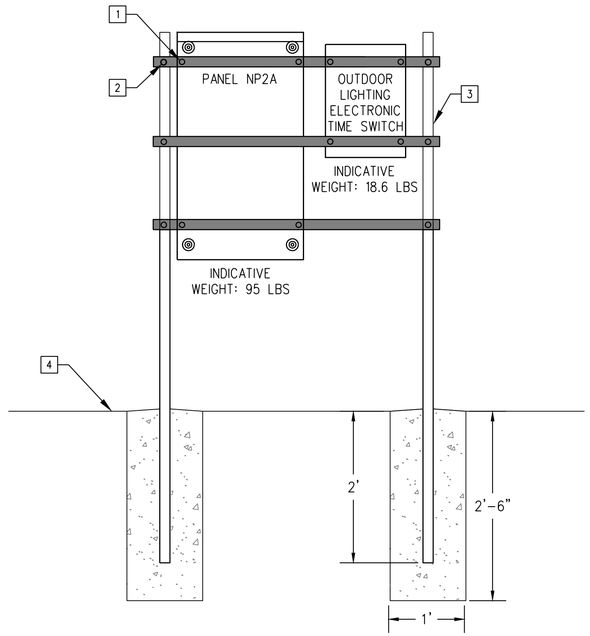


DETAIL NOTES:

1. PROVIDE OUTDOOR LIGHTING TIMER PANEL WITH 4-CIRCUIT CONTROL, ASTRONOMIC 365-DAY OPERATION, 120-277V AND NEMA 3R ENCLOSURE. CONTROLLER SHALL BE CALIFORNIA TITLE 24 COMPLIANT.
2. INTERCEPT AND SPLICE LIGHTING BRANCH CIRCUITS IN HANDHOLE EHH-02A.

OUTDOOR LIGHTING CONTROL WIRING DIAGRAM

SCALE NONE | 1

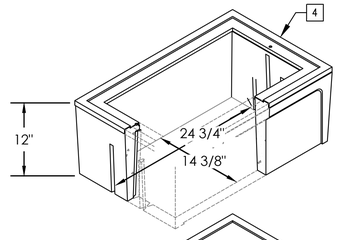


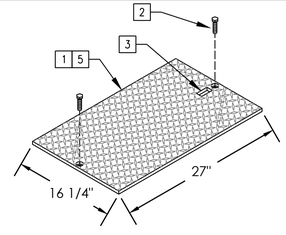
DETAIL NOTES:

1. (4) 3/8" DIAMETER BOLT THRU BACKSIDE OF HORIZONTAL STRUT AND INTO SPRING NUT IN VERTICAL STRUT. (TYP)
2. CHANNEL STRUT FOR HORIZONTAL UNISTRUT RACKING (TYP)
3. VERTICAL UNISTRUT RACKING
4. FINISH GRADE

ELECTRICAL EQUIPMENT RACK - FRONT VIEW

SCALE NONE | 2





DETAIL NOTES:

1. STEEL TRAFFIC COVER FOR H-20 BRIDGE LOADING CONDITION.
2. STANDARD HEX-HEAD BOLTS.
3. LIFTING HOLE.
4. TOP RING WITH STEEL FRAME CAST INTO SECTION TO RECEIVE COVER.
5. UTILITY IDENTIFICATION TO READ "ELECTRIC" ON TOP OF COVER.
6. PROVIDE 12" CONCRETE EXTENSION FOR A TOTAL HEIGHT OF 24".

ELECTRICAL HANDHOLE DETAIL

SCALE NONE | 3

REGISTERED PROFESSIONAL ENGINEER — ELAN J. BROWN — No. 12- — 08-30-24 — ELECTRICAL — STATE OF CALIFORNIA — NOT FOR CONSTRUCTION

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
REVIEWED BY:
PROJECT-MANAGER/ENGINEER
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REFERENCES		
PROJECT ENGINEER		
CONTRACTOR		
CONSTRUCTION STARTED		
CONSTRUCTION COMPLETED		
COST INSPECTOR	REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	A. BROWN
DRAWN	J. CARNAHAN
CHECKED	R. SLOCUM

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

ELECTRICAL DETAILS

DATE	4/27/2023
A/E NO.	E10
SHEET	41 OF 44
DRAWING NO.	EM-2022-06
REV.	-

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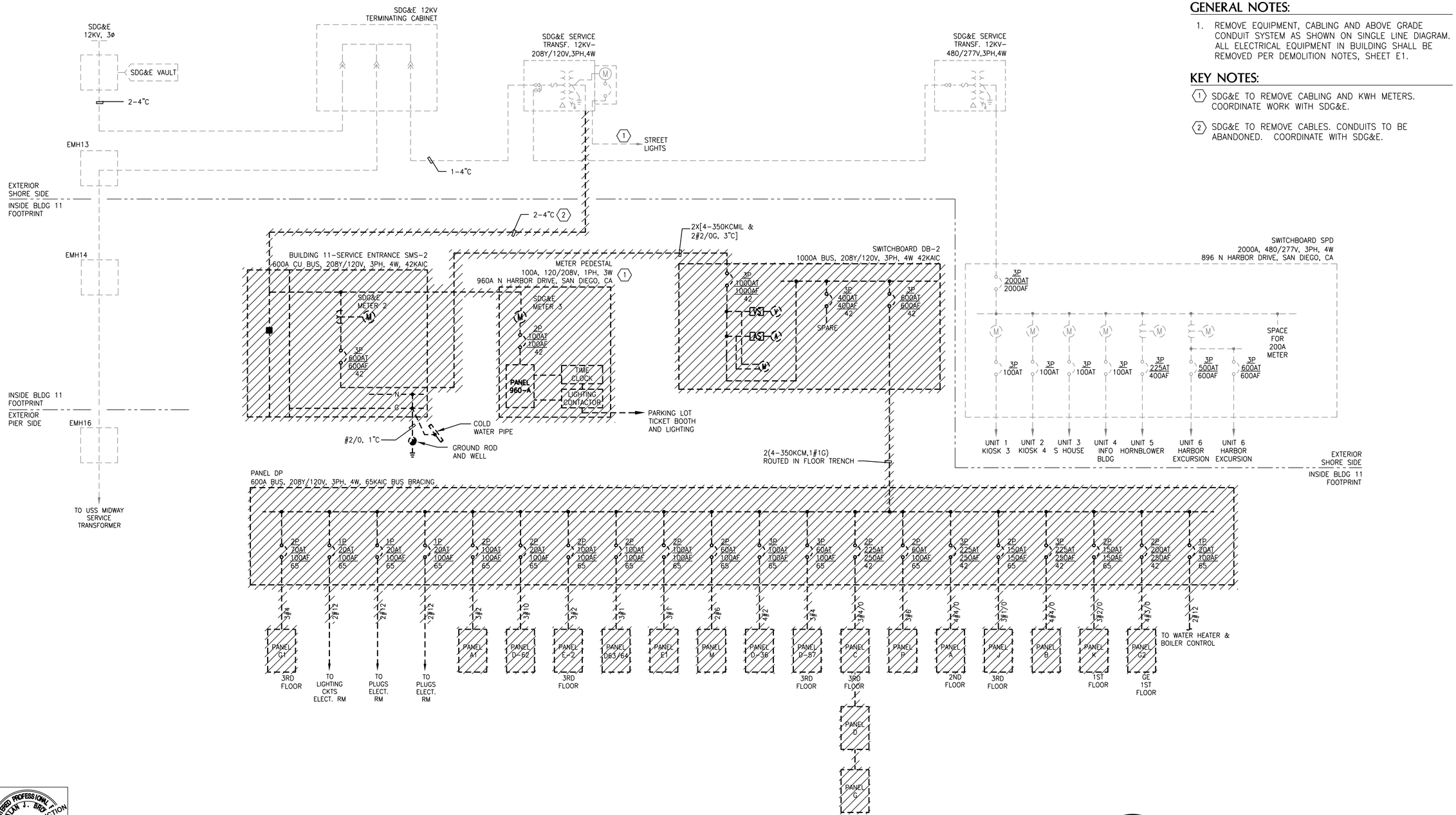
GENERAL NOTES:

1. REMOVE EQUIPMENT, CABLING AND ABOVE GRADE CONDUIT SYSTEM AS SHOWN ON SINGLE LINE DIAGRAM. ALL ELECTRICAL EQUIPMENT IN BUILDING SHALL BE REMOVED PER DEMOLITION NOTES, SHEET E1.

KEY NOTES:

(1) SDG&E TO REMOVE CABLING AND KWH METERS. COORDINATE WORK WITH SDG&E.

(2) SDG&E TO REMOVE CABLES. CONDUITS TO BE ABANDONED. COORDINATE WITH SDG&E.



1 / E11 SINGLE LINE DIAGRAM DEMOLITION
SCALE: NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — ALAN J. BROWER — No. 12... — ELECTRICAL — STATE OF CALIFORNIA — NOT FOR CONSTRUCTION — 08-30-24

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
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PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED A. BROWN	APPROVAL RECOMMENDED	SAN DIEGO,CA
DRAWN J. CARNAHAN	DISTRICT PROJECT MANAGER	NAVY PIER FREEDOM PARK - PHASE IIA HEADHOUSE DEMOLITION
CHECKED R. SLOCUM	APPROVED	SINGLE LINE DIAGRAM DEMOLITION
	DISTRICT MANAGER-DESIGN	

DATE	4/27/2023
A/E NO.	E11
SHEET	42 OF 44
DRAWING NO.	EM-2022-06
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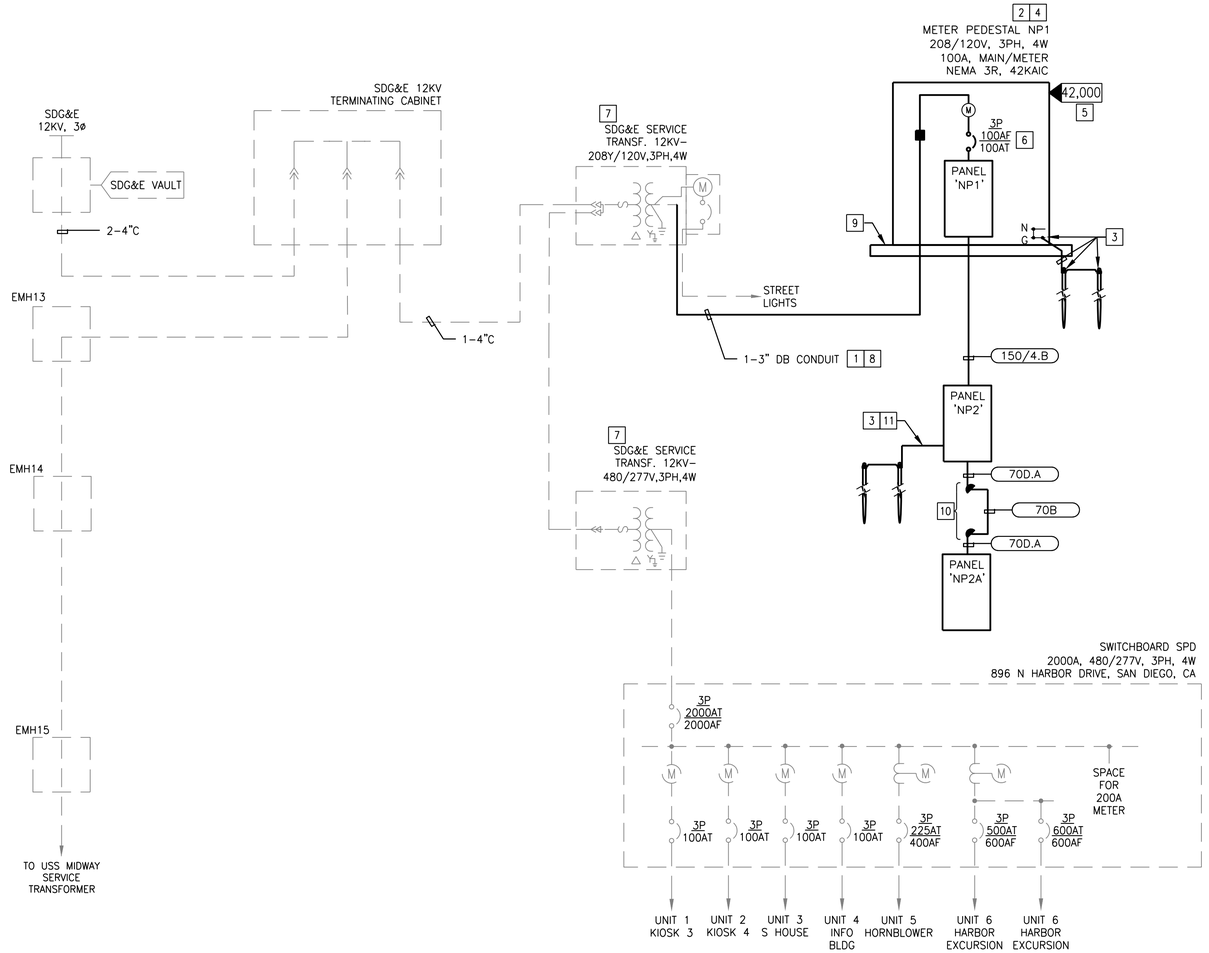

1 / E12 SINGLE LINE DIAGRAM RENOVATION
SCALE: NOT TO SCALE

KEY NOTES:

1. SERVICE ENTRANCE CONDUCTORS SHALL BE FURNISHED AND INSTALLED BY SDG&E. COORDINATE SERVICE EQUIPMENT AND CONDUIT INSTALLATION WITH SDG&E.
2. PROVIDE 120/208V, 3-PHASE, 4W, 100A METER PEDESTAL. CABINET SHALL BE NEMA 3R RATED.
3. PROVIDE #4 COPPER BARE STRANDED GROUND WIRE AND 3/4" X 10' COPPER CLAD STEEL GROUND RODS. GROUND RODS SHALL BE SPACED MINIMUM OF 6 FEET APART.
4. ELECTRICAL SERVICE EQUIPMENT SHALL HAVE MINIMUM AIC RATING OF 42,000 AMPS.
5. UTILITY'S MAXIMUM AVAILABLE FAULT CURRENT.
6. LABEL CIRCUIT BREAKER AS SERVICE DISCONNECTING MEANS IN ACCORDANCE WITH CEC 230.70(b).
7. EXISTING SDG&E TRANSFORMER TO REMAIN.
8. SEE ELECTRICAL SITE PLAN, SHEET E8, FOR UTILITY SYSTEM DUCTBANK ROUTING.
9. PROVIDE CAST-IN-PLACE CONCRETE PAD FOR METER PEDESTAL PER DETAIL 5/E-9.
10. PROVIDE RISER CABLES, SERVICE SERVICEHEAD, DROP LOOP, AND AERIAL CABLE. PROVIDE CABLE ATTACHMENTS FOR OVERHEAD CABLE.
11. PROVIDE GROUNDING ELECTRODE SYSTEM FOR TICKET BOOTH. ROUTE IN 1" CONDUIT UNDER PIER TO SHORE AND TO GROUND WELLS. INSTALL GROUND RODS ON LAND PER SITE PLAN.

FAULT CURRENT SCHEDULE

DEVICE	FAULT	AIC RATING	L-L VOLTS	FEEDER	
				SIZE	LENGTH
METER PEDESTAL NP1	42,000	42,000	208V	(3)#1	
NP2	2,077	10,000	208V	#1/0	440'
NP2A	1,355	10,000	208V	#4	100'

VOLTAGE DROP SCHEDULE

DEVICE	FEEDER		BRANCH CIRCUIT		TOTAL VOLTAGE DROP
	VOLTAGE DROP	WIRE SIZE	MAX VOLTAGE DROP	WIRE SIZE	
METER PEDESTAL NP1	0%	(3)#1	-	-	0%
NP2	2.45%	#1/0	0.2% (CKT 3,5)	#8	2.65%
NP2A	3.99%	#4	0.36% (CKT 9,11)	#8	4.35%

3 / E12 ELECTRICAL CALCULATIONS
SCALE: NOT TO SCALE

FEEDER SCHEDULE

ID	FEEDER AMPS	CONDUIT AND FEEDER
70D.A	70	1"C,3#4,#8G
70B	70	3#4,#4G, AL, QUADRUPLEX AERIAL
150/4.B	150	2"C,4#1/0,#4G

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE

2 / E12 FEEDER SCHEDULE
SCALE: NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER ALAN J. BRO No. 13[illegible] 06-30-24 ELECTRICAL STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE, SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
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REVISIONS	DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED	A. BROWN
DRAWN	J. CARNAHAN
CHECKED	R. SLOCUM

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

SINGLE LINE DIAGRAM RENOVATION

DATE	4/27/2023
A/E NO.	E12
SHEET	43 OF 44
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REV.	-

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2

EXISTING

PEDESTAL 960A

ROOM
MOUNTING FLUSH
FED FROM UTILITY
NOTE

VOLTS 208/120V 2P 3W
BUS AMPS 100
NEUTRAL 100%

AIC 42,000
MAIN BKR 100
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B
1	20/1	TICKET MACHINE	0		2	20/2	PIER POLE LTS #5 & #6	0	
3	20/2	PIER POLE LTS #7		0	4	|	–		0
5	|		0		6	20/2	PIER POLE LTS #3 & #4	0	
7	20/1	TIME CLOCK		0	8	|	–		0
9	20/2	PIER POLE LTS #8	0		10	20/2	PIER POLE LTS #1 & #2	0	
11	|			0	12	|	–		0
13	40/2	TICKET BOOTH	0		14	–/1	NOT AVAILABLE	0	
15	|			0	16	–/1	NOT AVAILABLE		0
							TOTAL CONNECTED KVA BY PHASE	0	0

4

	CONN VA	CALC VA			CALC VA
				TOTAL LOAD	0
				BALANCED LOAD	0 A

1 E13 PANEL SCHEDULE PEDESTAL 960A - DEMOLITION
SCALE: NOT TO SCALE

2 NEW

METER PEDESTAL NP1

ROOM
MOUNTING FLUSH
FED FROM UTILITY
NOTE NEMA 3R

VOLTS 208Y/120V 3P 4W
BUS AMPS 100
NEUTRAL 100%

AIC 42,000
MAIN BKR 100
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B	LOAD VA C
1	90/3	PANEL NP2	4,790			2	–/1	PROVISIONS	0		
3	|			7,590		4	–/1	PROVISIONS		0	
5	|				3,000	6	–/1	PROVISIONS			0
7	–/1	PROVISIONS	0			8	–/1	PROVISIONS	0		
9	–/1	PROVISIONS		0		10	–/1	PROVISIONS		0	
11	–/1	PROVISIONS			0	12	–/1	PROVISIONS			0
								TOTAL CONNECTED KVA BY PHASE	4,790	7,590	3,000

	CONN VA	CALC VA			CALC VA
LIGHTING	9,090	11,400	(125%)	TOTAL LOAD	19,200
CONTINUOUS	6,300	7,880	(125%)	BALANCED 3–PHASE LOAD	53.4 A

2 E13 PANEL SCHEDULE NP1
SCALE: NOT TO SCALE

DEMOLITION NOTES:

1. TICKET BOOTH CIRCUIT BREAKER LOCATED BEHIND PEDESTAL DEADFRONT AND CANNOT BE OPERATED WITHOUT REMOVING DEADFRONT.
2. REMOVE PANEL AS PART OF METER PEDESTAL 960A DEMOLITION.

KEY NOTES:

1. SERVICE ENTRANCE CONDUCTORS SHALL BE FURNISHED AND INSTALLED BY SDG&E.
2. PROVIDE 208/120V, 3–PHASE, 4W, 100A METER PEDESTAL. MAIN CIRCUIT BREAKER SHALL BE SERIES RATED. CABINET SHALL BE NEMA 3R RATED.
3. PROVIDE NEMA 3R PANELBOARD INSTALLED ON EXTERIOR WALL OF TICKET BOOTH.
4. RECONNECT EXISTING LOADS TO PANEL NP2 AND NP2A PER SITE PLANS, SHEETS E6 AND E7. ROUTE LIGHTING CIRCUIT TO OUTDOOR LIGHTING ELECTRONIC TIME SWITCH FOR LIGHTING CONTROLS.

3 NEW

NP2

ROOM
MOUNTING SURFACE
FED FROM METER PEDESTAL NP1
NOTE NEMA 3R

VOLTS 208Y/120V 3P 4W
BUS AMPS 100
NEUTRAL 100%

AIC 10,000
MAIN BKR 90
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B	LOAD VA C
1	20/1	TICKET MACHINE	150			2	70/2	PANEL NP2A	4,640		
3	40/2	TICKET BOOTH		3,000		4	|			4,590	
5	|				3,000	6	–/1	PROVISIONS			0
7	–/1	PROVISIONS	0			8	–/1	PROVISIONS	0		
9	–/1	PROVISIONS		0		10	–/1	PROVISIONS		0	
11	–/1	PROVISIONS			0	12	–/1	PROVISIONS			0
13	–/1	PROVISIONS	0			14	–/1	PROVISIONS	0		
15	–/1	PROVISIONS		0		16	–/1	PROVISIONS		0	
17	–/1	PROVISIONS			0	18	–/1	PROVISIONS			0
								TOTAL CONNECTED KVA BY PHASE	4,790	7,590	3,000

4

	CONN VA	CALC VA			CALC VA
LIGHTING	9,090	11,400	(125%)	TOTAL LOAD	19,200
CONTINUOUS	6,300	7,880	(125%)	BALANCED 3–PHASE LOAD	53.4 A

3 E13 PANEL SCHEDULE NP2
SCALE: NOT TO SCALE

NEW

NP2A

ROOM
MOUNTING SURFACE
FED FROM NP2
NOTE NEMA 3R

VOLTS 208/120V 2P 3W
BUS AMPS 100
NEUTRAL 100%

AIC 10,000
MAIN BKR 70
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD VA A	LOAD VA B
1	20/2	PIER POLE LTS #1 & #2	1,140		2	20/2	PIER POLE LTS #7	568	
3	|	–		1,140	4	|		568
5	20/2	PIER POLE LTS #3 & #4	1,140		6	20/2	PIER POLE LTS #8	568	
7	|	–		1,140	8	|		568
9	20/2	PIER POLE LTS #5 & #6	1,140		10	20/1	TIME CLOCK	100	
11	|	–		1,140	12	20/1	TIME CLOCK CONTROL CKT		50
13	–/1	PROVISIONS	0		14	–/1	PROVISIONS	0	
15	–/1	PROVISIONS		0	16	–/1	PROVISIONS		0
17	–/1	PROVISIONS	0		18	–/1	PROVISIONS	0	
							TOTAL CONNECTED KVA BY PHASE	4,640	4,590

4

	CONN VA	CALC VA			CALC VA
LIGHTING	9,090	11,400	(125%)	TOTAL LOAD	11,500
CONTINUOUS	150	188	(125%)	BALANCED LOAD	55.5 A

4 E13 PANEL SCHEDULE NP2A
SCALE: NOT TO SCALE

PANEL INDEX

PANEL PEDESTAL 960A (DEMOLITION)	PANEL METER PEDESTAL NP1
PANEL NP2	PANEL NP2A

REGISTERED PROFESSIONAL ENGINEER ALAN J. BRO No. 13?? NOT FOR CONSTRUCTION 09-30-24 ELECTRICAL STATE OF CALIFORNIA

BSE ENGINEERING, INC.
9903 BUSINESSPARK AVE. SUITE 104
SAN DIEGO, CA 92131
TEL: 858.800.6000
FAX: 858.800.6001
BSE PROJECT NO. 22-0288-1059

RECORD DRAWING
REVIEWED BY:
PROJECT-MANAGER/ENGINEER
DATE

NOTE:
THIS DRAWING MAY BE A REDUCED SCALE PRINT OF THE ORIGINAL DRAWING. UTILIZE GRAPHIC SCALES TO VERIFY IF DRAWING IS A REDUCTION, AND ADJUST SCALES ACCORDINGLY TO THE GRAPHIC SCALES SHOWN.

SPEC NO. 2022–26	WBS NO. OC–0059–01
REFERENCES	
PROJECT ENGINEER	
CONTRACTOR	
CONSTRUCTION STARTED	
CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS | DATE / APPROVED

PORT of SAN DIEGO
Waterfront of Opportunity

DESIGNED A. BROWN
DRAWN J. CARNAHAN
CHECKED R. SLOCUM

APPROVAL RECOMMENDED
DISTRICT PROJECT MANAGER
APPROVED
DISTRICT MANAGER-DESIGN

SAN DIEGO,CA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

PANEL SCHEDULES

DATE 4/27/2023
A/E NO. E13
SHEET 44 OF 44
DRAWING NO. EM-2022-06
REV. -

K:\Projects\Rick Engineering - 0288\22-1059 Navy Pier Freedom Park\Dwgs\CAD v2020\Elec\E13.dwg / Apr 27, 2023 - 10:05am / padams

Use this checklist to ensure the required information is provided for construction change documentation:

When applicable, Attachment 5b must:

☐ Describe the construction change
☐ Describe the impact to the storm water management design
☐ Describe how the project will maintain compliance with storm water requirements
☐ Provide a revised DMA map

Closeout Verification Form

This form must be accepted by the Port of San Diego prior to the release of construction permits or granting of occupancy for applicable portions of a Priority Development Project (PDP). Applicants are responsible for providing all requested information. Do not leave any fields blank; indicate *N/A* for any requested item that is not applicable.

PART 1 General Project and Applicant Information

Table 1: Project and Applicant Information

A. Project Summary Information	
Project Name	Navy Pier Freedom Park – Phase IIA Headhouse Demolition
Planning Number(s)	N/A
Project Address	Navy Pier, San Diego, CA 92132
Port's Parcel Number(s)	7600134600
Project Watershed (complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Pueblo San Diego 908, 908.20 San Diego Mesa, 908.21 Lindbergh
PDP SWQMP Approval Date	Click here to enter text.
PDP SWQMP Prepared By *(Engineer of Work)*	Jayne Janda-Timba R.C.E. #70649 Exp. 06/23 RICK Engineering Company
B. Owner Information	
Name	Ernesto Medina
Address	3165 Pacific Highway, San Diego, CA 92101
Email Address	Click here to enter text.
Phone Number	(619) 686-6200

PART 2 DMA and BMP Inventory Information

Use this table to document Structural BMPs (S-BMPs) for the PDP. List all Structural BMPs being verified.

- The information provided for each BMP in the table must match that provided in the Stormwater Quality Management Plan (SWQMP), construction plans, maintenance agreements, and other relevant project documentation.

Table 2: Required Information for Structural

BMP ID#	Description/Type of Structural BMP	Construction Plan Sheet #	Landscape Plan Sheet #	BMP Maintenance-Operation and Maintenance Plan Page No.
BMP-1	Proprietary Biofiltration	TBD	N/A	ALL

PART 3 Required Attachments for All BMPs Listed in Table 2

For ALL projects, submit the following to the Port of San Diego inspector (check all that are attached):

☐ Photographs: A photograph of each fully constructed S-BMP (or group of BMPs).

Note: All BMPs proposed for Port of San Diego ownership will remain the responsibility of the owner listed on **Page 1** until a signed Letter of Acceptance of Completion is received by the Port of San Diego.

For Grading and Improvement projects only, ALSO submit:

☐ Landscape Plans: An 11" X 17" copy of the most current applicable Landscape Plan sheets where the BMPs are required to be vegetated, including:

Note: For each Landscape Plan, the sheets submitted must show the location of each verified as-built BMP.

☐ Construction Plans: An 11" X 17" copy of the most current applicable approved Construction Plan sheets:

- ☐ Grading Plans, AND/OR
- ☐ Improvement Plans, AND/OR
- ☐ Other (Please specify) Click here to enter text.

Note: For each Construction Plan, the sheets submitted must incorporate all of the following:

- ☐ A plan/cross-section of each verified as-built BMP, AND
- ☐ The location of each verified as-built BMP

PART 4 Engineer of Work Certification

By signing below, I certify that the BMP(s) listed in Table 2 of this Closeout Verification Form have been constructed and all are in substantial conformance with the approved plans and applicable regulations. I understand the Port of San Diego reserves the right to inspect the above BMPs to verify compliance with the approved plans and *Port of San Diego BMP Design Manual*. Should it be determined that the BMPs were not constructed to plan or code, corrective actions may be necessary before permits can be closed.

Please sign and provide your seal below.

[SEAL]

Professional Engineer's Printed Name:

____Jayne Janda-Timba_____

Email: _jjanda-timba@rickengineering.com_____

Phone Number: _(619) 291-0707_____

Professional Engineer's Signed Name:

_____

Date: _ _____

PORT OF SAN DIEGO - OFFICIAL USE ONLY:

For Port of San Diego Inspectors

Port of San Diego Department: _____

Date verification received from EOW: _____

By signing below, Port of San Diego Inspector concurs that BMPs listed on Table 2 of this Closeout Verification Form have been installed per plan.

Inspector Name: _____

Inspector's Signature: _____ Date: _____

ATTACHMENT 5
Project Closeout Documentation

This is the cover sheet for Attachment 5.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	**Contents**	**Checklist**
Attachment 5a	Copy of Review and Acceptance of SWQMP from Adjacent Jurisdiction (When Applicable*) *Required for projects along jurisdictional boundaries when portions of the project are within other jurisdiction	☒ Not Applicable ☐ Pending ☐ Included
Attachment 5b	SWQMP Changes During Construction See SWQMP Construction Change Documentation Checklist on the back of this cover sheet for required documentation	☒ Not Applicable ☐ Included
Attachment 5c	Port of San Diego Verification Closeout Form	☒ Blank Form Included (Construction not complete) ☐ Completed and Signed

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Name	Ernesto Medina
Address	3165 Pacific Highway, San Diego, CA 92101
Email Address	Click here to enter text.
Phone Number	(619) 686-6200

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- ☐ The location of each verified as-built BMP

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Please sign and provide your seal below.

[SEAL]

Professional Engineer's Printed Name:

____Jayne Janda-Timba_____

Email: _jjanda-timba@rickengineering.com_____

Phone Number: _(619) 291-0707_____

Professional Engineer's Signed Name:

_____

Date: _ _____

PORT OF SAN DIEGO - OFFICIAL USE ONLY:

For Port of San Diego Inspectors

Port of San Diego Department: _____

Date verification received from EOW: _____

By signing below, Port of San Diego Inspector concurs that BMPs listed on Table 2 of this Closeout Verification Form have been installed per plan.

Inspector Name: _____

Inspector's Signature: _____ Date: _____

Appendix Q

q. Hazards and Nuisances Including Site Safety and Noise

1. Excerpt from Technical Specifications for the Procurement of a Headhouse Demolition Contractor

SECTION 02 82 33 – REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes the furnishing of all labor, materials, facilities, equipment, services, employee training, permits, agreements, waste transport and disposal necessary to perform the work required for asbestos removal in accordance with these specifications, EPA, APCD, OSHA, NIOSH, State of California regulations, and any other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.

B. Perform the work and provide service as needed to accomplish abatement of asbestos containing materials at the Project Site. Specific locations and materials to be removed/disturbed are indicated on the Drawings. Sampling data for identification of asbestos containing materials and non-asbestos containing materials is available in Appendix I. The requirements of all regulations and specifications must be observed for the removal or disturbance of any material containing any amount of "asbestos." Confirm ACM and ACCM locations and quantities prior to initiating renovation activities

C. Comply with the requirements of all regulations and specifications for the removal or disturbance of any material containing any amount of "asbestos," including materials containing <1% asbestos.

D. Comply with all requirements of this specification. Alternate and innovative technologies and procedures are encouraged and must be submitted in detail for approval prior to any work being performed. Any alternative technologies submitted must have been written by a Certified Industrial Hygienist (CIH) or State of California Certified Asbestos Consultant (CAC).

E. In the event ACMs or ACCMs in addition to those indicated in the Drawings are discovered, do not disturb. Immediately notify the Port Construction Manager who will have the additional materials tested.

1.2 RELATED REQUIREMENTS

A. Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

1. Section 02 83 33 “Removal and Disposal of Materials Containing Lead” for lead abatement.
2. Section 02 84 33 “Removal and Disposal of Universal Waste and PCB” for Universal Waste and PCB abatement.
    i. Mold
    ii. Biological

1.3 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1. Appendix I - Hazardous Building Materials Survey Reports, prepared by the Ninyo & Moore

1.4 REFERENCE DOCUMENTS

A. The current issues of the following documents are incorporated herein and shall govern the conduct of the Work. Where conflict among requirements or with this specification exists, the more stringent requirements shall apply.

B. Code of Federal Regulations (CFR):

1. 29 CFR 1910, Occupational Safety and Health Standards, General.
2. 29 CFR 1910.134 Respiratory Protection.
3. 29 CFR 1910.1001 Asbestos – General Industry.
4. 29 CFR 1910.1200, Hazard Communication.
5. 29 CFR 1926 Occupational Safety and Health Standards (OSHA), Construction.
6. 29 CFR 1926.55, Gases, Vapors, Fumes, Dusts, and Mists.
7. 29 CFR 1926.59, Hazard Communication.
8. 29 CFR 1926.1101 Asbestos – Construction Industry.
9. 40 CFR 61 Subpart A and Subpart M, United States Environmental Protection Agency (EPA), National Emission Standards for Hazardous Air Pollutants (NESHAP).
10. 40 CFR, Part 763, The Asbestos Hazard Emergency Response Act (AHERA).
11. 49 CFR Parts 106, 107, 171 to 179, The Transportation Safety Act, Hazardous Material Transportation Act.

B. California Code of Regulations (CCR):

1. Title 8, Section 1514, Personal Protective Equipment
2. Title 8, Section 1529 Asbestos in the Construction Industry.
3. Title 8, Section 1531 Construction Respiratory Protective Equipment.
4. Title 8, Section 3203 Injury and Illness Prevention Program.
5. Title 8, Section 5144 Respiratory Protective Equipment.
6. Title 8, Section 5155 Airborne Contaminants.
7. Title 8, Section 5194 Hazard Communication.
8. Title 8, Section 5208 General Industry Safety Orders, Asbestos Regulations.

C. State and Local Regulations: Those regulations promulgated under the Clean Air Act or Occupational Safety and Health Act and incorporated in a State plan recognized by EPA or OSHA, respectively.

1. San Diego Air Pollution Control District (APCD) Subpart M, National Emission Standards for Asbestos, Rule 361.145 Standard for Demolition or Renovation.
2. San Diego Air Pollution Control District (APCD) – Regulation XII, Rule 1206: Asbestos Removal, Renovation, and Demolition (Adopted and Effective 11/15/17).

D. American National Standards Institute (ANSI):

1. ANSI Standard Z9.2 Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems.

E. American Society for Testing and Materials (ASTM):

1. ASTM Standard D1331 Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface-Active Agents.
2. ASTM Standard E1368 Standard Practice for Visual Inspection of Asbestos Abatement Projects.
3. ASTM Standard E1494 Standard Practice for Encapsulation Testing of Friable Asbestos-Containing Surfacing Materials.

1.5 ALLOWANCES

A. Not Used.

1.6 DEFINITIONS

A. All terms not defined herein shall have the meaning given in the applicable publications and regulations.

1. “Abatement Activities” shall mean all activities from the initiation of work area preparation through successful clearance air monitoring performed at the conclusion of an asbestos project.
2. “Air Lock” shall mean an enclosed space designed to control air movement between two areas. It is composed of sealed spaces with curtained doorways at its portals. A Worker Decontamination Facility contains at least three air locks.
3. “Ambient Air Monitoring” shall mean measurement or determination of airborne asbestos fiber concentrations outside but in the general vicinity of the work site.
4. “Amended Water” or “Wetting Agent” shall mean water to which an approved surfactant has been added in proportion of at least one (1) ounce surfactant to five (5) gallons water.
5. “Asbestos-Containing Materials (ACM)” shall mean any insulation, fireproofing, plaster, ceiling or floor tiles and any other building materials containing more than 1% asbestos (>1%).
6. “Asbestos-Containing Construction Material (ACCM)”, also referred to as “trace” asbestos materials, shall mean any material containing between one-tenth of one percent and one percent asbestos (0.1% - 1%).
7. “Asbestos-Contaminated Objects” shall mean any objects, which may be contaminated by asbestos or asbestos-containing material as determined by the Consultant.
8. “Asbestos Disposal” shall mean the removal of containerized asbestos, asbestos-containing material, asbestos-containing waste material and asbestos-contaminated objects from the regulated area to the final EPA approved disposal site.
9. “Authorized Visitors” shall mean any visitor authorized by the Consultant or any representative of a regulatory agency or other agency having jurisdiction over the project.
10. “Barriers or Containment Barriers” shall mean walls, tunnels, or enclosures erected to separate any section of an abatement area from adjoining spaces. Where indicated on drawings, barriers shall be constructed of 2'x 4's, with minimum 1/2" plywood walls, and all seams in plywood and edges shall be sealed airtight with caulking. The inside (work) side of all such barriers shall be covered with two (2) layers of 6-mil polyethylene sheeting. Tunnels to maintain public access through a work area shall also be defined as part of the barriers. All lumber, plywood, and polyethylene shall be flame retardant and shall bear manufacturer's label.
11. “Baseline or Background Air Monitoring” shall mean a measurement or determination of airborne asbestos fiber concentrations inside the workplace and outside a building prior to starting abatement activities.

12. “Certified Clean” shall mean that a work area has no visible signs of fibrous materials or other contamination and does not have levels of airborne fiber above the defined air clearance criteria.

13. “Class I asbestos work” means activities involving the removal of thermal systems insulation (TSI) and surfacing ACM and PACM.

14. “Class II asbestos work” means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

15. “Class III asbestos work” means repair and maintenance operations, where “ACM”, including TSI and surfacing ACM and PACM, is likely to be disturbed.

16. “Class IV asbestos work” means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

17. “Clean or Decontaminate” shall mean to make a surface free of all visible and optically detectable fibers by thoroughly HEPA-vacuuming and wet washing with sponges and mops.

18. “Clean room” shall mean an uncontaminated room having facilities for the storage of employees’ street clothing and uncontaminated materials and equipment.

19. “Competent Person” shall mean one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them, In addition, for Class I and Class II work, one who is specially trained in a training course that meets the criteria of EPA's Model Accreditation Plan (40 CFR part 763) for supervisor, or its equivalent.

20. “Consultant” shall mean the consulting industrial hygienist. The Consultant is an independent party retained by the Port to provide consultation services for asbestos abatement activities.

21. “Curtained Doorway or Entrance” shall mean a portal which limits air movement between two areas, constructed by placing two overlapping sheets of plastic over an existing or temporary doorway, by securing each along the top of the doorway, by securing the vertical edge of one sheet along one vertical side of the doorway, and by securing the vertical edge of the other sheet along the opposite vertical side of the doorway.

22. “Decontamination Facility (DF) or Area (DA)” shall mean a series of connected rooms or spaces including clean room, shower room, and contaminated dirty (equipment) room, each separated by an air lock; and used for the decontamination of all workers, and their personal protective equipment leaving an asbestos removal work area, as well as for access to such work areas. All decontamination facilities shall be a "structural" (i.e. capable of supporting workers standing above).

23. “Disposal Site” shall be an EPA approved landfill.

24. “Port” shall mean the Port of San Diego.

25. “Disturb” shall mean contact that releases fibers from ACM, PACM, or ACCM. It includes any activity that disrupts the matrix of ACM, ACCM, or PACM, crumbles or pulverizes ACM, ACCM, or PACM, or generate visible debris from ACM, ACCM or PACM. Any activity which alters, changes, or stirs ACM or PACM, including encapsulation, enclosure or repair of ACM or asbestos contaminated material.

26. “Encapsulation” shall mean procedures necessary to coat or saturate material with an approved encapsulant liquid to control the possible release of fibers into the ambient air. "Encapsulant" (sealant) shall mean liquid material which can be applied to other solid material which reduces the possible release of fibers from the material either by creating a membrane over the surface (bridging

encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

27. “Equipment room” means a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.
28. “Fiber” shall mean a particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.
29. “Final Cleaning” shall mean that no three-dimensional material is visible to the naked eye.
30. “Fixed Items” shall mean equipment, furniture, radiators, or other objects, which cannot be removed from the work area, plus walls and floors.
31. “Glove-bag” means an impervious plastic bag-like enclosure that can be affixed around ACM, with glove-like appendages through which materials and tools can be handled.
32. “HEPA-Filtered Exhaust Units or Fans” shall mean a fan equipped with a High Efficiency Particulate Air:(HEPA) filter greater than 99.97 percent efficient by 0.3-micron DOP test, and complying with ANSI Z9.2, Local Exhaust Ventilation. It shall be used to create a pressure in a work area (reduced with respect to surrounding areas) in order to prevent the escape of asbestos fibers. It shall also be used to reduce and control the airborne concentration of asbestos fibers.
33. “HEPA-Filtered Vacuum” shall be a vacuum cleaner specifically designed for and equipped with HEPA-filtration.
34. “Homogenous area” means an area of surfacing material or TSI that is uniform in color, texture, and date of installation.
35. “Install” shall mean set in place completely ready for normal use or service, including all necessary mounting facilities, connections and testing.
36. “Intact” means that ACM has not crumbled, been pulverized, or otherwise deteriorated so that it is no longer likely to be bound with its matrix.
37. “Isolation Barriers” shall mean the construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal off the workplace from surrounding areas and to contain asbestos fibers in the work area.
38. “Lockout” shall mean the safe, approved means for shutting down HVAC equipment, electrical panels or breakers and water so that they cannot be inadvertently turned back on.
39. “Log” shall mean an official record of all activities that occurred during the project and it shall identify the Port, Contractor, workers, floor number, date, work area, and other relevant information to the project.
40. “Major Abatement” shall mean the removal of ACM under contained conditions utilizing full isolation and negative pressure ventilation systems.
41. “Minor Abatement” shall mean the removal of ACM utilizing "glove-bag" methods or modified containment.
42. “Modification” means a changed or altered procedure, material, or component of a control system that replaces a procedure, material, or component of a required system. Omitting a procedure or component, or reducing or diminishing the stringency or strength of a material or component of the control system, is not a “modification.”

43. “Negative initial exposure assessment” means a demonstration by the employer that complies with the criteria in Title 8 California Code of Regulations (CCR) Section 1529, subsection (f)(2)(c), that employee exposure during an operation is expected to be consistently below the Permissible Exposure Limit (PEL).
44. “Owner” shall refer to the Port of San Diego (Port).
45. “Outside Air” shall mean the air outside the buildings and structures.
46. “Outside/Ambient Air Samples” shall mean samples collected outside of the containment area in the building and analyzed using the NIOSH 7400 Method.
47. Presumed Asbestos-Containing Material (PACM) means thermal systems insulation or surfacing material found in buildings constructed no later than 1980, unless rebutted according to 8 CCR 1529 (k)(4).
48. In paragraph below, insert name of school site.
49. “Project” or “Project Site” shall refer to Navy Pier Head House.
50. “Protect Fixed Items” shall mean to cover with solid enclosures and 6-mil polyethylene sheeting, and secure by taping or gluing water and airtight.
51. “Provide” shall mean furnish (or supply) and install.
52. “Regulated Area” shall have the meaning set forth in 8 CCR 1529, which is an area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed the permissible exposure limit.
53. “Removal” means all operations where ACM and/or ACCM are taken out or stripped from structures or substrates and includes demolition operations.
54. “Renovation” shall mean an addition or alteration or a change or modification of building or the service equipment therefore which is not classified and an ordinary repair.
55. “Repair” shall mean corrective action using specified work practices (e.g. glove bag, plastic tent procedures, etc) to minimize the likelihood of fiber release from minimally damaged area of ACM.
56. “Replacement Material” shall mean any material approved by the Port used to replace ACM.
57. “Seal” or “Block and Seal” shall mean preparing a space or area such that there is no air movement or passage to and from the area. "Isolation barrier" shall mean the system of seals or other items, which prevent air movement to and from any work area.
58. “Shift” shall mean a worker's or simultaneous group of workers' complete daily term of work.
59. “Surface Barriers Protective Coverings or Poly” shall mean the plasticizing of walls, floors, and fixed objects within the work area to prevent contamination during subsequent abatement activities.
60. “Surfactant” shall mean a chemical wetting agent added to water to improve penetration into asbestos-containing materials and thereby reduce the generation of airborne asbestos fibers.
61. “TSI” means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain.
62. “Work Area” shall mean an area where asbestos removal or other abatement procedures are being performed. A work area is considered a contaminated space between the times preparation begins and the time the area is certified clean by the Consultant.

63. “Work Place” shall mean the work area and the project site.

1.7 PRE-ABATEMENT MEETINGS

A. Pre-Abatement Conference: Conduct conference at Project Site.

1. The Port will arrange a Pre-Abatement Conference, attended by a representative of the Port, the Consultant, the General Contractor, and the Abatement Contractor.
2. The Contractor shall identify his Supervisor and Foreman at this conference.
3. Provide electronic copies of “Action Submittals” at least five working days prior to this conference.
4. Pre-Abatement Conference topics include:
    a. Contractor listing of existing site condition (e.g. damage).
    b. Contractor and supporting vendor site access and parking.
    c. Coordination of Contractor access routes to the work area, including approved doors, stairways, corridors, and elevators.
    d. Availability of building utility services, such as power, water, and drains.
    e. Determination of equipment and other movable items to be removed from the work area(s) by the Contractor, and the location of temporary storage space.
    f. Location, coverage, and use of isolation barriers and decontamination facilities.
    g. Emergency Response Procedures.
    h. Visual identification and quantification of ACM and ACCM.

1.8 ACTION SUBMITTALS

A. Asbestos Abatement Plan prepared and signed by a Competent Person. The Plan shall be site specific, and shall include minimally the following:

1. The proposed removal methods for each type of ACM or ACCM including a detailed listing of all materials, tools, equipment, and expendable supplies that will be used during the project. For each listed item provide (as appropriate) the manufacturer's name, catalog number or model, a description of its function and location of use, an actual sample or photocopy of manufacturer's brochure. The listing shall include at a minimum spray encapsulants, wetting agents, spray adhesives (including Safety Data Sheets ([SDS]), and equipment including HEPA-vacuums, HEPA-filtered exhaust fans, respirators, protective clothing, waste containers, protective fireproof plastic coverings, sealing tapes, materials and compounds, temporary power and electric equipment, shower water pumps and filters, encapsulating equipment, and materials for constructing decontamination facilities and barriers.
2. A sketch or written description detailing the regulated work area, decontamination set-up, waste-load out, location and number of negative machines.
3. A description of the exhaust system including proposed number, capacity, and location of HEPA exhaust units, and the method of discharge to the building exterior.
4. A work sequencing plan that includes the number of shifts, shift times, and number of workers per shift for each phase of remediation work. Include name, summary of experience, and certifications for asbestos work of all personnel, including supervisors who may be used during the contract period (minimum of one qualified supervisor is required).
5. A waste disposal plan including the labeling of waste containers, proposed waste hauler, and proposed landfill(s) for friable and non-friable asbestos waste.

6. A security plan including the locations of warning signs, prevention of unauthorized entry into the area, log book forms for recording entries into the work areas, accident prevention, equipment, and methods to communicate between personnel inside and outside the work areas.

7. An emergency/contingency plan including emergency ingress/egress from the work areas, accident notification policy, emergency fire and accident response procedures (including emergency decontamination procedures).

1.9 INFORMATIONAL SUBMITTALS

A. Pre-Abatement Submittals:

1. Copies of notifications to government entities, including San Diego Air Pollution Control Port and California-OSHA (Division of Occupational Safety and Health). Notifications by Contractor are limited to only those parties Contractor is required to notify by law and this specification. Notification to the Project Inspector and Consultant are also required at least 5 days prior to commencement of each phase or mobilization of asbestos work.

2. Signed documentation of training and education of all proposed workers, including respirator fit tests and copies of OSHA specified medical exams with respirator approvals. If documents expire prior to final project completion, provide updated documents.

3. List of all Sub-Contractors proposed for this project, with their specialty and qualifications along with submittals meeting the same requirements.

4. Proposed waste hauler and copies of applicable licenses, including solid waste transportation registration issued by the California Department of Health Services Toxic Substance Division.

5. Proposed landfill for disposal of waste materials and letter from landfill authorizing hauler to dispose there.

6. A copy of the Contractor’s State of California, Department of Industrial Relations, Division of Occupational Safety and Health, Certificate of Registration for Asbestos-Related Work.

B. Submittals During Abatement Work:

1. Regulated area entry logs showing names of person entering the workspace, date and time of entry and exit.

2. Safety log, including record of any accident, emergency evacuation, and any other safety and health incident.

3. Submit on a daily basis to the Consultant:

   a. Personal air monitoring results as conducted by the Contractor.

   b. For OSHA Class I asbestos work, recording/printouts of negative pressure manometer readings inside containment.

C. Submittals After Abatement Work:

1. Original manifests and receipts acknowledging disposal of all hazardous and non-hazardous waste material from the project showing delivery date, quantity, and appropriate signature of landfill's authorized representative.

   a. Submit within 30 days of date that material was transported off site.

1.10 CLOSEOUT SUBMITTALS

A. Submit immediately upon completion of abatement work:

1. Original manifests and receipts acknowledging disposal of all hazardous and non-hazardous waste material from the project showing delivery date, quantity, and appropriate signature of landfill's authorized representative.

    a. Submit within 30 days of date that material was transported off site.

2. A copy of the entry-exit logbook.

3. All personal monitoring results.

1.11 PERFORMANCE REQUIREMENTS

A. Authority to Stop Work:

1. The Port retains the authority to stop abatement work at any time the Port and Consultant determines that conditions are not within the specifications and applicable regulations. The stoppage of work shall continue until conditions have been corrected and corrective steps have been taken to the satisfaction of the Consultant and/or Port.

2. Stop Work Orders may be issued for, but are not limited to, the following:

    a. Poor work practices related to fiber control, including failure to adequately wet and failure to keep regulated area clean and free from debris.

    b. Excessive airborne fibers inside or outside the work area.

    c. Breaks in barriers.

    d. Loss of negative air pressure (i.e. a manometer reading of less than 0.02 inches of water) for any OSHA Class I Work.

    e. Any other situation (outside the work area) where the Port and/or Consultant establishes that the airborne clearance criterion is reached (i.e. fiber concentration at or greater than 0.01 fibers/cc outside containment). When the clearance criterion of 0.01 fibers/cc is reached for non-work areas, stop work and initiate cleanup procedures to reduce airborne fiber levels to below 0.01 f/cc for non-work areas.

B. Project Supervision:

1. Provide English-speaking on-site Supervisor and at least one Foreman for each work area at all times while abatement work is in progress. The Supervisor and Foreman shall be Competent Persons, as defined by 8 CCR 1529, and must be experienced in asbestos abatement work, knowledgeable of all EPA, OSHA, and local regulations, and capable of skillfully executing all work promptly, efficiently, and in compliance with all requirements of this Specification.

2. Upon request of the Port and/or Consultant, submit proof of qualifications and project experience for the Supervisor and Foreman.

3. The Port reserves the right to have any supervisory personnel removed if they do not demonstrate the requisite experience or skills to safely direct the work, and adequately protect their own employees or Port.

4. Instruct, train, and provide required protective devices for all workers of other trades who must enter any work area before it is certified clean. The instruction shall include, at a minimum, proper use and fitting of respiratory protective devices and protective clothing, entry and exit procedures for all work areas, hazards, or asbestos exposure, work procedures, and other safety requirements contained in this Specification.

a. Proof of such instructions for other trades shall be supplied prior to being allowed to enter the work area.

b. The instruction does not relieve the other trades from the regulatory requirements for medical surveillance and other requirements of 8 CCR 5144 for the use of respiratory protective devices. Copies of the medical surveillance examinations shall also be provided prior to being allowed to enter the work area.

C. Availability of Trained Personnel:

1. Since other construction-related activities cannot commence until the successful decontamination of the work area, it is imperative that a sufficient number of trained personnel be provided for the duration of abatement activities to complete the work within the required schedule.

2. Do not staff the project with untrained, unqualified, or any unapproved personnel to speed up the completion of the abatement work.

D. Protection of Persons and Property:

1. General Safety Requirements:

a. Initiate, maintain, and supervise all safety precautions and programs in connection with the Work. Take all reasonable precautions for the safety of, and provide reasonable protection to prevent damage, injury, or loss to:

i. All employees on the Work and other persons who may be affected thereby.

ii. All Work and all materials and equipment to be incorporated therein.

iii. Other property at the Project Site and adjacent thereto.

b. Give all notices and comply with all applicable laws, ordinances, rules, regulations, and orders of any public authority bearing on the safety of persons and property and their protection from damage, injury, and loss.

c. Remedy all damage or loss of any property caused in whole or in part by the Contractor, any Sub-Contractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The Contractor shall be responsible for the protection of any finished work from damage or defacement by his/her operation.

2. Assess and control the real or potential impacts of the Work upon the Port's Life Safety Systems (e.g. smoke detectors, sprinkler systems, etc.). Establish coordination prior to any commencement of work, subject to modification by the Port at any time, based on the Port's assessment of risks to the function of the life safety systems associated with the Contractor's actions.

3. Establish an effective safety program in accordance with the requirements set forth in 8 CCR Subchapter 4, Construction Safety Orders and 29 CFR 1926 Safety and Health Regulations for Construction, Subpart A through Z.

E. Respiratory Protection:

1. Provide all workers, foremen, superintendents, authorized visitors, and inspectors who have been medically cleared for respirator use and fit tested for the respirator type being used, personally issued and marked respiratory protective equipment approved by NIOSH. When respirators with disposable filters are employed provide sufficient filters for replacement as necessary by the worker or authorized visitor. Filters shall be disposed of as contaminated waste.

2. Instruct and train each worker involved in asbestos abatement (Class I, II, III) or maintenance and repair of asbestos-containing materials in proper respiratory use and require that each worker always wear a respirator properly fitted on the face in the work area from the start of any operation that may cause airborne asbestos fibers until the work area is completely decontaminated and cleared for re-occupancy. Use respiratory protection appropriate for the fiber level encountered in the work place or as required for other toxic or oxygen-deficient situations encountered.

3. A respirator providing a minimum protection factor of 10 and equipped with a HEPA/P100 filter shall be used as long as 0.5 f/cc is not exceeded within the work area. If exceeded, all work inside the work area shall stop, and corrective actions (cleaning and better use of engineering controls) will be required until fiber levels are reduced to less than 0.5 f/cc. Filtering facepiece device respirators are not permitted.

4. Unless otherwise permitted, respiratory protection as specified herein shall be worn at all times, within the regulated work area.

5. Facial hair such as beards, long sideburns, and moustaches that interfere with the seal of air purifying type respirators are prohibited. Workers with eye corrective lenses (contact lenses or glasses) shall wear the corrective lenses in a manner that is in compliance with 8 CCR 1529 and 8 CCR 5144.

6. Respiratory protection use, inspection, maintenance, decontamination, and storage procedures shall meet the requirements of 8 CCR 5144. In addition:

    a. Respiratory protection shall be the last piece of worker protection equipment to be removed. Workers must wear respirators in the shower when going through decontamination procedures as stated herein.

    b. Airline respirators with HEPA-filtered disconnect shall be disconnected in the equipment room and worn into the shower. Powered air-purifying respirator face pieces shall be worn into the shower. Filter/power pack assemblies shall be decontaminated in accordance with manufacturers' recommendations.

    c. Whenever respirator design permits, workers shall perform a positive and negative air pressure fit test each time a respirator is worn. Powered air-purifying respirators shall be tested for adequate flow (using the methods specified by the manufacturer) every four (4) hours of use and each time the worker enters or exits the work area. Maintain written logs of these tests.

    d. Furnish to the Consultant written documentation that each worker is medically approved to wear respirators and has been properly trained in their use, inspection, care, maintenance, and fit testing pursuant to the Contractor's written Respirator Plan.

7. Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, the more stringent requirements must be met.

    a. OSHA U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1001 and Section 19 10 134, 29 CFR 1926.

    b. NIOSH National Institute for Occupational Safety and Health.

    c. California Code of Regulations 8 CCR 5144.

F. Personal Protective Equipment:

1. Provide to all workers, foremen, superintendents and authorized visitors and inspectors that may enter the asbestos regulated work area protective disposable clothing consisting of full-body coveralls, head covers, gloves, 18-inch high boot-type covers or reusable footwear, and eye protection.
2. Provide hard hats and safety shoes as required by job conditions and safety regulations.
3. Reusable footwear, hardhats, and eye protection devices shall be left in the "Contaminated Equipment Room" until the end of the asbestos abatement work, at which time they shall be disposed of as ACM waste or transferred to another work area by methods approved by the Consultant.
4. All disposable protective clothing shall be discarded and disposed of as asbestos waste every time the wearer exits from the workspace to the outside through the decontamination facilities.

G. Decontamination Facilities:

1. Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area. At a minimum, one system at a single location is required.
2. Worker decontamination enclosure systems constructed at the project site shall utilize 6-mil black or opaque polyethylene sheeting or other approved materials for privacy.
3. The personal decontamination unit shall not be located inside the work area without written authorization from the Port and/or Consultant.
4. Alternate methods of providing Decontamination facilities may be submitted to the Port and/or Consultant for approval. Implementation of these alternative methods may not proceed without written approval by the Port and/or Consultant.
5. For OSHA Class I (Friable) work, the worker decontamination enclosure system shall consist of at least a clean room, a shower room, and an equipment room, each separated from the other and from the work area by airlocks.
6. For OSHA Class II (Non-friable) work or a work area for the removal of an ACCM, the worker decontamination enclosure system shall consist of at least a clean room and an equipment room, each separated from each other and the work area by airlocks.
7. The clean room shall be sized for the work crew. Space for storing respirators shall be provided in this area. Clean work clothes, clean disposable clothing, replacement filters for respirators, towels and other necessary items shall be provided in adequate supply in the clean room. A location for posting notices shall also be provided in this area.
8. The shower room shall contain one or more showers to adequately accommodate workers. Each showerhead shall be supplied with warm and cold water, and be protected against leakage of any kind. An adequate supply of soap, shampoo and towels shall be supplied by the Contractor and be available at all times. Shower water shall be drained, collected, and filtered through a system with at least a 0.5 to 1.0-micron particle size collection capacity.
9. The equipment room shall be used for the storage of equipment and tools at the end of a shift after the tools have been decontaminated using HEPA-filtered vacuum and/or wet cleaning techniques, as appropriate. Replacement filters, stored in sealed containers until used, for filtration equipment, extra tools, containers, surfactants and other materials and equipment that may be required during abatement activities may also be stored in the equipment room. A walk-off pan (e.g. a small children’s swimming pool or equivalent), filled with water, shall be located in the room for workers to clean off foot coverings after leaving the work area and prevent excessive contamination of the worker decontamination enclosure system. A drum lined with a labeled 6-mil polyethylene bag for collection for disposable clothing shall be located in the equipment room. Contaminated footwear shall be stored in this area for reuse the following workday.

H. Worker Protection Procedures:

1. Provide all personnel throughout the abatement process with the specified protective clothing and respiratory protection. Ensure that all personnel entering and leaving the workspace follow the following procedures:

    a. Entering from the outside: Change from street clothes into the protective clothing and wear clean protective gear, go through Shower Room into Dirty Equipment Room, pick up equipment and tools, and enter the Work Area.

    b. Exiting from the Work Area: Dispose of all protective clothing into plastic bags labeled for asbestos waste. Do not take off the respirator, but still wearing the respirator, enter the shower, and shower thoroughly. Remove respirator and wash and wipe thoroughly to decontaminate the respirator. After drying, enter the Clean Room, store the decontaminated respirator in the assigned space, and dress into street clothes.

2. Post written procedures in workplace and train all personnel on the procedures for the evacuation of the injured and the handling of potential fires. Provide air to a seriously injured worker without delay for decontamination. Make provisions to minimize exposure of rescue workers and to minimize spreading of contamination during evacuations and fire procedures.

3. Instruct all employees and workers in the proper care of their personally issued respiratory equipment, including daily maintenance, sanitizing procedures, etc.

4. Contractor's project supervisory personnel shall inspect all respiratory equipment at the beginning of each work period, including breaks and lunch periods. Written records of these inspections shall be maintained and provided to the Consultant.

I. Exposure Controls and HEPA-Filtered Exhaust Ventilation:

1. Install inside the work area one or more portable HEPA-filtered exhaust units to maintain the area, including the Decontamination Facilities, under negative air pressure, and to reduce or control airborne asbestos fiber concentrations. Provide a contingency plan for maintaining negative air requirements in the event of mechanical failure.

2. To determine the number of required units, compute the total cubic footage of all workspaces within the work and determine the air moving capacity of all the HEPA-filtered units to be used in each workspace. This measurement shall be made in cubic ft/min. under a filter load equivalent to two inches of static pressure.

    a. The exhaust(s) must be capable of providing: 1) at least four (4) full air changes per hour in the work area and for "Class I Work"; 2) an inward velocity through any openings, including the decontamination facilities, of at least 200 fpm; and 3) a static negative air pressure inside the area of a minimum of 0.02 inches water column. Each exhaust system shall have a dedicated power system and shall be operated continuously (24 hours/day) in accordance with "Specifications and Operating Procedures for the Use of Negative Pressure Systems for Asbestos Abatement," Guidance for Controlling Asbestos-Containing Materials in Building, EPA report Number 560/5-85-024 (1985).

    b. Each exhaust unit shall be equipped with the following:

        i. Magnehelic gauge to monitor the unit's air pressure difference across the filters and to interpret the magnehelic reading to CFM.

        ii. Automatic shut off for filter failure or filters absence.

        iii. Audible alarm with flashing red light for unit shutdown.

iv. Amber Flashing warning light for excessive filters loading.

v. A safety system that prevents unit from being operated with the HEPA filter in backwards.

c. All-exhaust air shall pass-through HEPA filters before being discharged to the exterior of a building. The exterior exhaust discharge point shall be at least 10 feet from a receptor such as an air intake port, or louvers.

d. Before starting any work, submit in writing the proposed number, capacity, and location of exhausts, and the method of discharge to the building exterior. Work shall not be permitted until the Consultant approves the proposed exhaust system.

e. Exhaust systems shall be operated twenty-four (24) hours per day at all times during preparation, removal, encapsulation, and cleanup tasks as specified herein; and until final "clean air" certification is obtained for the area, and Consultant directs Contractor to shut the system down.

f. On loss of negative air pressure or electric power, all work activities in the area shall stop immediately and shall not resume until power is restored and the HEPA-exhaust systems are operating again. When power failure or loss of negative pressure lasts, or is expected to last, longer than one hour, the following shall occur:

i. The make-up air inlets in the decontamination facilities and any other make-up air inlets shall be sealed airtight;

ii. The decontamination facilities shall be sealed airtight after the evacuation of all personnel from the work area;

iii. All adjacent areas shall be monitored for asbestos fiber concentration upon discovery of, and subsequently throughout the power failure.

g. Provide and continuously operate for all "Class I Work" an automatic air pressure differential recording instrument that produces a permanent record. Recorder shall have a range of -0.09" H20 to +0.09" H20. Copies of the recorded reading shall be maintained and provided daily to the Consultant.

h. This system must conform to the previously described requirements and 29 CFR 1926.58 Appendix F "Exhaust Air Filtration System."

J. Air Monitoring:

1. Consultant Air Monitoring:

a. Provide full cooperation and support to the Consultant throughout the course of the monitoring work. The Consultant will closely and continuously monitor the performance and execution of the work. The monitoring work will be performed inside the surrounding area to ensure full compliance with these specifications and all applicable regulations. Ambient air samples will be collected and analyzed by the Consultant. Consultant monitoring and inspections will include air samples at the entrance to the containment, air samples in the areas surrounding the work areas, at the negative-air handling unit exhaust, and outside the work area, checking of the Contractor's standard operating procedures, engineering controls, respiratory protection equipment, packing, packaging, transporting and disposal of asbestos, decontamination facilities and procedures, and any other aspects of the abatement process that may impact the health and safety of the people and the pollution of the environment.

b. The Port will bear all costs in connection with the laboratory work required in Paragraph above. However, the costs of all subsequent laboratory analysis taken because the limits specified were exceeded on the initial tests shall be borne by the Contractor. The Contractor shall also conduct and bear the cost of personal air samples for OSHA compliance.

c. The Contractor may request copies of all laboratory reports presenting the results of the Consultant's air monitoring and inspection.

2. Contractor Air Monitoring:

a. The Contractor shall be responsible for personal air monitoring to document compliance of their workers with OSHA regulations using the methods as reiterated below.

b. The analysis laboratory performing this work shall be an independent party not financially or managerially connected to the contractor.

c. The laboratory shall be successfully participating in the American Industrial Hygiene Association (AIHA) NIOSH Proficiency Analytical Testing (PAT) program.

d. Air sampling materials and equipment requirements are as follows:

i. Personal sampling shall be performed pursuant to NIOSH Method 7400, phase contrast microscopy.

ii. The filter assembly shall be upstream of all other components in the sampling train. An airflow-measuring device (when used) shall be downstream of the filter and the pump assembly, or integral with the pump assembly.

iii. Sampling pumps shall supply constant flow.

iv. An airflow measuring/metering device shall be used, and shall be high quality rotameter, mass flow, dry gas meter, or critical orifice. Measuring devices shall have a range of at least 1.5 times the desired flow rate and be readable to at least +or -5 % of the desired flow rate. They shall be calibrated against standards of higher accuracy before and after sampling. The calibrations shall be recorded.

v. Numbers and frequencies of personal air sampling shall be as required by OSHA regulations but not less than (1) sample per eight (8) hour work shift during times of asbestos removal work.

vi. Results of sample analysis shall be provided to the Consultant within twenty-four (24) hours of collection.

vii. All other air sampling for compliance with the Specifications shall be performed by the Consultant at no cost to the Contractor except where the Contractor fails specified tests.

viii. Use a pre-approved "chain of custody" form for all personal air samples collected.

1.12 QUALITY ASSURANCE

A. Notifications, Permits, Warning signs, Labels, and Posters:

1. Provide the required written pre-notification to EPA, San Diego APCD, CAL/OSHA, and any other regional, state, and local authority having jurisdiction over the project. Copies of the pre-notifications shall be delivered to the Consultant before any work begins. The Contractor must secure all other permits required for the work, including disposal of asbestos in an approved landfill.

2. Provide the necessary follow-up notices that may be required, obtain all permits, and pay all governmental taxes, fees and other costs in connection with his work. File all necessary drawings, prepare all documents, and obtain all necessary approvals of all governmental departments having jurisdiction.

3. Include in the work, without extra compensation, all labor, materials, services apparatus, to comply with all applicable laws, ordinances, rules, and regulations.

4. All materials and work shall comply with the specifications of the National Fire Protection Association (NFPA), National Electrical Code (NEC/NFPA 70), Underwriters Laboratories (UL), local utility companies, and the County Department of Health, with the California Building Code, and Contract requirements that are in excess of the applicable codes, rules, or regulations. The contract provisions shall be given precedence, unless special permission is granted by the Consultant.

5. Comply with the requirements of the federal, state, and local regulations related to asbestos as listed in herein.

6. Erect OSHA-specified warning signs around the workspace and at every point of potential entry from the outside including the entrance to the decontamination facility's clean room. The signs shall conform to OSHA requirements with the words "Danger, Asbestos Hazard, and Do Not Enter." The warning signs shall be a bright color so that they can be easily noticed. The size of the sign and its lettering shall be no less than OSHA requirements.

7. Provide OSHA and DOT-required labels as well as NESHAPS labeling requirements for all plastic bags and drums utilized to transport contaminated material from the work areas to the EPA approved disposal landfill.

8. Provide any other signs, labels, warnings, and posted instructions that are necessary to protect, inform and warn workers and visitors of the hazard from asbestos exposure. Also, post in a prominent and convenient place (i.e. the clean room of the decontamination facility) for worker's use a copy of the latest applicable regulations of OSHA, EPA, and NIOSH; and a copy of these Specifications.

B. Electrical Safety Requirements:

1. The non-current carrying parts of fixed, portable, and plug-connected equipment shall be grounded. Portable tools and appliances protected by an approved system of double insulation need not be grounded. All light and power circuits in asbestos removal areas shall be ground fault protected.

2. Extension cords shall be the 3-wire type, shall be protected from damage, and shall not be fastened with staples, hung from nails, or suspended from wires. Splices shall have soldered wire connections with insulation equal to the cable. Worn or frayed cords shall not be used.

3. Safe lighting equipment shall be provided with a preference for floodlights rather than indiscriminate use of unprotected lamps hung from temporary wiring. Exposed bulbs shall be guarded to prevent accidental contact. Temporary wiring shall be properly insulated and substantially supported. Circuits shall be designed and fused. All temporary lighting inside the asbestos work area shall be waterproofed.

4. Receptacles for attachment plugs shall be approved, concealed contact type. Where different voltages, frequencies, or types of current are supplied, receptacles shall be of such design that attachment plugs are not interchangeable.

5. Each disconnecting means for motors and appliances and each service feeder or branch circuit at the point where it originates shall be legibly marked to indicate its purpose.

6. Coordinate all power requirements with the Port, including ground fault interrupted (GFI) panel design and extension cord requirements.

C. Scaffolding, Rigging, and Hoisting:

1. Unless otherwise specified, provide all scaffolding, rigging, hoisting, and other services necessary to complete the Work.

2. Remove all equipment from the project site when no longer required unless written authorization is given by the Port and/or Consultant.

D. Emergency Precautions:

1. Establish emergency and fire exits from the work area for the workers. All emergency exists that must pass through a work area shall be equipped with two (2) full sets of protective clothing and respirators at all times.

2. Notify only the Port and parties that are required by law to be notified. Port and Consultant shall determine if any agencies other than those required by the law shall be notified.

3. Be prepared to administer appropriate first aid to injured personnel at the site after decontamination. Seriously injured personnel shall be treated immediately in the work area or evacuated without performing decontamination. When an injury occurs, stop work and implement fiber reduction techniques (e.g., water spraying) until the injured person has been removed from the work area.

PART 2 - PRODUCTS

2.1 GENERAL

A. No materials, equipment, or tools belonging to the Port shall be used by the Contractor, except in case of an emergency and upon explicit authorization by the Port.

B. Deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

C. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner which shall not interfere with operations of the Port.

D. The Port and/or Consultant must approve unloading and temporary storage sites and transfer routes in advance.

E. Damaged or deteriorated materials may not be used and must be promptly removed from the project site. Materials that have become contaminated by asbestos-containing materials shall be packaged as ACM, and disposed of in an approved, secure asbestos landfill.

F. All materials, tools, and equipment must comply at a minimum with this specification and all applicable federal, state, and local regulations.

2.2 MATERIALS

A. Plastic Sheeting: Sheet shall be fire-retardant polyethylene sized in lengths and widths to minimize the frequency of joints. The minimum thickness shall be that which prevents release of asbestos through tearing, separation, or other reasonably foreseeable means, and in no case shall be thinner than:

1. 6-mil thick (0.15 mm) for use as wall and floor barriers.

2. 4-mil thick for use as ceiling barriers and for all other uses.

B. Plastic Bags: Bags shall be 6-mil (0. 15 mm) minimum polyethylene, or sufficiently thicker for large bags so as to prevent release of asbestos through tearing, separation or other reasonably foreseeable means and shall be labeled with OSHA asbestos warning or capable of being so labeled.

C. Tape: Tape shall be capable of sealing joints of adjacent sheets of plastic and of attaching plastic sheet to finished or unfinished surfaces of dissimilar materials and shall be capable of adhering under dry and wet conditions, including wetting by amended water.

D. Glue: Glue shall be capable of sealing plastic to finished surfaces without damaging the surfaces when removed. Mist or water, encapsulating agent, or any other materials to be used in the work area must not affect the bonding strength and resulting seal integrity.

E. Surfactants (Wetting Agents): Surfactants shall be used so as to produce a material that result in wetting of the asbestos-containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxymethylene ester and 50% polyoxymethylene ether mixed with five gallons of water. Surfactants shall be certified by their manufacturer as complying with EPA regulations controlling the use of volatile organic compounds, and such State and local regulations under an EPA-approved State Implementation Plan.

F. Encapsulants: Encapsulants shall be classified or certified by Underwriters Laboratories and shall not degrade the function of any replacement material. They shall be certified by their manufacturer as complying with EPA regulations controlling the use of volatile organic compounds, and such State and local regulations under an EPA-approved State Implementation Plan. For use with fireproofing, any replacement fire-resistive assembly including an encapsulant shall meet the requirements of this specification and existing building requirements, whichever are more stringent, and:

1. Bulk encapsulants. When used as a bulk encapsulant (penetrating or bridging) on fireproofing, the combination of encapsulant and specific fireproofing (trade name) to which it is applied shall be classified or certified by Underwriters Laboratories, and have a maximum flame spread value of 5 or 10 for exposed or concealed fireproofing, respectively, and smoke developed value of 0, when tested in accordance with ASTM Method E 84 or UL Standard 723.

2. Lock-down (post-removal) encapsulants. When used as a lock-down (post-removal) encapsulant on a surface after removal of asbestos-containing material, the encapsulant must be classified or certified by UL for use with the specific fireproofing material (trade name) and applied at the specified rate of application.

G. Asbestos disposal packaging: Packaging shall be suitable to receive and retain any asbestos-containing materials until disposal or conversion at an approved site. The packaging shall be both air and watertight.

1. Labeling. Packaging of asbestos-containing material shall be labeled in accordance with regulations of EPA (e.g., 40 CFR 61.150), OSHA (e.g., 29 CFR 1926.1101, 8 CCR 1529), DOT (e.g., 49 CFR 172.400, 172.446; except for limited quantity shipments which are not being shipped by air (49 CFR 172.203, 173.155), and State or local occupational safety and health, or environmental agencies (where applicable).

2. Marking. Packaging of asbestos-containing material shall be marked in accordance with DOT regulations (e.g., 49 CFR 172.300); except for limited quantity shipments (49 CFR 172.301).

H. Warning Signs: Signs shall be as required by EPA (e.g., 40 CFR 61.150), OSHA (e.g., 29 CFR 1926.1101, 8 CCR 1529), State occupational safety and health or environmental agencies (where applicable), and this contract.

I. Glove bags: Bags shall be made of 10 10-mil (0.25 mm) minimum clear polyethylene. Bag shape shall include "shoulders" to be used with straps. Sizes and shapes chosen shall be suitable for the pipe and fitting formations included in this contract. The bags shall have a closure system, such as a double zipper or self-closing cloth strip. The bags shall have a zipper lock or equivalent feature, which seals the lower part of the bag from the top part to remove asbestos- containing debris.

J. Brushes: All brushes shall have nylon bristles. Wire brushes are excluded from use due to their potential to shred asbestos fibers into smaller fibers. Wire brushes may be used on pipe joint insulation and flooring mastics upon prior written approval from the Port and Consultant.

2.3 TOOLS AND EQUIPMENT

A. Airless Sprayer: Amended water and surface sealers shall be applied with an airless or other low-pressure sprayer suitable for the specific application.

B. HEPA-Filtered Exhausts: Air inside the asbestos removal area shall be exhausted to the atmosphere (i.e. building exterior) through a High Efficiency Particulate Air (HEPA) filter.

1. A sufficient number of HEPA-filtered portable exhaust units shall be provided for each work area in order to provide:

   a. At least four (4) complete changes of air per hour;

   b. An inward velocity through all openings of at least 200 fpm;

   c. A static negative pressure of at least 0.02 inches of water.

2. The HEPA-filter shall be preceded by replaceable pre-filters and the unit must be designed such that it cannot be operated unless the HEPA-filter is in place.

3. The units must be designed with lights and alarms that indicate that the filters are properly installed and function and that determine when the filters must be changed.

4. Flexible metal or similar materials hose(s) (e.g. ducts) of sufficient length must also be provided to allow the units to discharge to the exterior of the building.

C. Vacuum Equipment: All vacuum equipment used for cleaning up shall be HEPA-filtered. At least one HEPA vacuum shall be equipped with floor (hard surface and carpet) cleaning attachments.

D. Scaffolding/Staging/Ladders: Shall meet OSHA safety regulations, including 29 CFR 1926.450-452. Where electrical power and water are used inside a work area, no electrically conductive ladders (e.g., aluminum or steel) shall be used (except for hinges and feet).

E. Transportation: Transportation methods shall comply with the provisions of EPA Title 40, Part 61, Subparts A, and B and with any hazardous or special waste regulations for temporary storage, transport, and disposal if such codes are enforced in states or cities where the waste will be generated, stored, transported, or disposed of. All containers shall be labeled in accordance with 8 CCR 1529, 29 CFR 1926.58(K) (2), 40 CFR 61, Subparts A and M, and 49 CFR Parts 171 and 172, Hazardous Waste Substances: Final Rule.

F. Other Tools and Equipment: Furnish all equipment such as lumber, nails, ladders, HEPA vacuums, and hardware and supplies, which may be required to construct and dismantle the decontamination areas and the barriers that isolate the work area. Provide other suitable tools for the abatement activities including hand scrapers, wire brushes, sponges, mops, and shovels.

G. Electrical: Electrical tools and equipment shall meet all applicable codes and regulations, including, in particular, 8 CCR 1760, 29 CFR 1910.304 and 29 CFR 1926.400-449.

1. Grounding. Ground fault circuit-interrupters shall always be used for all electrical equipment, except to the extent provided in an assured equipment grounding conductor program, 29 CFR 1926.404, if established and implemented in the Plan of Action.

2. Additional requirements. Other OSHA requirements for equipment grounding conductors, beyond those described in the grounding paragraph, apply.

PART 3 - EXECUTION

3.1 WORK AREA PREPARATION

A. Prepare the work area as described in this section. Preparation work shall be performed according to the following general sequence of steps and procedures to ensure that proper containment and protection systems are installed prior to any work, which could generate airborne asbestos fibers:

1. Remove and relocate any non-fixed items (not removed by the Port) to storage areas designated by the Port.
2. HVAC: Isolate, clean by HEPA vacuuming and washing, and seal airtight with plastic and tape all HVAC system diffuses, grills, and registers in or servicing the work area.
3. Pre-cleaning: Carefully clean all surfaces in the work area that may be contaminated with any dust or debris by using wet methods and a vacuum equipped with a HEPA filter. Comply with Article “Pre-Cleaning of Asbestos Contaminated Surfaces.”
4. Isolate all electrical systems as directed by the Port and provide temporary power and lighting as required for the work area and affected non-work areas. Comply with Article “Electrical Systems.”
5. Barriers: Cover any window or other opening with polyethylene sheeting. All walls to remain shall also be protected from damage during the work and erect or install Decontamination Facility and HEPA exhaust system.
6. Installation of Decontamination System: Install the decontamination enclosure system.
7. Signage: Post adequate warning signs denoting the potential danger of airborne asbestos at designated entrances to work areas including, as a minimum, those described at 29 CFR 1926.1101, 8 CCR 1529, and State occupational safety and health and fire safety regulations (where applicable). Prevent access to posted areas by unauthorized or inadequately protected persons.
8. Fire equipment: Adequate portable fire extinguisher equipment shall be maintained within the work area meeting at least the requirements of 8 CCR 1922, 29 CFR 1910.157 and (where applicable) State occupational safety and health regulations and fire safety regulations.

B. Obtain Consultant's approval of all preparation work before starting removal of asbestos material.

3.2 ELECTRICAL SYSTEMS

A. The scope of the required electrical isolation and protection work includes isolation and protection of electrical equipment, which is in the area from which asbestos must be removed and could therefore possibly become a hazard through contact or water spray short-circuiting. Shutdown of electrical circuits shall include providing labor to monitor, inspect, and service temporary power circuits, lighting, and equipment as required by local codes and regulations. Provide "Lock Out" system on all electrical panels or equipment that will be shut off during the removal process.

B. Provide temporary lighting in the work area where asbestos removal is performed. Inspect the removal work area for the condition of electrical conduit and junction boxes. Correct all potentially unsafe conditions. Do not proceed with removal work until all potentially unsafe conditions have been corrected.

C. All materials and workmanship shall conform to the latest editions of the following codes, standards, and specifications:

1. National Electrical Code (NEC) - most recent edition.
2. National Bureau of Standards, Handbook H30, National Electrical Safety Code.
3. State and Local codes, and all other authorities having jurisdiction.
4. Underwriter Laboratories (UL).
5. National Board of Fire Underwriters.
6. California-OSHA.

D. Temporary lighting and power systems shall meet or exceed all OSHA, state, and local regulations; temporary lighting levels shall meet or exceed OSHA requirements and provide surface lighting for nighttime work.

E. Visit the site as necessary to investigate existing electrical conditions and isolation requirements.

F. Prior to switching circuits at panels, review the existing directory. Do not shut down any circuits without advanced notification and approval of the Port.

G. All costs associated with the isolation of electrical systems and installation of temporary power and lighting shall be borne by the Contractor.

H. Comply with all applicable electrical safety regulations.

3.3 PRE-CLEANING OF ASBESTOS CONTAMINATED SURFACES

A. Cleaning of surfaces that are potentially contaminated with asbestos-containing dust and debris shall be required to prevent this dust from becoming airborne and posing an exposure risk, or interfering with perimeter air monitoring activities. Cleaning action shall be performed as a preliminary exposure control procedure, prior to performing other actions associated with the Work.

B. Cleaning shall consist of HEPA vacuuming followed by wet mopping or wiping of surfaces in a manner that prevents dust generation, but effectively rids the surface of all visible debris, dust, film, and grime.

C. Each HEPA vacuum shall be separately equipped with an airtight, securely attached hose of appropriate length and a collection wand, brush or other special attachment appropriate to the required cleaning task. The equipment shall be operable at all times and shall contain no air leaks. The Consultant will review verification of the efficiency of the equipment's filtration (i.e. manufacturer's equipment data sheets).

D. Cleaning Procedures:

1. Remove large pieces of debris by hand, and then dry vacuum all surfaces using HEPA filtered equipment and a collection attachment that minimizes dust generation.
2. Lightly wet the surface of any material that produces airborne fibers using an airless sprayer and amended water.
3. Collect, package, label, and dispose of vacuumed material as asbestos-contaminated waste.
4. Thoroughly wet wipe or mop all surfaces to remove any remaining dirt or grime, being careful not to wet or damage any electrical equipment, furniture, or other sensitive surfaces.
5. All surfaces to completely dry, then inspect the surfaces for any visible remaining dirt or fibrous material.
6. HEPA vacuum any remaining dirt or grime using an efficient collection attachment.
7. Collect and pump all wastewater through a 5-micron filter, utilizing a multistage filtration system. Dispose of filtered material and filter as asbestos waste.
8. Request that the Consultant perform a visual inspection of the cleaning work, prior to continuing any other specified actions.

3.4 ISOLATION OF OSHA CLASS I (FRIABLE) CONTAINMENT WORK AREAS

A. Work Area Isolation and Protection for Friable Asbestos-Containing Materials: friable asbestos-containing materials include mudded thermal pipe insulation, fire-door insulation, any non-friable asbestos-containing materials that have become friable, and any non-friable asbestos-containing materials that have been subjected to mechanical removal methods.

1. Isolate the work area for the duration of work by completely closing and sealing all openings and doorways into the work area, including heating and ventilation ducts, doorways, windows, floors and ceiling penetrations, and lighting. Isolation/sealing shall be accomplished by using two (2) layers of 6-mil plastic sheeting taped securely in place, or by caulking, including the construction as noted in numbers 4 and 5 below. The work area shall be protected and sealed airtight to the extent possible and be subject to the approval of the Consultant.
2. Emergency and fire exits shall be maintained.
3. Shutdown and isolate heating, cooling and ventilating air systems to prevent contamination and fiber dispersal to other areas of the property.
4. Thoroughly pre-clean all dust or debris from any fixed objects, floors, walls, or other equipment within the work area using HEPA vacuuming equipment and wet washing. Do not use dry brooms, brushes, mops, or non-HEPA vacuum cleaners for this pre-cleaning work. Seal all seams, joints, covers, or casings with tape, and enclosed fixed objects or equipment with a minimum of two layers of 6-mil plastic sheeting secured and sealed airtight with duct tape.
5. Cover floor and walls with a minimum two (2) independent layers of 6-mil plastic sheeting, turning each layer up onto walls a minimum of 16" and fasten securely to wall. Cover walls with two (2) layers of 6-mil plastic sheet extending to flow, overlapping the two (2) floor sheets by not less than 12" excluding the turn-up. All joints in plastic sheets shall be taped and glued in a manner to prohibit air movement, and to prevent passage of water or other liquids. The bottom layer of floor poly shall be securely fastened to the floor to prevent creases or slippage that would pose a hazard to workers. Any floor drains or other openings shall be sealed individually with two (2) layers of 6-mil sheeting and tape, and then covered by the remaining two (2) layers of poly. Pits, pumps, and other openings shall be covered to prevent a tripping hazard and then covered with two (2) layers of 6-mil sheeting.
6. Install work area HEPA-filtered exhaust systems as previously specified in Section 1.6 (J) of these Specifications.
7. Post warning signs in English and Spanish meeting the requirements of 8 CCR 1529 (k)(7) and OSHA 29 CFR 1926.58 (k)(1).and (k)(2)(ii) at the outside doorway to the decontamination facility which shall be the only non-emergency entrance into the work area. The Consultant may also request that the Contractor post additional warning signs around the work area or at other potential entrances or exposure points in accordance with California Proposition 65.
8. Warning signs shall be readily visible to any person attempting to enter the work area.
9. All waste shall be disposed of as hazardous waste and packaged as specified herein.
10. Negative pressure will be established in the work area by placement and operation of sufficient number of HEPA-filtered portable exhaust units in order to provide:
11. At least four (4) complete changes of air per hour;
    a. An inward velocity through all openings of at least 200 fpm;
    b. A static negative pressure of at least 0.02 inches of water.
12. Negative pressure shall be measured and recorded using a pressure differential monitor (manometer or magnehelic-type). The monitor shall be calibrated according to the manufacturer specifications and equipped with a printer.

B. After the friable asbestos removal work area has been prepared as specified above, request a formal site inspection by the Consultant. No removal, demolition or other disturbance of asbestos-containing material, dust, or debris shall occur until the Consultant has inspected and approved the site preparation work.

3.5 ISOLATION OF OSHA CLASS II (NON-FRIABLE) CONTAINMENT WORK AREAS

A. Work Area Isolation and Protection of Non-Friable Asbestos-Containing Materials Located on the Interior of a Building: non-friable asbestos-containing materials include vinyl floor tile and associated mastic and electrical box insulation.

1. Isolate the work area for the duration of work by completely closing and sealing all openings and doorways into the work area, including heating and ventilation ducts, doorways, windows, floors and ceiling penetrations, and lighting. Isolation/sealing shall be accomplished by using two (2) layers of 6-mil plastic sheeting taped securely in place, or by caulking. The work area shall be protected and sealed airtight to the extent possible and be subject to the approval of the Consultant.
2. Emergency and fire exits shall be maintained.
3. Shutdown and isolate heating, cooling and ventilating air systems to prevent contamination and fiber dispersal to other areas of the property.
4. Thoroughly pre-clean all dust or debris from any fixed objects, floors, walls, or other equipment within the work area using HEPA vacuuming equipment and wet washing. Do not use dry brooms, brushes, mops, or non-HEPA vacuum cleaners for pre-cleaning work.
5. Seal all seams, joints, covers, or casings with tape, and enclosed fixed objects or equipment with a minimum of two layers of 6-mil plastic sheeting secured and sealed airtight with duct tape.
6. Cover walls with one (1) layer of 6-mil plastic sheet extending a minimum of four feet from floor (splashguards). All joints in plastic sheets shall be taped and glued in a manner to prohibit air movement, and to prevent passage of water or other liquids.
7. Any floor drains or other openings shall be sealed individually with two (2) layers of 6-mil sheeting and tape. Pits, pumps, and other openings shall be covered to prevent a tripping hazard and then covered with two (2) layers of 6-mil sheeting.
8. Install work area HEPA-filtered exhaust systems as previously specified herein.
9. Post warning signs in English and Spanish meeting the requirements of 8 CCR 1529 (k)(7) and OSHA 29 CFR 1926.58(k)(1) and (k)(2)(ii) at the outside doorway to the decontamination facility which shall be the only non-emergency entrance into the work area.
10. Warning signs shall be readily visible to any person attempting to, enter the work area.
11. All waste will be disposed of as non-hazard waste and packaged as specified herein.

B. Work Area Isolation and Protection of Non-Friable Asbestos-Containing Roofing Materials: non-friable asbestos-containing roofing materials include skylight and other roofing mastics and roof assembly composite.

1. Install plastic sheeting, for use as drop cloths, around the perimeter of the building, where necessary.
2. Post warning signs in English and Spanish meeting the requirements of 8 CCR 1529 (k)(7) and OSHA 29 CFR 1926.58(k)(1) and (k)(2)(ii) at the edges of the plastic sheeting and at the access point to the roof.
3. Warning signs shall be readily visible to any person attempting to access the roof of the building.
4. Isolate roof level heating and ventilation air intake sources or shall arrange with the Port to have the ventilation system shut down. The work area shall be subject to the approval of the Consultant.
5. Seal all seams, joints, covers, or casings with tape, and enclosed fixed objects or equipment with a minimum of two layers of 6-mil plastic sheeting secured and sealed airtight with duct tape.

C. Work Area Isolation and Protection of Outdoor Non-Friable Asbestos-Containing Cementitious Asbestos-Containing Siding, Shingles, or Transite Panels: non-friable asbestos-cement materials include transite wall panels, transite pipes and flues, and fire bricks.

1. Install plastic sheeting, for use as drop cloths, around the perimeter of the building, where removal is to occur.

2. Post warning signs in English and Spanish meeting the requirements of 8 CCR 1529 (k)(7) and OSHA 29 CFR 1926.58(k)(1) and (k)(2)(ii) at the edges of the plastic sheeting.

3. Warning signs shall be readily visible to any person approaching the work area.

4. Isolate the work area from the interior of the building by completely closing and sealing all openings and doorways from the work area into the building, including heating and ventilation ducts, doorways, and windows. The work area shall be subject to the approval of the Consultant.

5. Seal all seams, joints, covers, or casings with tape, and enclosed fixed objects or equipment with a minimum of two layers of 6-mil plastic sheeting secured and sealed airtight with duct tape.

D. After the non-friable asbestos removal work area has been prepared as specified above, request a formal site inspection by the Consultant. No removal, demolition or other disturbance of asbestos-containing material, dust, or debris shall occur until the Consultant has inspected and approved the site preparation work.

3.6 REMOVAL PROCEDURES FOR ALL OPERATIONS

A. Vacuum cleaners equipped with HEPA filters shall be used to collect all debris and dust containing ACM and PACM.

B. Wet methods shall be used to control exposure during any asbestos handling, removal, cutting, and clean-up, unless the Contractor can demonstrate that the use of wet methods is infeasible due to (for example) creation of an electrical hazard or safety hazard during roofing abatement. Any exceptions to the requirement for wet methods must be approved in advance by the Port or Consultant.

C. Waste and debris contaminated with asbestos must be promptly cleaned-up and stored in leak-tight containers or impermeably wrapped.

3.7 OSHA CLASS I (FRIABLE) REMOVAL PROCEDURES

A. Friable materials may include mudded thermal pipe insulation, fire-door insulation, any non-friable asbestos-containing materials that have become friable, and any non-friable asbestos-containing materials that have been subjected to mechanical removal methods.

B. Amended water (wetting agent) mixed and carefully applied using an airless sprayer as specified by the manufacturer, shall continuously be used to control the release of asbestos fibers from the material prior to and during removal. The amended water shall be applied in sufficient quantity to fully penetrate and saturate the material before it is removed. Wetting shall commence up to 24 hours before removal work to ensure effectiveness.

C. Removal Methods:

1. No asbestos removal work shall begin until the work area has been prepared and approved by the Consultant.

2. Removal workers shall wear minimally half face air-purifying respirators with P-100 filters and protective clothing as previously described throughout all removal, cleanup, and waste handling operations.

3. Small test patches of asbestos material shall be wetted, and then removed and examined by the Consultant and Supervisor to determine degree of saturation prior to removing the bulk of the material. With prior approval, the Contractor may use removal encapsulants instead of amended water; applied per manufacturer and federal guidelines.

4. After large areas of the asbestos material have been fully wetted and tested, the asbestos shall be carefully removed in small sections by using hand scrapers or other suitable tools or mechanical devices as allowed by federal, state, and local regulations. This includes chemical removal of floor tile mastic in association with mechanical buffers and/or use of a bead blaster.

5. As the material is removed, it shall be promptly wetted and packed into impermeable, labeled 6-mil polyethylene, disposal bags. When each bag is full, the packaged material shall be sprayed with amended water, sealed (using duct tape or other fastener as approved by the Consultant), and transported to a temporary storage area inside the work area.

6. Repeatedly spray the material to prevent it from drying out.

7. After obtaining written approval of the cleaning from the Consultant, seal all substrate surfaces from which asbestos material was removed with at least one (1) coat of an approved penetrating encapsulant.

8. Minimize contamination of the work floor, the exterior of disposal containers, and all other surfaces within the work area. At the end of each shift, all surfaces shall be cleaned of all materials and then HEPA vacuumed or wet mopped.

9. Workers must enter and exit the regulated work area through a decontamination facility. The decontamination facility and work area entry/exit procedures must meet the requirements of 9 CCR 1529 (j)(1).

10. The decontamination facility shall be wet cleaned (a minimum of two times) using wet cleaning methods upon completion of any waste removal when the worker decontamination facility's shower room alternates as a waste container wash room. The shower room shall be washed with cloths or mops saturated with a detergent solution immediately prior to wet cleaning.

11. The decontamination facility shall be wet cleaned and HEPA vacuumed, as appropriate, after each shift change and meal break.

12. Excessive water accumulation or flooding in the work area shall require work to stop until the water is collected and disposed of properly.

D. Upon completion of removal work, but prior to commencing encapsulation or post-removal cleaning of the work area, request the Consultant conduct an inspection and approve the removal work.

3.8 OSHA CLASS II (NON-FRIABLE) REMOVAL PROCEDURES

A. Non-friable friable materials may include non-friable asbestos-containing materials include vinyl floor tile and associated mastic, electrical insulation, transite wall panels, transite pipes and flues, fire bricks, skylight and other roofing mastics, and roof assembly composite that are removed with hand tools.

B. Amended water (wetting agent) mixed and carefully applied using an airless sprayer as specified by the manufacturer, shall continuously be used to control the release of asbestos fibers from the material prior to and during removal. The amended water shall be applied in sufficient quantity to fully saturate the material before it is removed. Wetting shall commence up to 24 hours before removal work to ensure effectiveness.

C. Removal Methods:

1. No asbestos removal work shall begin until the work area has been prepared and approved by the Consultant.

2. Removal workers shall wear minimally half face air-purifying respirators with P-100 filters and protective clothing as previously described throughout all removal, cleanup, and waste handling operations.

3. Small test patches of asbestos material shall be wetted, and then removed and examined by the Consultant and Supervisor to determine degree of saturation prior to removing the bulk of the material. With prior approval, the Contractor may use removal encapsulants instead of amended water; applied per manufacturer and federal guidelines.

4. After large areas of the asbestos material have been fully wetted and tested, the asbestos shall be carefully removed in small sections by using hand scrapers or other suitable hand tools. No tools or equipment shall be used to render material friable without prior approval by Port. Floor tile and mastic will be removed with hand tools and wet methods.

5. As the material is removed, it shall be promptly wetted and packed into impermeable, labeled 6-mil polyethylene, disposal bags. When each bag is full, the packaged material shall be sprayed with amended water, sealed (using duct tape or other fastener as approved by the Consultant), and transported to a temporary storage area inside the work area.

6. Material shall not be dropped or thrown to the ground. Removed asbestos-containing roofing material, siding, panels, or shingles shall be passed to the ground by hand or lowered to the ground via a covered, dust-tight chute, crane, or hoist.

7. Repeatedly spray the material to prevent it from drying out.

8. After obtaining written approval of the cleaning from the Consultant, seal all substrate surfaces from which asbestos material was removed with at least one (1) coat of an approved penetrating encapsulant.

9. Minimize contamination of the work floor, the exterior of disposal containers and all other surfaces within the work area. At the end of each shift, all surfaces shall be cleaned of all materials and then HEPA vacuumed or wet mopped.

10. Workers must enter and exit the regulated work area through a decontamination facility. The decontamination facility and work area entry/exit procedures must meet the requirements of 29 CCR 1529 (j)(2).

11. The decontamination facility shall be wet cleaned (a minimum of two times) using wet cleaning methods upon completion of any waste removal when the worker decontamination facility's shower room alternates as a waste container wash room, the shower room shall be washed with cloths or mops saturated with a detergent solution immediately prior to wet cleaning.

12. The decontamination facility shall be wet cleaned and HEPA vacuumed, as appropriate, after each shift change and meal break.

13. Excessive water accumulation or flooding in the work area shall require work to stop until the water is collected and disposed of properly.

D. Upon completion of removal work, but prior to commencing encapsulation or post-removal cleaning of the work area, request the Consultant conduct an inspection and approve the removal work.

E. All asbestos-containing materials shall be removed, gross debris cleaned up, and waste bags removed from the work area prior to approval from the Consultant.

3.9 CLEANING AND FINAL DECONTAMINATION

A. After all asbestos-containing (or contaminated) materials have been removed, remove all wastes and perform a thorough multi-stage final cleanup and decontamination of the work area per the methods

indicated below. Final cleaning shall be performed only after all waste is packaged and removed, but prior to re-installing equipment or dismantling any barriers, decontamination facility, or protective coverings. Cleaning shall be performed before a visual inspection and air testing by the Consultant. HEPA-exhaust systems shall operate continuously throughout the cleaning and air testing process until the Consultant authorizes their shutdown and removal from the site. Notify the Consultant at least 24 hours in advance of the expected completion time of site cleaning in order to allow the scheduling of air clearance testing.

B. Methods and Approvals: Cleaning methods and approvals shall consist of the following tasks performed in the list order:

1. Remove all visible accumulations of asbestos debris on the protective coverings on floors, walls, and other surfaces, and then HEPA vacuum all surfaces to pick up excess water and gross saturated debris.

2. After HEPA vacuuming, the work area air shall be lightly misted (with amended water), and then all protective coverings on ceilings, walls, floors, and other items in the work area shall be wiped thoroughly clean (first cleaning).

3. After completing the above steps (1) and (2), request the Consultant to inspect the site. To facilitate scheduling of this inspection, notify the Consultant of the anticipated completion time of the above initial cleaning work 24 hours in advance.

4. If the Consultant observes any asbestos waste or fibers within the work area during the inspection, perform additional cleanup and decontamination as directed by the Consultant.

5. If the Consultant approves this first cleaning, slowly remove the upper layer of all protective poly coverings on floors, walls, and other surfaces and package them in 6-mil waste bags. The waste bags shall then be removed from the work area. The bottom layer of protective poly coverings, the decontamination facilities, the HEPA exhaust systems, all barrier walls, and seals on HVAC components shall remain in place and in use.

6. After these upper protective coverings are moved, the work area shall be completely wet wiped and vacated for at least twelve (12) hours to allow fiber settling and while the Consultant collects and analyzes a final set of air samples according to NIOSH Method 7400 (PCM).

7. Upon obtaining the Consultant's written approval of final clean work area as specified herein, unless otherwise permitted, drying time shall be as specified by the manufacturer before final air sampling is conducted.

8. After successful completion of final air clearance testing as specified herein, carefully remove in listed order the decontamination facilities, any temporary barrier walls or tunnels, seals on HVAC components. The HEPA exhaust systems shall be removed only after all other items are removed. A HEPA vacuum shall be kept on site during this final disassembly work to cleanup any dust or debris.

9. If any of the post cleaning PCM air sample results are above 0.01 fiber/cc (or a preexisting level of normal background fibers if shown to be higher than 0.01 f/cc by the Consultant), the Consultant may require additional cleaning, decontamination, air testing and a final inspection, which shall be repeated by the Consultant.

10. Workers shall wear approved respiratory and personnel protective equipment throughout all cleanup and waste disposal activities.

3.10 DISPOSAL

A. Determine current waste handling, packaging, labeling, transportation, and disposal regulations for the work site and for each waste disposal landfill. Comply fully with these regulations and all U.S. Department of Transportation, EPA requirements and state and local regulations.

B. Definition: Wastes are defined as all asbestos-containing or potentially contaminated materials or other items, which have not been completely cleaned or sealed to the satisfaction of the Consultant, while inside the work area, and must be removed from the job site. Asbestos wastes may include building materials, insulation, disposal clothing and protective equipment, plastic sheeting and tape, exhaust systems or vacuum filters, Contractor equipment, or other materials designated by state or local authorities or the Consultant or which have been potentially contaminated with asbestos and have not been fully cleaned inside the work area by vacuuming followed by thorough washing.

C. All waste material shall be promptly placed in 6-rnil polyethylene bags as it is generated. A sufficient number of waste bags shall be located in the immediate work area, and in the Equipment (dirty) room of the Worker Decontamination Facility. Count the bags and estimate the total volume leaving the work area and maintain a written record of such (waste log).

D. Warning labels, having waterproof print and permanent adhesive, imprinted on the sides of all waste bags or transfer containers. All waste bags must have the generator's name and address including area where waste was generated.

E. A fine water spray shall be used to keep the waste in containers thoroughly wet at all times. When a waste bag is full, it shall be securely sealed with tape or other secure fastener.

F. The following procedures shall be followed whenever containers or equipment are removed, from the work area:

1. All combustible rubbish and debris, including properly bagged asbestos, shall be properly disposed of at the end of each working day.

2. The Clean Room shall be considered a holding area only during the period of active waste transfer for the purpose of the loading of carts or drums. Storage of waste in carts or a drum in the clean room is prohibited.

3. Waste removal shall not occur during worker shift changes or when workers are showering or changing. Care shall be taken to prevent short-circuiting and cycling of air outward through the shower and clean room when used for waste removal.

4. Workers are to be stationed in each room/area of the decontamination facility to transfer the containers and equipment to or from adjacent sections. These workers in the clean room or holding area shall enter from uncontaminated areas with appropriate personal protective equipment; or prior to the start of the waste transfer, these workers shall exit the work area, fully de-contaminated, and subsequently don't clean personal protective equipment.

5. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and HEPA-vacuuming in the work area before moving such items into the decontamination facility airlock. Workers shall not enter the airlock during this procedure.

6. The containers of waste and the equipment shall be removed from the airlock by workers stationed in the washroom during waste removal operations.

7. Once in the washroom, external surfaces of contaminated containers and equipment shall be cleaned a second time by wet cleaning.

8. The cleaned containers of waste and equipment shall be placed in uncontaminated leak-tight plastic bags (or 6-mil sheeting if physical characteristics necessitate and permit). Air volume shall be minimized, and the bags or sheeting shall be sealed. Items that may puncture or tear the plastic bags or sheeting shall be placed in a hard wall container such as a drum, and then sealed.

9. The clean re-containerized items shall be moved into the airlock for subsequent transfer to the holding area. The washroom workers shall not enter this airlock or the work area until waste removal is fined for the period.

10. Re-containerized items and cleaned equipment shall be removed from the air lock to the holding area by workers who have entered from uncontaminated areas with appropriate personal protective equipment.

11. The re-containerized items of waste and cleaned, bagged equipment shall be placed in open top, watertight plastic carts or drums. The carts or drums shall be HEPA-vacuumed and wet cleaned immediately following the removal of the containers of waste from them, and the location of where they are emptied shall be HEPA-vacuumed.

12. The exit from the waste decontamination facility shall be monitored and secured at all times to prevent unauthorized entry.

13. The carts and drums may be temporarily stored in a holding area at the work site outside the work place until a transport vehicle arrives, but such storage areas must be pre-approved by the Port.

G. Waste Container Storage: Sealed waste bags may be temporarily stored in a pre-designated and approved outside area, until a truckload quantity is obtained. The temporary storage area shall be predominantly identified and posted with signs, and waste containers shall be covered with polyethylene sheeting or otherwise protected from further contamination.

H. Waste Removal Scheduling: All waste containers shall be decontaminated and removed from the site before final cleanup is started and isolation barriers are taken down. Pre-schedule and obtain approval of the Consultant for all time periods during which he desires to re-move waste bags from the facility. Once a truckload of waste containers has accumulated, arrange for transportation to the disposal site. Waste shall not be stored in the work area or waste decontamination facilities. Outside bag, storage must be monitored and secured at all times to prevent tampering. Storage must be in secure areas.

I. Waste Transportation and Disposal Regulations:

1. Determine and ensure compliance with: 1) the current waste handling regulations applicable to each work site; and 2) the current regulations for transporting and disposing, waste at each ultimate disposal landfill. Comply fully with these regulations and with all U.S. Department of Transportation, State, EPA, and all federal and local requirements.

2. At no additional cost to the Port, maintain a valid solid waste transportation registration issued by the California Department of Health Services Toxic Substance Division and obtain, complete, and fully comply with any other local hazardous waste manifesting requirements.

3. Transportation methods shall comply with the provisions of EPA Title 40, Part 61, Subpart M, Title 22 of the California Administrative Code, Division 4 Environmental Health, Chapter 30, Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes, and with any hazardous waste regulations for temporary storage, transport, and disposal if such codes are enforced in states where the waste shall be stored, transported or disposed of.

J. Waste Container Removal and Disposal Procedure:

1. Provide waste packaging, transportation, and approved landfill disposal, plus all related recordkeeping.

2. Package, label, and remove all asbestos waste as specified. Packaging shall be accomplished in a manner that minimizes waste volume but ensures waste containers shall not tear or break.

3. Provide legal transportation of asbestos waste to the disposal landfill. Verify actual delivery, receipt, and disposal of each load of waste at the design landfill.

3.11 FINAL INSPECTION AND TESTING

A. After a minimum of two (2) thorough cleanings of the work area, if a high degree of cleanliness has been achieved, notify the Consultant that the work area is ready for inspection and final testing. The Consultant and the Contractor shall visually inspect the work area for detection of any visible asbestos dust, debris or other contamination. If the visual inspection does not detect any dust, debris or other signs of contamination, final air testing shall commence.

B. The final test shall consist of collecting air samples within the work area to establish that the airborne fiber concentrations do not exceed 0.01 f/cc, as determined by transmission electron microscopy (TEM) for Class I removal areas and phase contrast microscopy (PCM) for Class II removal areas. At the discretion of the Port TEM may also be employed for one or two of the samples in Class II areas to confirm the results of the final testing via PCM. If the results of the final testing exceed 0.01 f/cc, thorough wet cleaning, and/or HEPA vacuuming shall be repeated until the required clearance levels are achieved.

C. After achieving the levels of cleanliness and decontamination, as specified herein and as confirmed by the final inspection and air testing, the Consultant and Contractor shall thoroughly inspect the work area to determine whether any damage has been done to finishes, equipment, or any other part of the work space.

D. Any damage to finishes, floors, walls, or other items or fixtures that have been the result of actions by the Contractor shall be repaired to original condition without any additional cost to Port. A comparison to the pre-construction inspection report shall be the basis for the assessment of damages to be addressed.

***END OF SECTION**

SECTION 02 83 33 – REMOVAL AND DISPOSAL OF MATERIAL CONTAINING LEAD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Hazardous Building Materials Survey Reports, prepared by the Port's Consultant, are included in Appendix I.

1.2 REFERENCE DOCUMENTS

A. The current issues of the following documents are incorporated herein and shall govern the conduct of the Work. Where conflict among requirements or with this specification exists, the more stringent requirements shall apply.

B. Code of Federal Regulations (CFR):

1. 29 CFR 1910, Occupational Safety and Health Standards, General.
2. 29 CFR 1910.134 Respiratory Protection.
3. 29 CFR 1910.1025 Lead.
4. 29 CFR 1910.1200, Hazard Communication.
5. 29 CFR 1926 Occupational Safety and Health Standards, Construction.
6. 29 CFR 1926.55, Gases, Vapors, Fumes, Dusts, and Mists.
7. 29 CFR 1926.59, Hazard Communication.
8. 40 CFR 61 Subpart A and Subpart M, USEPA, National Emission Standards for Hazardous Air Pollutants (NESHAP).
9. 40 CFR 261, Identification and Listing of Hazardous Waste
10. 40 CFR 262, Standards Applicable to Generators of Hazardous Waste
11. 40 CFR 263, Standards Applicable to Transporters of Hazardous Waste
12. 40 CFR 266, Standards for the Management of Specific Hazardous Wastes.
13. 40 CFR 745, Lead Renovation, Repair, and Painting Program.

C. California Code of Regulations (CCR):

1. Title 5, Sections 32240 through 32045, Lead Safe Schools Protection Act.
2. Title 8, Section 1514, Personal Protective Equipment.
3. Title 8, Section 1531 Construction Respiratory Protective Equipment.
4. Title 8, Section 15 32 .1, Lead in the Construction Industry.
5. Title 8, Section 3203, Injury and Illness Prevention Program.
6. Title 8, Section 5144, Respiratory Protective Equipment.
7. Title 8, Section 5155, Airborne Contaminants.

8. Title 8, Section 5194, Hazard Communication.
9. Title 8, Section 5216 General Industry Construction Safety Orders, Lead Regulations.
10. Title 17 Sections 35001-36100 Accreditation, Certification and Work Practices for Lead Based Paint and Lead Hazards.
11. Title 22, Division 4, Minimum Standards for Management of hazardous and extremely hazardous waste.

D. Local Regulations:

1. San Diego Municipal Code, Division 10, Sections 54.1001-54.1015, Lead Hazard Prevention and Control Ordinance.

E. American National Standards Institute (ANSI):

1. ANSI Standard Z9.2 Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems.

F. American Society for Testing and Materials (ASTM):

1. ASTM Standard E1728 Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Lead Determination.

G. Testing Methods:

1. NIOSH Method 7082, Lead by Flame Atomic Absorption Spectrophotometry.
2. EPA Publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.
3. EPA Testing Method 3050B, Acid Digestion of Sediments, Sludges, and Soils.
4. EPA Method 7420, Lead (Atomic Absorption, Direct Aspiration).

1.3 SUMMARY

A. Section includes the furnishing of all labor, materials, facilities, equipment, services, employee training, permits, agreements, waste transport and disposal necessary to perform the work required for removal of materials containing lead in accordance with these specifications, EPA, APCD, OSHA, NIOSH, State of California regulations, and any other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.

B. The Work includes protection and decontamination of components, fixtures, contents, and equipment remaining in the work area prior to and during lead activities, including abatement and paint stabilization.

C. Perform the work and provide service as needed to accomplish abatement of lead containing materials at the Project Site. Specific locations and materials to be removed/disturbed are indicated on the Drawings. Sampling data for identification of lead containing materials is available from the Port Construction Manager.

D. Comply with all requirements of this specification for work involving any amount of lead and includes lead abatement, component removal/replacement, paint stabilization, and any other control measures to reduce lead in areas with lead-based paint, presumed-lead based paint, and paint with lead content exceeding the San Diego City Ordinance threshold requiring lead-safe work practices of 0.5 mg/cm2 or 1000 ppm lead. Alternate and innovative technologies and procedures are encouraged and must be submitted in detail for approval prior to any work being performed. Any alternative technologies submitted must have been written by a Certified Industrial Hygienist (CIH) or State of California Certified Lead Project Designer or Project Monitor.

E. In the event materials containing lead in addition to those indicated in the Drawings are discovered, do not disturb. Immediately notify the Port Construction Manager who will have the additional materials tested.

F. Related Requirements:

1. Section 02 82 33 “Removal and Disposal of Asbestos Containing Materials” for asbestos abatement.

2. Section 02 84 33 “Removal and Disposal of Universal Waste and PCB” for Universal Waste and PCB abatement.

1.4 ALLOWANCES

A. Not Used.

1.5 DEFINITIONS

A. All terms not defined herein shall have the meaning given in the applicable publications and regulations.

B. “Airlock” shall refer to a system for permitting ingress or egress of personnel or equipment while minimizing movement of contaminated air between a contaminated area and an uncontaminated area.

C. “Air Monitoring” shall refer to the process of measuring the lead content of a volume of air using NIOSH method 7082 or other method approved by the Port. Flow rate and sample volume shall be in accordance with the method chosen.

D. “Authorized Visitors” shall mean the Port, a visitor authorized by the Port, or any representative of a regulatory agency or other agency having jurisdiction over the project.

E. “Clearance Inspection” shall refer to an onsite limited investigation of single surface dust wipe sampling or soil performed by the Consultant at the completion of lead hazard reduction activities for deteriorated lead-based paint. Samples will be collected no sooner than 60 minutes after the completion of lead hazard reduction activities. Dust wipe samples will be analyzed in accordance with EPA Test Method SW-846 or other method approved by the Port and/or Consultant.

F. “Clean Room/Clean Area” shall mean an uncontaminated room having facilities for the storage of employees’ street clothing and uncontaminated materials and equipment, and that complies with the OSHA change room standard in 29 CFR 1910.141. The clean area shall contain handwashing facilities, clean clothes, clean cloths, storage for a HEPA vacuum, and respirator storage space. Contaminated equipment or personnel shall not be permitted in this area. The floors and walls of this area shall be covered with 6-mil polyethylene sheeting.

G. “Consultant” shall mean the consulting industrial hygienist. The Consultant is an independent party retained by the Port to provide consultation services for lead-related activities.

H. “Containment Barrier” shall refer to a system, process, or barrier surrounding and sealing the outer perimeter of the work area, consisting of walls, floors, and/or ceilings. The containment barrier is designed to ensure that lead-contaminated dust, lead-contaminated soil, or lead paint contaminants are not blown, spread, or tracked from inside to outside of a work site.

I. “Contaminated Equipment Room” shall refer to a contaminated area or room within the decontamination enclosure system that adjoins the work area, with provisions for storage of contaminated clothing or equipment.

J. “Decontamination Area” shall refer to an enclosed area adjacent and connected to a regulated area and consisting of an equipment room, shower area, and a clean room, that is used for the decontamination of workers, materials, and equipment contaminated with lead, without permitting lead concentrations to migrate to uncontaminated areas. See OSHA regulation at 29 CFR 1926.58).

K. “De minimus levels” shall mean an area less than:

1. Two square feet in any interior room;

2. Twenty square feet on an exterior surface; or

3. Ten percent of the surface area on any component part.

L. “Deteriorated paint” shall refer to paint that is cracking, flaking, chipping, peeling, or otherwise separating from the substrate.

M. “Disposal” shall refer to all procedures necessary to transport lead-containing or contaminated waste removed from the project site and deposit it in a waste disposal site or a conversion site in compliance with applicable regulations.

N. “Disposal Site” shall mean a site approved by the EPA and/or applicable State and local hazardous waste control agencies for the disposal of lead-containing wastes.

O. “Port” shall mean the Port of San Diego.

P. “Disturb” or “Remove paint” shall refer to any action that creates friction, pressure, heat, or a chemical reaction upon any paint on an interior or exterior surface so as to abrade, loosen, penetrate, chip, cut through, remove, or eliminate paint from that surface. This includes all lead hazard correction activities, all demolition activities, and all surface preparation activities performed upon an interior or exterior surface containing paint.

Q. “Doorway” shall refer to a device to allow passage of personnel or equipment from one room to another while restricting air movement between the rooms so as to minimize the dispersal of lead.

R. “Equipment Room” or “Change Room” means a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

S. “HEPA Filter” shall refer to a High Efficiency Particulate Absolute filter capable of trapping and retaining 99.97% of particles with aerodynamic equivalent diameters greater than or equal to 0.3 micrometers.

T. “HEPA Filtered or HEPA Vacuum Equipment” shall refer to equipment equipped with a HEPA filter in the exhaust outlet, and so designed and maintained that 99.97% of particles with aerodynamic equivalent diameters greater than or equal to 0.3 micrometers in the inlet air are collected and retained. All such equipment used under this contract shall be certified by manufacturers as meeting ANSI Z9.2.

U. “HVAC system” shall refer to the heating/ventilation/air conditioning system of the building(s) within the project site.

V. “Lead-based paint” or “lead paint” shall refer to paint or other surface coating that contains equal to or greater than 1.0 milligram per square centimeter or 0.5 percent by weight lead.

W. “Lead-contaminated dust” shall refer to dust that contains lead equal to or greater than 10 micrograms per square foot (µg/ft2) for interior floor surfaces, 100 µg/ft2 for interior horizontal surfaces, and 400 µg/ft2 for exterior floor and exterior horizontal surfaces.

X. “Lead-contaminated soil” shall refer to bare soil containing lead equal to or greater than 400 parts per million (ppm) in children’s play areas and 1000 ppm in all other areas.

Y. “Lead hazard” shall mean:

1. The existence of deteriorated paint over a surface larger than the de minimus levels if the structure was built before 1979;

2. The disturbance of lead-based paint or presumed lead-based paint without containment barriers;

3. The creation or maintenance of a condition that may result in persistent and quantifiable lead exposure; or

4. The presence of lead-contaminated dust or lead-contaminated soil.

Z. “Limited quantity” references DOT regulations, under which 66 pounds (30 kg) or less with inner packaging up to 11 pounds (5 kg) each in strong outer packaging (49 CFR 171.8, 173.155).

AA. “Safety Data Sheet (SDS)” shall refer to information on a product, supplied by the manufacturer, which provides the information listed by OSHA in 29 CFR 1910.1200 and 8 CCR 5194.

BB. “mg/cm2” shall refer to milligrams per square centimeter.

CC. “Presumed lead-based paint” shall refer to paint or surface coating affixed to a component in or on a school constructed before 1993 or other structure constructed before 1979.

DD. “Primitive air locks” shall refer to air locks constructed using two sheets of plastic. The first one is taped on the top, the floor, and two sides of doorway. Next, a slit is cut six feet high down the middle of the plastic, not all the way to the floor. The second sheet of plastic is taped across the top of the door only, so that it acts as a flap. The flap opens into the work area.

EE. “Project” or “Project Site” shall refer to Navy Pier Head House.

FF. “Regulated Area” shall refer to an area where lead exposure can reasonably be expected to be, or where airborne concentrations of lead exceed, or can reasonably be expected to exceed, 50 µg/m3. This includes any area in which work is being performed that disturbs or removes paint and to which access is restricted to prevent migration of contaminants.

GG. “Removal” shall refer to procedures necessary to remove lead-based paint, lead-containing/contaminated materials, and lead waste from designated areas in a safe manner, and dispose of these materials at a disposal site.

HH. “Transport” shall refer to hauling of lead-containing wastes from a building to the disposal site and deposit of the wastes therein by a firm currently approved by the EPA for the transport of hazardous wastes and approved by any state or local agencies having jurisdiction.

II. “µg/m3” shall refer to micrograms per cubic meter.

JJ. “µg/ft2” shall refer to micrograms per square foot.

KK. “Wash room” shall refer to a room contiguous to a clean room and an equipment room in the decontamination area, equipped with one or more wash basins to adequately accommodate the workers. Provide an adequate supply of soap, shampoo, and towels.

LL. “Wet cleaning” shall refer to the process of eliminating lead contamination from building surfaces and objects by methods that render lead adequately wet. Such methods include use of cloths and mops, or low-flow amended water sprays, or other cleaning tools that have been dampened with clean and/or amended water.

MM. “Work Area” shall refer to an area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.6 PRE-REMOVAL MEETINGS

A. Pre-Removal Conference: Conduct conference at Project Site.

1. The Port will arrange a Pre-Removal Conference, attended by a representative of the Port, the Consultant, and the Contractor.

2. The Contractor shall identify his Supervisor and Foreman at this conference.

3. Provide electronic copies of “Action Submittals” at least five working days prior to this conference.
4. Pre-Removal Conference topics may include:
    a. Contractor listing of existing site condition (e.g. damage).
    b. Review and confirm scope of work, Hazardous Building Material Survey Reports, and material quantities.
    c. Contractor and supporting vendor site access and parking.
    d. Coordination of Contractor access routes to the work area, including approved doors, stairways, corridors, and elevators.
    e. Availability of building utility services, such as power, water, and drains.
    f. Determination of equipment and other movable items to be removed from the work area(s) by the Contractor, and the location of temporary storage space.
    g. Location, coverage, and use of isolation barriers and decontamination facilities.
    h. Emergency Response Procedures.

1.7 ACTION SUBMITTALS

A. Lead Compliance Plan. The Plan shall meet the requirements of 8 CCR 1532.1 e(2)(B) and include minimally the following:

1. A description of each activity during which lead is emitted including equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices.
2. A description of the specific means that will be employed to achieve compliance and, where engineering controls are required, engineering plans and studies used to determine methods selected for controlling exposure to lead.
3. A report of the technology considered in meeting the PEL.
4. Air monitoring data that documents the source of lead emissions.
5. A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.
6. A work practice program that includes compliance items related to protective work clothing and equipment, housekeeping, hygiene facilities, hygiene practices, and regulated areas and other relevant work practices.
7. An administrative control schedule, if applicable.
8. A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and of regulated areas.
9. Any other relevant information.

1.8 INFORMATIONAL SUBMITTALS

A. Pre-Removal Submittals:

1. Copies of all notifications, permits, applications, licenses and like documents required by federal, state, or local regulation in proper fashion, including CDPH form 8551, Cal-OSHA Notification, and notice to

occupants if applicable. Notification shall be given to the Port and Consultant at least 5 working days prior to the beginning of each phase or mobilization of work involving lead.

2. Copies of each worker's medical clearance to wear respirators.
3. Statement by the examining medical doctor that medical exams required by California-OSHA for lead work took place, and when, for each employee to be used on the project.
4. Record of successful respirator fit testing performed by a qualified individual within the previous twelve months, for each employee to be used on this project with the employee's name and fit test date, fit test method, and model and size of respirator with each record. NOTE: In the event employees are hired after the project start date, supply the proper documentation as required at least 24 hours in advance of their start.
5. Name of designated competent person(s), certificate(s) of training, and copies of "Lead-Related Construction Supervisor" certifications granted by the California Department of Public Health.
6. List of all supervisors and workers intended to be assigned to the project and copies of CDPH Lead-Related Construction Certifications granted by the California Department of Public Health.
7. Proposed Emergency Plan and route of egress from work areas in case of fire or injury, including the name and phone number of nearest medical assistance center. This shall be conspicuously posted at the work site and filed with proper agencies.
8. The name and address of Contractor's personal air monitoring and waste disposal lead testing laboratory(ies) including certification(s) of ELPAT accreditation for heavy metal analysis and National Lead Laboratory Accreditation Program (NLLAP) and American Industrial Hygiene Association (AIHA) accredited for lead analysis for air monitoring laboratory.
9. Safety Data Sheets (SDS) on all materials and chemicals to be used on the project.
10. Name, address, and ID number of the hazardous waste hauler, waste transfer route, and proposed disposal site.
11. Name, address, and ID number of the proposed construction debris disposal site.
12. Name, address, and ID number of hazardous waste disposal site. Documentation must be submitted from these sites proving they are licensed to accept such waste and will accept such waste.
13. A copy of the Contractor's CAL-OSHA Lead Compliance Plan, in accordance with Title 8, Section 15 32 .1.
14. A copy of the Contractor's CAL-OSHA Respiratory Protection Program, in accordance with Title 8, Section 5144.
15. A copy of the Contractor's CAL-OSHA Injury and Illness Prevention Program, in accordance with Title 8, Section 3203.

B. Submittals During Removal Work:

1. Remediation Progress Report.
2. Results from personal air samples.
3. Results from waste testing.
4. Results from other testing.
5. Medical, Fit Test and CDPH Lead-Related Construction Certification twenty-four (24) hours in advance of any new employees starting on the project.

C. Submittals After Removal Work:

1. Original manifests and receipts acknowledging disposal of all hazardous and non-hazardous waste material from the project showing delivery date, quantity, and appropriate signature of landfill's authorized representative.

    a. Submit within 30 days of date that material was transported off site.

1.9 CLOSEOUT SUBMITTALS

A. Submit immediately upon completion of lead-related work:

1. All personal monitoring results.

2. All waste characterization test results.

1.10 PERFORMANCE REQUIREMENTS

A. Applicable Standards:

1. Per California Department of Public Health, all paint on schools applied prior to January 1, 1993 is "presumed lead-based paint", and requires compliance with the most current laws and regulations including SB460 effective January 1, 2003.

2. Per CAL-OSHA and Federal OSHA, whenever construction activities disturb lead in any amount, the employer must assume that employees may be exposed to lead and comply with the requirements of the "Lead in Construction Standard" Title 8, Section 15 32 .1.

3. Per the City of San Diego Ordinance 19732, any person who disturbs or removes paint in the interior or exterior of a dwelling unit or structure constructed prior to January 1, 1979, or from any surface on a steel structure, shall use lead-safe work practices, unless a certified Inspector/Assessor determines, prior to the commencement of activities which disturb or remove paint, that the concentration of lead in paint is below 1,000 parts per million or 0.5 milligrams per square centimeter.

B. Contractor Personnel Qualifications:

1. All workers assigned to this project shall have been trained in accordance with California Construction Safety Orders, 1532.1, Lead-Related Construction, and shall hold “Lead-Related Construction Worker” certifications granted by the California Department of Public Health.

2. Provide one full-time onsite Supervisor whose duties shall include coordination, safety, security, and execution of all phases of the Work. The Supervisor shall not be used as a worker. The Supervisor shall hold "Lead-Related Construction Supervisor" certifications granted by California Department of Public Health.

C. Contractor Responsibilities:

1. Notifications /Approvals: In proper and timely fashion, make all applicable and necessary notifications to relevant federal, state, and local authorities and obtain and comply with the provisions of all permits or applications required by the work specified, as well as make all required submittals required under those auspices. The costs for all permits, applications, fees the like, are to be borne by the Contractor.

2. Notice to Occupants: Provide a “Notice to Occupants”, meeting the requirements of the City of San Diego Lead Ordinance Section 54 .1 006, at least seven business days prior to any activities that disturb or remove presumed-lead based paint, lead-based paint, or paint containing greater than 1000 ppm or 0.5 mg/cm2 lead. Provide notice to the Port and Consultant and post at the work area.

D. Work and Scheduling Requirements:

1. Work shall be carried out in sequential phases. Inspection and approval of each phase by the Consultant shall be sought and gained before proceeding to the next phase. Work shall proceed in accordance with the schedule agreed upon by the Port and approval of each phase by the Consultant shall be sought and gained prior to proceeding to the next phase. As a Contract requirement, any reasonable delay caused by this requirement shall not constitute a basis for claim against the Port or Consultant.

2. Project Sequence:

    a. Extend full cooperation to Port in all matters involving the use of Port's facilities. At no time shall Contractor cause or allow to be caused conditions that may cause risk or hazard to the public or conditions that might impair safe use of the facility. The use of the facility's electricity, water or like utilities by the Contractor shall be coordinated with the facility/Port and meet the requirements/expectations of the facility/Port, including payment for use.

    b. Coordinate the work of this Section with that of all other trades. Work shall not proceed in any area without the express consent of the Port and Consultant. Be available within 24 hours' notice for additional work or rework if after acceptance of the work it is found that full remediation was not achieved from the initial work effort as determined by the Port and Consultant.

E. Protection of Persons and Property:

    a. General:

1. Provide medical surveillance and biological monitoring on all workers in accordance with 8 CFR 1532.1.

2. Respiratory Protection:

    a. Provide workers and supervisory personnel with NIOSH approved respirators and P-100 (HEPA) filters. Respiratory protection shall be implemented for all work performed under this Section. The respirators shall be sanitized and maintained according to the manufacturer's specifications. Disposable respirators are not acceptable under any circumstances.

    b. Maintain on-site a sufficient supply of P-100 filters to allow workers and supervisory personnel to change contaminated filters per manufacturer's recommendations or when breathing resistance increases. Comply with all applicable regulations.

    c. Respirators shall be individually assigned to removal workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the respiratory protection program, which must include all items specified by CAL-OSHA Respiratory Protection Program Title 8, Section 5144, including medical clearance, fit-testing, training, cleaning, storage, inspection, and maintenance. A copy of this program shall be kept at the worksite and shall be posted in the clean area.

    d. Additional respiratory protection using adsorbent media, such as organic vapor cartridges, may be needed when handling some coating products. If this is the case combination cartridges that are equipped with P-100 filters in series with the appropriate adsorbent media are required. Consult the Safety Data Sheets (SDS) and obtain the proper cartridges as necessary.

    e. Facial hair such as beards, long sideburns, and moustaches that interfere with the seal of air purifying type respirators are prohibited. Workers with eye corrective lenses (contact lenses or glasses) shall wear the corrective lenses in a manner that is in compliance with 8 CCR 1529 and 8 CCR 5144.

3. Personal Protective Equipment:

a. Provide personal protection, in the form of disposable coveralls to all workers, supervisors, and authorized visitors entering the work area during activities disturbing lead.

b. Provide each worker with disposable suits every day. Under no circumstances shall anyone entering the removal area be allowed to reuse a contaminated uniform. In addition to disposable suits for the workers, supply suits for the Consultant and other personnel who are authorized to inspect the worksite. Disposable suits, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering work area. A clean area shall be provided for workers to put on suits and other personal protective equipment and to store their street clothes.

c. Work clothes shall consist of disposable full-body suits, head covers, gloves with cuffs extending outside the sleeves of the protective suit, boot or shoe covers, and other protection as needed. Hard hats shall be worn, as required.

d. Provide eye protection to personnel engaged in lead operations when the use of a full-face respirator is not required.

e. Goggles with side shields shall be worn when working with a material that may splash or fragment, or if protective eyewear is specified on the Safety Data Sheet (SDS) for that product.

f. All disposal protective clothing shall be discarded and disposed of as lead-contaminated waste every time the wearer exits from the workspace to the outside. All exits from the workspace will be through the decontamination facilities, except in the event of an emergency.

4. Air Monitoring:

a. General: Perform personal air sampling during activities involving lead. The results of such sampling shall be posted, provided to individual workers, and submitted to Port and/or Consultant as described herein.

b. Sampling: Take samples for the duration of the work shift or for eight hours, whichever is less. Personal air samples need not be taken every day after the first day if working conditions remain unchanged but must be taken every time there is a change in the removal operation, in terms of either the site or the type of work. Sampling will be used to determine eight-hour time-weighted average (TWA) exposure.

c. Sampling Results: Transmit air sampling results to the Port and/or Consultant and individual workers in written form no more than forty-eight (48) hours after the completion of a sampling cycle. The reporting document shall list each sample's sampling time and date, personnel monitored, flow rate, sample duration, analytical laboratory, analytical results, and shall include an interpretation of the results. Air sample analysis results shall be reported in micrograms/cubic meter (µg/m3).

d. Testing Laboratory: The Contractor's testing lab shall be National Lead Laboratory Accreditation Program (NLLAP) and American Industrial Hygiene Association (AIHA) accredited for lead analysis.

e. Air Monitoring Frequency: The air monitoring frequency for Contractor operations shall be in accordance with the requirements set forth in Title 8, Section 15 32 .1.

5. Damage and Repairs to Project Site: Work activities involving lead shall be performed without damage to the building(s), including structural members, ceilings, pipes, walls, or light fixtures. Provide protection of these items and materials as part of work area preparation. Where work activities involving lead causes damage, patch, repair, replace or otherwise restore the damaged items to their original condition or replace with better materials, with no additional cost to the Port. This includes repair of surfaces damaged during component removal as described herein.

1.11 QUALITY ASSURANCE

A. Port's Role: The performance and execution of the project will be monitored by the Port. The Port will bear costs associated with the independent laboratory and inspection work required in these Specifications for clearance testing, third party oversight, and oversight sample analyses, unless otherwise noted.

B. Consultant's Role: The Port shall retain the services of a CDPH-certified Lead Project Monitor for the purposes of management of the work activities involving lead described herein. The Consultant will represent the Port in all phases of the work activities involving lead, at the discretion of the Port. Regard the Consultant's direction as authoritative and binding, as provided herein, in matters particularly involving, but not limited to, approval of work areas, review of monitoring results, completion of various segments of work, final completion of work activities involving lead, submission of data, and daily field punch list items.

1. Inspections: In addition to various daily inspections of the lead work area and work practices, the Consultant will make three mandatory inspections during the work, one during each phase of removal. Each inspection must be requested by the Contractor and be performed by the Consultant. The work being inspected must meet the Consultant's satisfaction before work may begin for the next phase of work. Failure on the part of the Contractor to obtain the Consultant's approval before proceeding to the next scheduled phase is regarded as a violation of this Section. In the event of this occurring, the Consultant will request work to be stopped and the Port will be contacted to intervene. The three inspections are as follows:

    a. Work Area Preparation Completed: Have all pre-removal preparations of the work area complete, seek, and review approval from the Consultant to proceed.

    b. Post Removal Inspection: Work shall have been completed including renovation, removal, paint stabilization, or abatement. Final clean-up of all visible debris final cleaning techniques of wet washing and HEPA vacuuming will have been completed.

    c. Final Clearance: The Consultant will perform final clearance wipe testing as soon as possible after final clean-up activities are completed, or as appropriate.

PART 2 - PRODUCTS

2.1 GENERAL

A. No materials, equipment, or tools belonging to the Port shall be used by the Contractor, except in case of an emergency and upon explicit authorization by the Port.

B. Deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

C. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner which shall not interfere with operations of the Port.

D. The Port and/or Consultant must approve unloading and temporary storage sites and transfer routes in advance.

E. Damaged or deteriorated materials may not be used and must be promptly removed from the project site. Materials that have become contaminated with lead shall be packaged as lead waste, characterized, and disposed of in an approved landfill.

F. All materials, tools, and equipment must comply at a minimum with this specification and all applicable federal, state, and local regulations.

2.2 MATERIALS

A. Plastic Sheeting: Sheet shall be fire-retardant polyethylene sized in lengths and widths to minimize the frequency of joints. The minimum thickness shall be 6-mils.

B. Barrier Tape: Tape labeled as “CAUTION-LEAD HAZARD-DO NOT ENTER WORK AREA UNLESS AUTHORIZED” or similarly labeled, for use on the exteriors of the buildings.

C. Tape: Tape shall be capable of sealing joints of adjacent sheets of plastic and of attaching plastic sheet to finished or unfinished surfaces of dissimilar materials and shall be capable of adhering under dry and wet conditions, including wetting by amended water.

D. Lead Disposal Packaging: Packaging shall be suitable to receive and retain any lead-containing materials until disposal or conversion at an approved site. The packaging shall be both air and watertight.

1. Bags: Disposal bags shall be double 6-mil thick polyethylene, pre-printed with labels as required by 8 CCR Section 15 32 .1.

2. Labeling: Stick-on labels as per EPA, OSHA, and DOT requirement for disposal drums.

E. Warning Signs: Signs shall be posted to each entrance to and from the work area undergoing lead hazard reduction in accordance with Title 17 CCR 35001-36100 and 8 CCR 1532.1.

F. Flexible duct: For ventilation units (if required).

G. Spray adhesive: Must be fire-retardant.

2.3 TOOLS AND EQUIPMENT

A. Airless Sprayer: Amended water and surface sealers shall be applied with an airless or other low-pressure sprayer or injector suitable for the specific application.

B. Air Purifying Equipment: Equipment used to establish negative pressure in the work area shall be HEPA-filtered. If negative air machines will be exhausted inside any part of the building, they must be DOP tested and certified on site or have a certification of passing DOP testing attached.

C. Vacuum Equipment: All vacuum equipment used for cleaning up shall be HEPA-filtered. Each HEPA-filtered vacuum brought onsite must be DOP tested and certified. DOP testing can be conducted on or off site, providing that each unit has a certification (of passing DOP testing) attached. At least one HEPA vacuum shall be equipped with floor (hard surface and carpet) cleaning attachments.

D. Scaffolding/Staging/Ladders: Shall meet OSHA safety regulations, including 29 CFR 1926.450-452 and 8 CCR 1637. Where electrical power and water are used inside a work area, no electrically conductive ladders (e.g., aluminum or steel) shall be used (except for hinges and feet).

E. Transportation Equipment: Shall be suitable for loading, temporary storage, transport, and unloading of lead-contaminated materials without exposure to persons or property. Equipment shall be currently registered with the State for transport of hazardous wastes and be currently certified by the State for vehicle inspection.

F. Other Tools and Equipment: Furnish all equipment such as lumber, nails, ladders, hardware, and supplies that may be required to construct and dismantle the decontamination areas and the barriers that isolate the work area. Provide other suitable tools for the lead-related activities, including hand scrapers, wire brushes, sponges, mops, and shovels.

G. Electrical: Electrical tools and equipment shall meet all applicable codes and regulations, including, in particular, 29 CFR 1910.304, 29 CFR 1926.400-449, and 8 CCR 1760.

1. Grounding. Ground fault circuit-interrupters shall always be used for all electrical equipment, except to the extent provided in an assured equipment grounding conductor program, 29 CFR 1926.404, and 8 CFR 2405.4.

2. Additional requirements. Other OSHA requirements for equipment grounding conductors, beyond those described in the grounding paragraph, apply.

H. Fire extinguishers.

I. Portable eye washes.

PART 3 - EXECUTION

3.1 WORK AREA PREPARATION

A. Signage: Prior to the preparation of a building for work activities involving lead, place warning signs immediately outside all entrances and exits to the building, warning that lead-related work is being conducted in the vicinity. The signs shall be in English and Spanish, at least 20 inches by 14 inches with bold lettering, and not smaller than 2 inches tall, and read: “WARNING: LEAD PAINT REMOVAL HAZARD; UNAUTHORIZED ENTRY PROHIBITED; NO SMOKING, EATING OR DRINKING ALLOWED IN THE WORK AREA.

B. Access to the Work:

1. The Port will provide specific access as required during the project to the Contractor’s personnel assigned to the project. Allow only authorized personnel into the work area.

2. Maintain a bound logbook in which any person entering or leaving the lead work area must sign and enter the dates and times of entry and departure.

3. Use of waste containers onsite shall be controlled under the following requirements:

a. Location of waste containers onsite shall be coordinated with the Port and Consultant.

b. The waste containers shall be solid enclosed containers, lined with two layers of 6-mil polyethylene sheeting locked and secured at all times, when not in immediate use.

c. Comply with all federal, state, and local regulations and ordinances regarding lead waste storage.

d. Do not allow anyone access to the building unless they have successfully completed a training program and are wearing a properly fitted respirator, unless stated otherwise by the Consultant.

C. Containment: Establish “containment" as specified in tables 8.1, 8.2, and 8.3 of the HUD guidelines and Appendix A of the City of San Diego Lead Ordinance, as applicable. Copies of these tables are included in Appendix A of this Section.

1. Decontamination Unit: At a minimum construct a two-stage decontamination unit. This unit shall be connected to the work area (abatement or paint stabilization) for the decontamination of workers contaminated with lead. The decontamination unit shall consist of an equipment room, dirty room, and wash area in series. Ensure that employees enter and exit the work area through this unit. In addition, the decontamination unit shall be constructed with 6-mil polyethylene sheeting on floors, walls, and ceiling. Doors through this unit shall be constructed as described in Appendix A of this Section.

2. Clean Area: Select a clean area outside the lead work area for the workers to change into protective equipment. This area shall contain hand washing facilities, clean cloths, storage for a HEPA vacuum, and respirator storage space. Contaminated equipment or personnel shall not be permitted in this area. The floors and walls of this area shall be covered with 6-mil polyethylene sheeting.

3. Lead Work Area: Pre-clean all surfaces with a HEPA vacuum and remove any furniture, or other movable objects. All debris gathered during this clean up shall be disposed of properly. Requirements are the same for abatement or paint stabilization area(s).

4. Deteriorated Lead-Based Paint: Clean any surfaces impacted by deteriorated lead-based paint. The cleaning of these surfaces shall be completed during establishing “containment” for the work area.

D. Approvals and Inspections. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet this Section along with EPA, OSHA, NIOSH, HUD regulations, recommendations, and guidelines, as well as any other federal, state, and local regulations. Where there exists an overlap of these regulations and guidelines, the most stringent one applies. All work performed by the Contractor is further subject to approval of the Port and/or Consultant.

3.2 WORK AREA PROCEDURES

A. In order to avoid possible exposure to dangerous levels of lead and to prevent possible contamination of areas outside the demarcated work area, work shall follow the general guidelines listed below.

1. Work Area Entry: At no time shall a worker or other authorized personnel entering the work area go further than the Clean Area without proper respiratory protection and protective clothing. Work area entry is through the decontamination area.

2. Work Area Departure: The worker shall remove all gross contamination, debris, and dust from the disposable suit by completely HEPA vacuuming them before leaving work area. Work area exit is through the decontamination area.

3. Personal Protective Equipment: All persons leaving the work area must remove their PPE (except respirators) before leaving. Suits shall be removed "inside out" to minimize the dispersal of lead dust.

4. Equipment: All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.

5. Footwear: As with additional clothing, all footwear shall be left inside the clean area until the completion of the job and then shall be HEPA vacuumed or discarded as contaminated waste.

6. Shock hazards.

a. Use safe procedures to avoid electrical hazards. Power shall be shut off and checked before work begins when a hazard exists.

b. All extension cords and power tools used within the work area shall utilize in-line Ground Fault Circuit Interrupters (GFCI).

B. Prohibited Practices. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, chew tobacco, or remove their respirators in the work area. To do so shall be grounds for the Port and/or Consultant to stop all operations. Only in the case of life-threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short of duration possible.

3.3 WORK ACTIVITIES INVOLVING LEAD

A. General:

1. Workmanship: All lead-related work activities shall be conducted in a professional workman-like manner. Since any lead-related work procedure may cause damage to the substrate and/or adjacent surface if performed improperly, strict work controls are required.

2. Approval: Receive prior approval from the Port and Consultant before using any materials or equipment. No methods involving open flame, wire brushing, or dry scraping alone, or with the aid of flammable solvent or abrasive compound, or solvents containing methylene chloride, shall be used in removing paint.

3. Disposal: All leaded materials, residues, debris, or soil contaminated as a result of lead-related work, must be treated, and/or disposed of in accordance with regulations and guidelines of EPA, HUD, state and local regulations and ordinances, and all other applicable agencies.

    a. All such materials shall be wrapped in 6-mil plastic sheeting with all edges and seams sealed or placed in 6-mil plastic bags with the top of the bags twisted so as to form a loop. The loop shall then be sealed. The bags of residue/debris shall then be further containerized in an additional 6-mil plastic bag.

    b. The sealing process shall include the use of a waterproof tape of sufficient strength so as to maintain the integrity of the seal.

    c. All components shall have all nails and/or other hardware flattened or removed prior to disposal.

    d. The residue/debris shall be lightly misted prior to placement for disposal.

    e. The residue/debris shall be carefully handled so as to prevent rupture, or in any way diminishing container integrity.

    f. All wastewater shall be collected and tested prior to disposal. Consider filtering the water through a 5-micron filter prior to testing.

4. Damage and Repairs to Project Site: Work activities involving lead shall be performed without damage to the building(s), including structural members, ceilings, pipes, walls, or light fixtures. Provide protection of these items and materials as part of work area preparation. Where work activities involving lead causes damage, patch, repair, replace or otherwise restore the damaged items to their original condition or replace with better materials, with no additional cost to the Port. This includes repair of surfaces damaged during component removal as described herein.

5. Responsibilities and Supervision: Use approved lead-related work practices during the course of the work. Abide by all of the worker protection and safety specifications as outlined. Provide electrical service sufficient for the equipment to be used during lead-related work. Provide plumbing so that adequate services are available for washing down the areas after lead-related work and for personal hygiene. Provide an on-site lead abatement Supervisor/Competent Person during all phases of work activities involving lead.

B. Component Removal Procedures: All bundles of "containers" of removed components and/or debris shall be carefully handled to reduce the potential of ripping, bursting, or otherwise diminishing the integrity of the bundle or "container".

1. Care shall be taken so that leaded materials are neither burned, made to become dusty, nor result in further exposure to workers, occupants, children or observers.

2. Care shall be taken to avoid damage to adjacent areas during the removal of components to be replaced. Run a utility knife around the edge (score) of the component substrate and the adjacent (non-abated) substrate to cut any bonding between the substrates and thereby eliminate damage.

3. If components to be removed contain gross areas of loose or peeling paint, these areas shall be wet scraped or HEPA vacuum prior to removal. The paint chips shall be contained either in the HEPA vacuum or in a separate 6-mil polyethylene bag. Temporary encapsulant expressly for this purpose is also acceptable.

4. Components that are removed for replacement shall be wrapped and stored for disposal or disposed of in accordance with the applicable codes and requirements of this Section.

5. Wood Component Removal: A pry device shall be utilized to carefully remove the components. Once the component has been removed, the resulting material shall be cut into lengths that are easily managed for the purposes of containerization. Containerization shall be accomplished by removing or flattening all nails to prevent punctures or tearing and wrapping the material in six-mil plastic sheeting. The wrapping shall be finalized by securing with waterproof tape of sufficient strength at all edges and seams, so as to prevent diminishing the integrity of the container.

C. Paint Film Stabilization.

1. Substrate Repairs:

a. Prior to stabilizing lead-based paint, correct substrate surfaces defects. Remove loose, unsound, or deteriorated substrates.

b. Place in 6-mil polyethylene disposal bag and dispose of in accordance with applicable regulations.

2. Paint Removal.

a. Wet Scraping: Remove all loose, flaking, and deteriorated paint by wet scraping. Continually mist surface with water during scraping. Clean any generated debris by HEPA-vacuum.

b. Wet Sanding: Prepare finish surfaces by wet sanding, featheredges lightly. Keep surface wet while sanding. Use hand sanding and HEPA-vacuum debris. If mechanical sanders are used they must be equipped with integrated HEPA-filtered dust collection.

3. Surface Cleaning.

a. Dust and chips: HEPA vacuum surface after drying.

b. Chemically treat surface if necessary for good paint adhesion. Follow manufacturer's printed instructions for system used.

c. Test surface for pH following chemical treatment.

D. Demolition of Materials Containing Lead:

1. Exclusion Zone: At a minimum, an exclusion zone of 20 feet shall be established around the work area prior to commencement of demolition activities.

2. Worker Safety: During demolition activities, only workers certified under the CDPH LRC program shall be allowed within the exclusion zone, including machinery operators and supporting workers. Workers shall also don Level C PPE, as outlined by OSHA and specifically consisting of respirators equipped with P-100 HEPA filter cartridges, coveralls, hardhats, work gloves, and appropriate footwear.

3. Public Safety and Perimeter Monitoring: To ensure public safety, the Contractor's Supervisor/Competent Person shall not be within the exclusion zone and shall instead be responsible for maintaining the integrity of the exclusion zone (i.e., keeping members of the public and any other trades onsite out of the exclusion zone). The Consultant shall perform perimeter monitoring of demolition activities at a frequency adequate to establish work is being performed in an appropriate and safe manner.

4. Demolition Activities: Demolition shall be completed using adequate amounts of water (i.e., “wet methods”) to control the release of lead dust.

5. Waste Storage and Characterization: Following demolition, waste shall be stockpiled, either on hardscape (i.e., concrete or asphalt) or on a poly drop sheet, and covered while characterization of the waste stream occurs. The Contractor shall be responsible for sampling and characterization of waste generated during demolition activities.

6. Disposal: Disposal shall meet standards specified above.

3.4 CLEANING AND FINAL CLEARANCE

A. End of Day Cleaning: Thirty (30) minutes prior to the end of each workday, the lead work area must be cleaned of all debris. Under no circumstances will lead clean-up be permitted when active LBP removal work, lead paint stabilization, or other work involving disturbance of lead paint, presumed-lead based paint, or paint exceeding the City of San Diego threshold requiring lead-safe work practices is proceeding. All interior surfaces in the work area shall be cleaned of dust and debris. Such cleaning shall include a thorough HEPA vacuuming of all affected surfaces, as determined by the Consultant. Additionally, such cleanings may require the use of a lead-specific cleaner. All waste materials generated during this daily clean up shall be disposed of as hazardous waste, unless analytical testing proves otherwise.

B. Equipment Cleaning: Durable equipment, such as power and hand tools, generators, and vehicles shall be cleaned prior to removal from unit undergoing lead paint removal or paint stabilization or the site. All equipment shall be cleaned by HEPA vacuuming and wet washing with a lead-specific cleaner.

C. High Efficiency Particulate Air (HEPA) Vacuum: Obtain HEPA vacuum attachments, such as various size brushes, crevice tools, and angular tools to be used for varied applications and service the HEPA vacuum routinely to assure proper operation. Caution shall be used any time the HEPA vacuum is opened for filter replacement or debris removal. Operators shall wear a full set of protective clothing and equipment, including respirators, when using the HEPA vacuuming equipment or removing/replacing used filters.

D. Preliminary Cleanup: Upon completion of the abatement, stabilization, or interim control and a satisfactory visual inspection by the Port and/or Consultant in a given work area, perform a preliminary clean-up. This clean-up includes removal of any contaminated material, equipment, or debris including polyethylene sheeting from the work area. The polyethylene sheeting shall first be sprayed or misted with water for dust control, the resulting debris removed, and then the sheeting shall be folded in upon itself.

1. Large Debris: Large debris from work activities involving lead shall be wrapped in polyethylene sheeting at least 6-mil thick, sealed with heavy-duty duct tape, and stored until proper disposal.

2. Small Debris: Prior to picking up or collecting small debris, the surfaces of this debris will be sprayed with a fine mist of water. The debris will be picked up, collected, and placed into a single plastic bag, at least 6-mil thick. The bags shall not be overloaded, shall be securely sealed, and shall be stored in the designated area until disposal. Dry sweeping is not permitted in the work area; wet sweeping is required.

3. Plastic Sheeting: Removal of surfaces 6-mil polyethylene sheeting shall begin from upper levels. Removal of ground polyethylene sheeting shall begin at the corners and folded into the middle to contain the dust or residue. All collected polyethylene sheeting shall be placed in 6-mil polyethylene bags for proper disposal as described in these Specifications.

4. HEPA Vacuum: Once the 6-mil polyethylene sheeting is removed from the work area, cleaning shall begin with a thorough HEPA vacuuming of all surfaces, starting at the ceilings, proceeding down the walls and including window, door, and door trim and floor. The floor shall be vacuumed last, beginning

at the farthest corners from the entrance to the work area. HEPA vacuuming shall again be performed as noted above, after the following wet wash.

5. Wet Wash: Next, wet wash or mop the same surfaces with a lead-specific cleaner and allow surfaces to dry. Then a second HEPA vacuuming of the surfaces will be performed by the contractor, as described above. By the conclusion of the cleaning phase, all visible dust and debris shall have been completely removed.

6. Hygiene, Cleaning Equipment and Supplies. Special attention shall be given to personal hygiene and the cleaning of supplies and equipment. All mop heads; sponges and rags shall be replaced or changed daily, at a minimum. Rags, mop heads or sponges may be reused if the Contractor has them cleaned via a washing system specially equipped with HEPA filtration.

7. Detergents: Prepare and use detergents specifically designed for lead abatement work. The manufacturer's recommended coverage will be followed. Detergent solutions should be replaced as needed.

8. Wastewater. The wastewater from the clean-up shall be contained and disposed of according to all applicable federal, state, county, and local regulations and guidelines. In no instance shall wastewater be disposed in storm sewers (e.g., yard inlet or street drain) or sanitary sewers (e.g., toilet, sink, or any other household/ residential/ commercial type drain system) without specific governmental approval.

E. Visual Inspection: Request a visual inspection by the Consultant. If the area does not pass a visual inspection, re-clean the area.

F. Work Area Clearance: When all surfaces have passed visual inspection, wipe samples shall be performed by the Consultant. This shall be performed after completion of the final clean up. The standards for passing a wipe test are outlined herein. Should laboratory results indicate that the wipe test clearance level is exceeded, re-clean the affected area, at no additional cost to the Port, utilizing the methods specified above. Re-testing will then be performed to verify compliance with the mandated levels. Pay for all additional testing and provide, at no additional cost, a re-cleaning of an affected area until the clearance level is achieved. Bear any additional expenses, such as relocation expenses and Consultant fees, due to failure of clearance testing.

G. Finish Coatings. Finished coatings, including stains, primer, sealers, and poly coatings, if used, shall only be applied upon approval by the Port and/or Consultant. Any surface requiring painting shall be primed with an approved primer.

H. Final Clearance. Final clearance shall take place after finish coating has been applied. Final clearance shall include visual inspection and wipe sampling as per Section 3.4 (I) and (J).

I. Inspection/Clearance Standards. When clean-up has been completed and all surfaces have been sealed, wipe samples by the Consultant will be performed. The following standards shall be met for all “clearance” requirements.

Type of Procedure	**Number and Location of Wipe Samples**
Interior Treatments	Two wipe samples from every treated room (up to four rooms) as follows: • One interior window sill or window trough, alternating between rooms (one floor if window not present) • One floor

Type of Procedure	Number and Location of Wipe Samples
Exterior Treatments	Two wipe samples as follows: • At least one dust sample on a horizontal surface in part of the outdoor living area • One window trough sample on each floor where exterior work was performed
Notes: (1) An area is a room, closet, pantry, hall, portion of room (such as the dining area of a kitchen/dining room), etc. If a room and its closet are both abated, they can be treated as one area for purpose of wipe testing. (2) Other applicable areas may also have wipe samples taken, at the discretion of the Consultant in conformance with the HUD Guidelines for the Evaluation and Control of LBP Hazards in Housing.	

J. Wipe Standards. The standards for passing a wipe test are:

1. Floors. 10 micrograms per square foot or less.
2. Interior window sills/surfaces. 100 micrograms per square foot or less.
3. Exterior horizontal window and floors. 400 micrograms per square foot or less.

K. Retests: Should laboratory results indicate that the wipe test clearance level is exceeded, re-clean the affected area, at no additional cost to the Port, utilizing the methods specified above. Retesting will then be performed to verify compliance with the mandated levels. Pay for all additional testing and Consultant fees and provide at no additional cost a re-cleaning of an affected area until the clearance level is achieved.

3.5 DISPOSAL OF WASTE MATERIALS

A. All materials, whether hazardous or non-hazardous, shall be disposed in accordance with all laws and the provisions of this Section and all applicable federal, state, county or local regulations and guidelines. Assure compliance with all laws and regulations relating to this disposal.

B. General Applicability.

1. Contact the regional EPA, state, and local authorities to determine lead-containing or contaminated debris disposal requirements.
2. The requirements of Resource Conservation and Recovery Act (RCRA) shall be complied with as well as California solid waste plan requirements. During lead-related work, do not leave debris on the property, incinerate debris, dump waste by the road or in an un-authorized dumpster, or introduce lead contaminated water into storm or sanitary sewers.

C. Disposal Requirements.

1. Dispose of the following materials as hazardous waste in accordance with this Section:
   a. All paint chips and paint chip debris.
   b. Lead-containing or contaminated materials exceeding regulatory thresholds.
2. Test the following materials individually and provide results to Port and Consultant, to determine whether they are to be considered hazardous.
   a. Wastewater used to decontaminate.

b. Rags, sponges, mops, HEPA filters, respirator cartridges, and other materials used for lead-related work and clean-up and containment.

c. Other waste derived from work activities involving lead.

D. Hazardous Waste Tests.

1. Perform the Toxicity Characteristic Leaching Procedure (TCLP) to determine whether the wastes are classified as non-hazardous solid or hazardous waste as defined under RCRA. Representative samples shall be required of all material to be disposed.

2. If any of these samples are above the TCLP regulatory limits, dispose of all of that type of material as hazardous waste.

a. Meet the requirements of the State of California, as per Title 22, CCR 66261 and other related regulations. This will include, if applicable, other waste testing, such as Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC).

b. Submit written manifest to Port prior to removing any waste from the site and submit a complete manifest to Port after waste is disposed of. The following documents are made applicable and part of this Section: 40 CFR 241, 257, 261, 262, and 49 CFR 172, 173, 178, and 179, Department of Transportation (DOT) Regulations.

E. Disposal of Non-Hazardous Contaminated Solid Waste: The following procedures shall be followed for the disposal of all non-hazardous materials:

1. Place all non-hazardous contaminated materials in 6-mil polyethylene bags that are airtight and puncture resistant. Pieces of wood or other types of substrates that do not fit into plastic bags shall be wrapped and labeled "DANGER, LEAD DUST."

2. Place all disposable cleaning materials, such as sponges, mop heads, filters, disposable clothing in 6 mil plastic bags and seal.

3. Clean surfaces, equipment, and bag large debris. Remove plastic sheeting and tape from covered surfaces. Prior to removing the plastic sheeting, lightly mist the sheeting in order to keep dust down and fold inward to form tight bundles to bag for disposal. Place all plastic sheeting in 6-mil thick plastic bags and seal. Any bags shall be labeled "Danger, Lead Dust."

4. Bag and seal vacuum bags and filters in 6-mil thick plastic bags.

5. Place all contaminated clothing or work area clothing used during lead-related work, in 6-mil thick plastic bags for disposal prior to leaving the work area.

6. Contain and properly dispose of all liquid waste, including lead dust-contaminated wastewater.

7. HEPA vacuum the exterior of all liquid waste containers, prior to removing the waste containers from the work area, and wet wipe the containers to ensure that there is no residual contamination. Containers shall then be moved out of the work area into the designated storage area.

8. Ensure that all waste is transported in covered vehicles to a landfill, or lined landfill, if available, in accordance with applicable DOT and EPA Regulations.

9. Submit to the Port and/or Consultant for approval, the waste transfer procedure, and route, and shall comply with all EPA and DOT regulations concerning hazardous and non-hazardous waste removal and transportation.

F. Disposal of Hazardous Waste: The following procedures shall be followed for disposal of all material as hazardous waste:

1. Comply with the RCRA and with all applicable state and local regulations.
2. Comply with all EPA regulations.
3. Prepare for disposal as follows:
    a. Packaged and sealed in containers approved under 49 CFR 173, 178, and 199.
    b. Containers shall be numbered to correspond to the seal number, labeled with the type of materials, date it was filled and sealed, seal number, and weight of sealed container in addition to the information required under 49 CFR 172.
    c. A log shall be prepared at time of filling, identifying each numbered container and the information from above. A copy of this log shall be turned over to the Consultant within three working days after the containers are filled.
    d. Name, location, and telephone number of the disposal site used. A copy of the sites state and locally issued license, and a signed agreement that they will accept the hazardous lead waste, shall be provided to the Consultant.
    e. Name, address, and telephone number of any waste subcontractors used. Provide copies of licenses and signed agreements to the Consultant.
    f. Submit copies of the Hazardous Waste Manifest as required herein.
4. Waste Transportation: All Hazardous Waste shall be transported by a certified hazardous waste transporter. Require the certified hazardous waste transporter to follow RCRA and DOT regulations.
5. Prior to the removal of any hazardous waste, the below listed information must be received in writing by the Port and Consultant for their review and approval. Once approval is received from the Port and Consultant, the waste may be transported as required.
    a. Quantity of hazardous waste.
    b. Type of waste materials.
    c. Method of containerizing waste or waste treatment and appropriate licensing, certification, and regulatory approvals.
    d. Proposed waste hauler and disposal route.
    e. Proposed waste disposal site or landfill.
6. Receipts from the waste hauler and waste disposal site or landfill must be received and approved by Port and Consultant per regulation.

G. Storage Requirements: Any item found to be hazardous, by way of testing, shall be kept in a secured area or lockable and DOT approved container that is inaccessible to all persons other than lead-related work personnel. All hazardous waste shall be labeled "Hazardous Waste" and a date that the Contractor began to collect waste in that container. All hazardous and non-hazardous waste shall be kept in totally and completely separate containers. Until TCLP testing proves an item to be non-hazardous, all items shall be considered hazardous and stored in a secured area or lockable container.

H. Regulations: Comply with the RCRA and/or any other applicable federal, state, or county law, regulation and/or guidelines, whichever is most stringent.

I. Emergency Procedures: Keep and properly maintain a suitable fire extinguisher(s) on site; have an immediate means of communication with a regulatory agency in the event of an emergency; keep a list of phone numbers of regulatory agencies on site, make sure all employees know how to deal with all types of accidents, make one person who is always on site the emergency coordinator to ensure that emergency

procedures are carried out in the event an emergency arises; and keep and maintain a "right to know" manual that is in an easily accessible location and in an area that is known to all employees.

APPENDIX A

WORKSITE PREPARATION

Table 8.1 – Interior Worksite Preparation Levels (not including windows)

Description	Level 1	Level 2	Level 3	Level 4
Typical Applications (Hazard Controls)	Dust removal and any abatement or interim control method disturbing no more than 2 square feet of painted surface per room.	Any interim control or abatement method disturbing between 2 and 10 square feet of painted surface per room.	Same as Level 2.	Any interim control or abatement method disturbing more than 10 square feet per room.
Time Limit Per Building	One workday.	One workday.	Five workdays.	None.
Occupant Location	Inside building, but outside work area. Occupant must have lead-safe passage to bathroom, at least one living area, and entry/egress pathways. Alternatively, occupant can leave the dwelling during the workday.	Same as Level 1.	Outside the building; but can return in evening after day's work and cleanup are completed. Occupant must have safe passage to bathroom, at least one living area, and entry/egress pathways upon return. Alternatively, occupant can leave until all work is completed.	Outside the building for duration of project; cannot return until clearance has been achieved.
Containment and Barrier System	Single layer of plastic sheeting on floor extending 5 feet beyond the perimeter of the treated area in all directions. No plastic sheeting on doorways is required, but a low physical barrier (furniture, wood planking) to prevent inadvertent access is recommended. Children should not have access to plastic sheeting (suffocation hazard).	Two layers of plastic on entire floor. Plastic sheet with primitive airlock flap on all doorways. Doors secured from inside the work area need not be sealed. Children should not have access to plastic sheeting (suffocation hazard).	Two layers of plastic on entire floor. Plastic sheet with primitive airlock flap on all doorways to work areas. Doors secured from inside the work area need not be sealed. Overnight barrier should be locked or firmly secured. Children should not have access to plastic sheeting (suffocation hazard).	Two layers of plastic on entire floor. If entire unit is being treated, cleaned, and cleared, individual room doorways need not be sealed. If only a few rooms are being treated, seal all doorways with primitive airlock flap to avoid cleaning entire unit. Doors secured from inside the work area need not be

Table 8.1 – Interior Worksite Preparation Levels (not including windows)

Description	Level 1	Level 2	Level 3	Level 4
				sealed. Children should not have access to plastic sheeting (suffocation hazard).
Warning Signs	Required at entry to room but not on building (unless exterior work is also under way).	Same as Level 1.	Posted at main and secondary entryways.	Posted at building exterior near main and secondary entryways.
Ventilation System	Building ventilation system turned off, but vents need not be sealed with plastic if they are more than 5 feet away from the surface being treated. Negative pressure zones (with negative air machines) are not required, unless large supplies of fresh air must be admitted into the work area to control exposures to other hazardous substances (for example, solvent vapors).	Turned off and all vents in room sealed with plastic. Negative pressure zones (with negative air machines) are not required, unless large supplies of fresh air must be admitted into the work area to control exposure to other hazardous substances (for example, solvent vapors.)	Same as Level 2.	Same as Level 2.
Furniture	Left in place uncovered if furniture is more than 5 feet from working surface. If within 5 feet, furniture should be sealed with a single layer of plastic or moved for paint treatment. No covering is required for dust removal.	Removed from work area. Large items that cannot be moved can be sealed with a single layer of plastic sheeting and left in work area.	Same as Level 2.	Same as Level 2

Table 8.1 – Interior Worksite Preparation Levels (not including windows)

Description	Level 1	Level 2	Level 3	Level 4
Cleanup **(See Section 3.4 for further details)**	HEPA vacuum, wet wash and HEPA vacuum all surfaces and floors extending 5 feet in all directions from the treated surface. For dust removal work alone, a HEPA vacuum and wet wash cycle is adequate (i.e. no second pass with a HEPA vacuum). Also wet wash and HEPA vacuum floor in adjacent area(s) used as pathways to work area. Do not store debris inside building overnight; transfer to a locked secure area at the end of each day.	HEPA vacuum, wet wash and HEPA vacuum *all* surfaces in room. In addition, wet wash and HEPA vacuum floor in adjacent area(s) used as pathway to work area. Do not store debris inside building overnight; use a secure locked area.	Remove top layer or plastic from floor and discard. Keep bottom layer of plastic on floor for use on the next day. HEPA vacuum, wet wash and HEPA vacuum *all* surfaces in room. In addition, wet wash and HEPA vacuum floor in adjacent area(s) used as pathway to work area. Do not store debris inside building overnight; use a secure locked area.	Full HEPA vacuum, wet wash and HEPA vacuum cycle
Clearance Inspection/Dust Sampling	Visual clearance only.	If lead-based paint or presumed lead-based paint clearance inspection with single surface dust sampling	If lead-based paint or presumed lead-based paint clearance inspection with single surface dust sampling	If lead-based paint or presumed lead-based paint clearance inspection with single surface dust sampling

Note: Floor sanding and abrasive blasting on lead-based paint or presumed lead-based paint are not included in Table 8.1. Worksite preparation requirements are more stringent and area preparation must be approved by Consultant or Port prior to beginning work.

END OF SECTION

Appendix R

r. Solid Waste Disposal and Recycling

1. Five-Year Review Report for the Countywide Integrated Waste Management Plan for the County of San Diego, September 2022.

Appendix S

s. Traffic Control

1. Traffic Control – From Technical Specifications
2. Traffic Control Plan

SECTION 01 55 27 – TRAFFIC CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes the Work involved for providing traffic control on the worksite. Contractor shall provide adequate traffic control through or around the Contractor operation areas of the Project to assure safety and convenience for motorists, pedestrians, construction equipment, machinery, and construction workers.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section. **SCOPE OF WORK**

A. This Work shall include the following:

1. Preparation of Traffic Control Plans. Traffic Control Plans shall be prepared and stamped by a licensed Engineer registered in the State of California.
2. Providing all materials, labor, and equipment for furnishing, constructing, and maintaining the traffic control during construction as specified on this Section.
3. All the necessary traffic controls such as detours, road closures, lights, signs, barricades, temporary pavement delineations, temporary pavement markings, fences, flares, flagmen and other items and services as necessary to adequately safeguard the public from hazard and unnecessary inconvenience through and around the work area during construction as shall be shown on the Traffic Control Plans.
4. Contractor shall submit a detailed Traffic Control Plan for each order/phase of Work at the Pre-Construction Conference for Engineer's approval.
5. Equipment shall not use or block traffic lanes during construction activities, and truck operations in and out of construction and staging areas shall be controlled as required by the Port of San Diego and as shown on the approved plans. Truck and equipment routes in and out of the site shall be approved by the Port of San Diego prior to the start of the work.
6. Public access shall be maintained around the project site to provide a continuous connection to the public promenade north and south of Navy Pier, throughout project demolition and construction.
7. The construction area where actual construction operations are in progress shall be barricaded with temporary orange rubber cones but shall use construction fencing around the perimeter of the building to prevent access to the site by the public. The cones shall have a minimum height of 28 inches (28") and placed at ten feet (10') on center for safety.
8. Following completion of Contractor operations at the project site, all existing improvements affected by traffic control as specified in this section including railroad tracks shall be repaired, replaced, or restored to a condition as good as when the Contractor entered the site of work, at no additional cost to the District.
9. Removal of all the traffic controls after construction.

1.4 REFERENCES

A. The following publications referred to thereafter by basic designation only, form part of this Section to the extent indicated by reference thereto. Where this Section exceeds the requirements of the publications listed below, the requirements of this Section shall govern.

1. State of California, Department of Transportation, Caltrans Standard Specifications (2022 Edition)
2. California Manual on Uniform Control Devices (CA MUTCD – 2014 Edition)
3. Standard Plans English/Metric (2018 Edition)
4. Standard Specifications English/Metric (2018 Edition)
5. Manual on Uniform Traffic Control Devices (2009 Edition)

1.5 SUBMITTALS

A. Contractor shall submit the following in accordance with Section 01 33 00 “Submittal Procedures” and Section 01 31 19 “Project Meetings”. All items indicated below are required submittals requiring District’s review and approval.

1. Traffic Control Plans stamped by a professional Engineer licensed in the State of California.
2. Contractor shall obtain Traffic Control Permit from City of San Diego. District will reimburse for all City permit fees and charges, see Section 01 27 00 “Measurement And Payment”.
3. Contractor shall coordinate in advance and approval from Metropolitan Transit System (MTS) for the bus route temporary and bus stop relocation. MTS bus stop and bus route relocation shall be shown on the Traffic Control Plan.
4. Traffic Control Plan and City of San Diego Traffic Control Permit shall be submitted to the District on or before Pre-Construction Conference, or a minimum of **fourteen (14) calendar days** before commencement of any field activities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. All traffic control products and/or equipment shall meet the requirements of the City of San Diego, 2022 Caltrans Standard Specifications, and Chapter VI of the Manual on Uniform Traffic Control Devices (MUTCD).

B. Temporary Pavement Markings and Striping materials shall conform to Specifications set forth in Section 32 17 23 “Pavement Marking”.

C. Signs, cones, delineators, or barricades used in the diversion of traffic shall be illuminated or reflectorized when they are used during hours of darkness.

PART 3 - EXECUTION

3.1 GENERAL

A. The Contractor shall provide adequate traffic control through or around the designated construction area of the Project to assure safety and convenience for motorists, pedestrians, bicyclists, and construction workers.

B. All occupational safety and health standards, public convenience, and public safety through construction areas shall conform to the provisions in Sections 7-1.06 “Safety and Health Provisions”, 7-1.08 “Public Convenience”, and 7-1.09 “Public Safety” of the 2022 edition of Caltrans Standard Specifications.

C. All requirements concerning flagging and traffic handling equipment and devices shall conform to the provisions in Section 12 “Traffic Control Devices” of the 2022 edition of Caltrans Standard Specifications.

D. All work of traffic control through construction areas, including layout shall conform to the provisions in Part 6 “Temporary Traffic Control” of the 2014 edition of the California Manual on Uniform Control Devices (CA MUTCD)and to Part VI of the Manual on Uniform Traffic Control Devices (MUTCD).

E. Traffic control construction and equipment shall conform to the requirements of city having jurisdiction, Caltrans Standard Specifications and Standard Plans, and Manual on Uniform Traffic Control Devices; and as requested by the Engineer.

F. The Contractor is to maintain traffic at those locations indicated and in conformance with the Contract Drawings, the approved Traffic Control Plan, and this Section.

G. Contractor shall coordinate all Project related works including implementation of Traffic Control Plans with the District Construction Inspector or District Engineer’s Representative.

H. Contractor shall sequence work and provide traffic control to maintain access to adjacent businesses at all times.

I. Allowable working hours as shown on the approved Traffic Control Plan for each area.

J. Contractor shall coordinate with the District Construction Inspector or District Engineer’s Representative, at least seventy-two hours prior to the time the Contractor moves into any area where parking exists.

3.2 CONSTRUCTION TRAFFIC SIGNAGE

A. Contractor shall post a sufficient number of "NO PARKING ANY TIME" signs to warn the public away from the area of the Work. Removal by towing cannot be accomplished until the expiration of the 72-hour warning time.

B. Prior to Construction, Contractor will place sign panels printed on heavy poster board with the following message: "NO PARKING ANY TIME" in two-inch (2") red letters, upper half of sign, with yellow background; and "TOW AWAY ZONE" in one and one-half inch (1-1/2") yellow letters with red background near the lower edge of sign above the cited code. Each sign panel will have the following code citation in one-quarter inch (1/4") minimum height letters across the bottom of the sign "SAN DIEGO UNIFIED PORT DISTRICT ORD. 8.16/8.17" and above the foregoing code citation, in one-half inch height letters, each sign shall state "VEHICLES IN VIOLATION WILL BE CITED AND/OR TOWED AWAY AT THE OWNERS EXPENSE”. Contractor shall mount each sign panel on Contractor-furnished stake, or other supporting device, at a height not less than two feet

above the ground. Removal of vehicles from work area will be arranged by District. "NO PARKING ANY TIME" signs shall be erected and removed by the Contractor as directed by the Engineer.

C. The Contractor shall maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices. Furnish to the Engineer names and telephone numbers of three persons responsible for this emergency service. In the event these persons do not promptly respond, the local authorities shall call out other forces to accomplish emergency service. The Contractor will be held responsible for the cost of such emergency service.

3.3 VEHICULAR TRAFFIC CONTROL

A. Detour Routing

1. Notify the Engineer at least **fourteen (14) calendar days** in advance of proposed detours. Detours shall be subject to approval by the jurisdiction having authority and the Project Engineer.
2. Notify Metropolitan Transit System at least **fourteen (14) calendar days** in advance of detour by calling (MTS) (619) 595 3088 Or (619) 595 4909
3. Notify Fire Department at least **fourteen (14) calendar days** in advance of proposed detours.
4. Post detour routes to provide clear guidance to traffic.
5. Traffic lane transitions from permanent lanes to construction zone patterns shall be tapered in accordance with the requirements for the normal posted speed limit.
6. Maintain vehicular and bicycle access to the USS Midway at all times during construction.

3.4 PEDESTRIAN TRAFFIC CONTROL AND SAFETY

A. Maintain and safely delineate a minimum of one 4-foot-wide pedestrian walkway along each public street at all times during construction.

B. Pedestrian access to both the pier and the embarcadero will be provided throughout construction. In particular, pier access will be provided along a 10-foot-wide pedestrian walkway along the south side of the pier. Access along the embarcadero will be provided via a covered pedestrian walkway, which is required for safety purposes.

C. Public access shall be maintained around the project site to provide a continuous connection to the public promenade north and south of Navy Pier, throughout project demolition and construction.

D. Staging and storage of construction equipment and materials (including debris) may not take place on the public promenade outside the project area. Staging and storage of construction equipment and materials shall occur at least 25 feet from coastal waters, drainage courses, and storm drain inlets, as feasible. Construction is prohibited outside of the defined construction, staging, and storage areas.

E. All construction methods to be used, including all methods to keep the construction areas separated from public recreational use areas (e.g., using unobtrusive fencing or equivalent measures to delineate construction areas), shall be clearly identified.

F. All access points to the bay and other recreational use areas impacted by construction activities, other than those approved as part of this project, shall be restored to their pre-construction condition or better within three days of completion of construction.

3.5 PERMANENT TRAFFIC CONTROL DEVICES

A. Existing permanent traffic control signs, barricades, and devices shall remain in effective operation unless as substitute operation is arranged for and accepted as a portion of vehicular traffic control above.

3.6 TEMPORARY PAVEMENT MARKERS FOR STREETS

A. Place temporary pavement markers to delineate striping as required for traffic control during construction by methods approved by District.

3.7 REMOVAL OF TRAFFIC CONTROL DEVICES, EQUIPMENT AND MARKINGS

A. Contractor shall remove all traffic control devices, equipment and markings in each construction area following completion of Contractor's operations in the area.

B. Temporary pavement markers located at location of permanent striping shall not be left in place. Temporary pavement markers shall be removed and disposed of off Tidelands.

END OF SECTION

TRAFFIC CONTROL NOTES:

1. VALIDATION: THE TRAFFIC CONTROL PLAN IS NOT VALID UNTIL WORK DATES ARE APPROVED. THE CONTRACTOR SHALL, PER SECTION 601.2.1.1 OF THE "WHITE BOOK", CALL THE ENGINEERING OFFICE A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO STARTING WORK, OR FIVE (5) WORKING DAYS WHEN THE WORK WILL AFFECT A TRAFFIC SIGNAL.
2. STANDARDS: THE TRAFFIC CONTROL PLAN SHALL CONFORM TO THE MOST RECENT ADOPTED EDITION OF EACH OF THE FOLLOWING MANUALS:

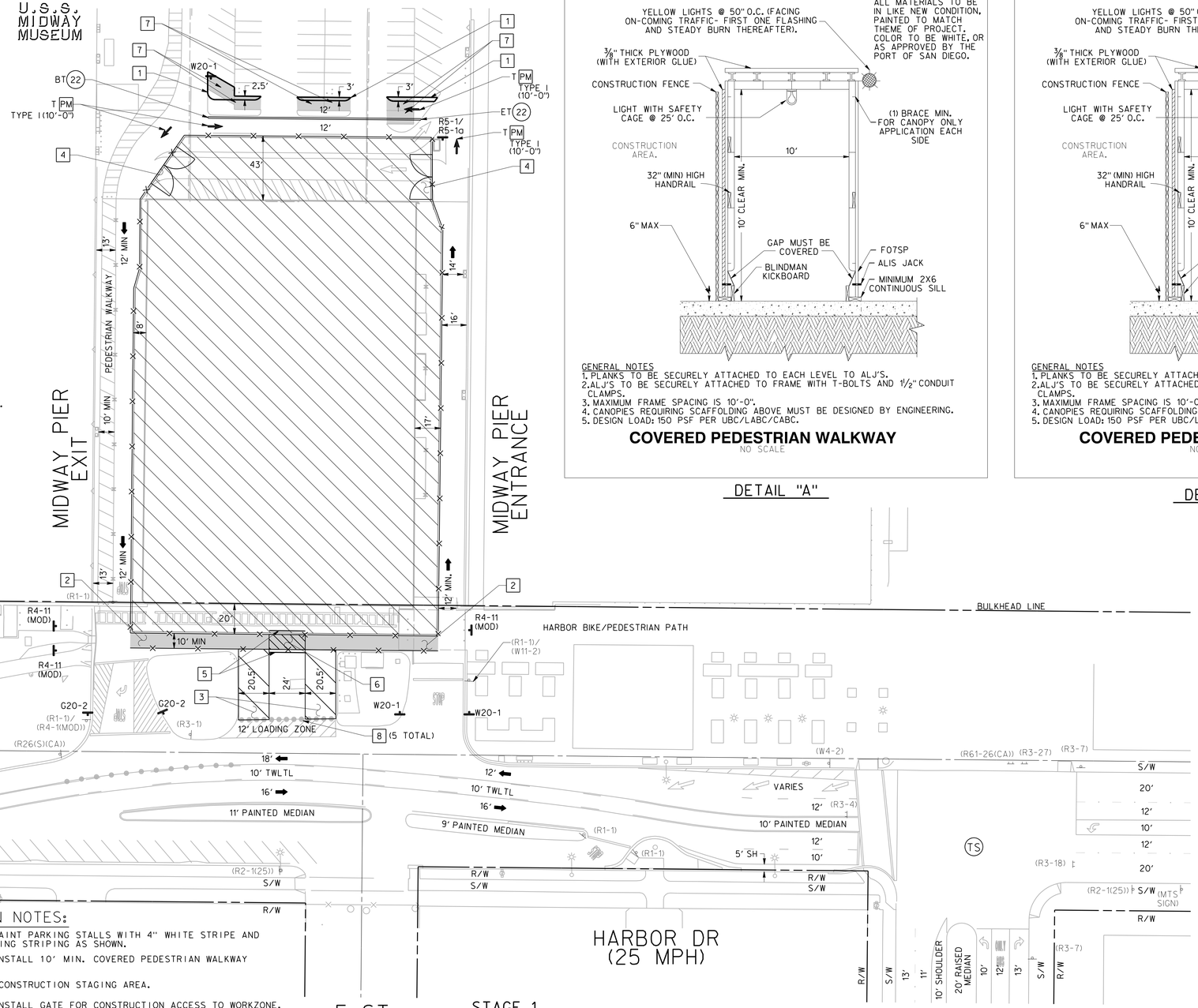
DOCUMENT NO.	EDITION	DESCRIPTION
PWPI060121-10	2023	CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD REV 7)
	2021	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREEN" BOOK)
	2021	CITY OF SAN DIEGO STANDARD DRAWINGS

3. NOTIFICATIONS: THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY EXCAVATION, CONSTRUCTION OR TRAFFIC CONTROL:

FIRE DEPARTMENT DISPATCH	(STREET OR ALLEY CLOSURE)	(858) 573-1300
POLICE DEPARTMENT DISPATCH	(STREET OR ALLEY CLOSURE)	(619) 495-7800
UNDERGROUND SERVICE ALERT	(ANY EXCAVATION)	(800) 422-4133
WASTE MANAGEMENT DEPT.	(REFUSE COLLECTION)	(858) 694-7000
STREET DIVISION/ELECTRICAL	(TRAFFIC SIGNALS)	(619) 527-7500
SAN DIEGO TRANSIT	(BUS STOPS)	(619) 238-0100 X424
MTDB	(TAXI ZONES)	(619) 595-7030

THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS AND TENANTS A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CLOSURE OF DRIVEWAYS. THE CONTRACTOR SHALL POST SIGNS NOTIFYING THE PUBLIC A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CLOSURE OF STREETS.

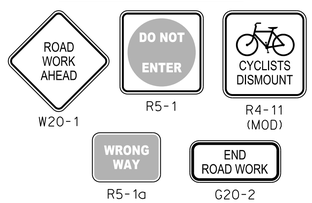
4. POSTING PARKING RESTRICTIONS: THE CONTRACTOR SHALL POST TOW-AWAY/NO PARKING SIGNS TWENTY-FOUR (24) HOURS IN ADVANCE OF PARKING REMOVAL. SIGNS SHALL INDICATE SPECIFIC DAYS, DATES AND TIMES OF RESTRICTIONS.
5. EXCAVATIONS. EXCEPT WHEN OTHERWISE SHOWN ON THE PLANS, ALL TRENCHES SHALL BE BACKFILLED OR TRENCH-PLATED AT THE END OF EACH WORK DAY. AN ASPHALT RAMP SHALL BE PLACED AROUND EACH TRENCH PLATE TO PREVENT THE PLATE FROM BEING DISLODGED. UPON COMPLETION OF EXCAVATION BACKFILL. THE CONTRACTOR SHALL PROVIDE A SATISFACTORY SURFACE FOR TRAFFIC. WHEN CONSTRUCTION OPERATIONS ARE NOT ACTIVELY IN PROGRESS. THE CONTRACTOR SHALL MAINTAIN ALL TRAVEL LANES OPEN TO TRAFFIC. EXCEPT AS SHOWN IN PLANS.
6. RESTORATION OF TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL REPAIR OR REPLACE TRAFFIC CONTROL DEVICES INCLUDING TRAFFIC SIGNS, STRIPING, PAVEMENT MARKINGS, LEGENDS, CURB MARKINGS, LOOP DETECTORS, TRAFFIC SIGNAL EQUIPMENT, ETC. DAMAGED OR REMOVED AS A RESULT OF OPERATIONS AND NOT DESIGNATED FOR REMOVAL. REPAIRS AND REPLACEMENTS SHALL BE EQUAL TO EXISTING IMPROVEMENTS.
7. CHANGE IN WORK. THE RESIDENT ENGINEER WILL OBSERVE THESE TRAFFIC CONTROL PLANS IN OPERATION AND RESERVES THE RIGHT TO MAKE CHANGES AS THE FIELD CONDITIONS WARRANT SUCH CHANGES SHALL SUPERSEDE THESE PLANS.
8. FOR WORK NOT COVERED BY THESE TRAFFIC CONTROL PLANS. THE CONTRACTOR SHALL, PER 3-8.2 OF THE CONTRACT SPECIAL PROVISIONS, PREPARE TRAFFIC CONTROL WORKING DRAWINGS AND SUBMIT THEM TO THE RESIDENT ENGINEER. THE CONTRACTOR SHALL ALLOW A MINIMUM OF TWENTY (20) WORKING DAYS FOR REVIEW OF THE WORKING DRAWINGS. UPON APPROVAL OF THE TRAFFIC CONTROL PLAN, THE ENGINEER TRAFFIC CONTROL SECTION WILL ISSUE A TRAFFIC CONTROL PLAN (TCP) PERMIT FOR THIS WORK.



CONSTRUCTION NOTES:

1. CONTRACTOR TO PAINT PARKING STALLS WITH 4" WHITE STRIPE AND REMOVE CONFLICTING STRIPING AS SHOWN.
2. CONTRACTOR TO INSTALL 10' MIN. COVERED PEDESTRIAN WALKWAY PER DETAIL "A".
3. TRASH BINS AND CONSTRUCTION STAGING AREA.
4. CONTRACTOR TO INSTALL GATE FOR CONSTRUCTION ACCESS TO WORKZONE.
5. CONTRACTOR TO INSTALL SLIDING GATES ADJACENT TO COVERED WALKWAY FOR CONSTRUCTION ACCESS TO WORKZONE.
6. CONTRACTOR TO INSTALL 15' MIN. COVERED PEDESTRIAN WALKWAY ADJACENT TO CONSTRUCTION ACCESS PER DETAIL "B".
7. REMOVED PARKING STALLS (6 TOTAL).
8. REMOVED GLUE-DOWN DELINEATORS.

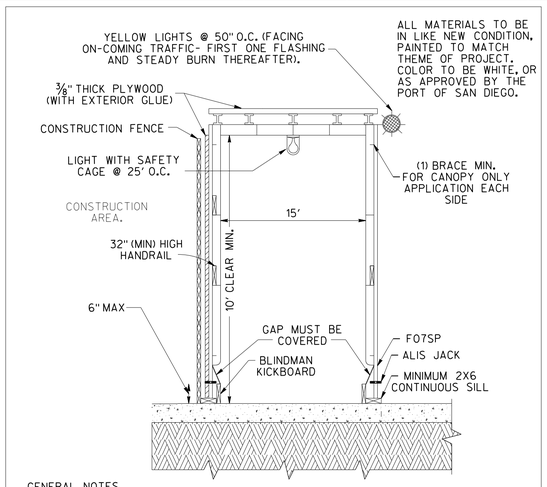
SIGNS THIS SHEET:



GENERAL NOTES
1. PLANKS TO BE SECURELY ATTACHED TO EACH LEVEL TO ALJ'S.
2. ALJ'S TO BE SECURELY ATTACHED TO FRAME WITH T-BOLTS AND 1½" CONDUIT CLAMPS.
3. MAXIMUM FRAME SPACING IS 10'-0".
4. CANOPIES REQUIRING SCAFFOLDING ABOVE MUST BE DESIGNED BY ENGINEERING.
5. DESIGN LOAD: 150 PSF PER UBC/LABC/CABC.

COVERED PEDESTRIAN WALKWAY
NO SCALE

DETAIL "A"



GENERAL NOTES
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3. MAXIMUM FRAME SPACING IS 10'-0".
4. CANOPIES REQUIRING SCAFFOLDING ABOVE MUST BE DESIGNED BY ENGINEERING.
5. DESIGN LOAD: 150 PSF PER UBC/LABC/CABC.

COVERED PEDESTRIAN WALKWAY
NO SCALE

DETAIL "B"

LEGEND

TRAFFIC SIGNAL	TS
RELOCATE	RL
REMOVE AND SALVAGE	RS
GRIND	GR
PAVEMENT MARKING	PM
STRIPING DETAIL	B=BEGIN E=END — B 9
EXISTING SIGN	(R1-1)
EXISTING MAST ARM MOUNTED SIGN	(R3-4)
PROPOSED SIGN	W20-1
TYPE III BARRICADE	
TYPE III BARRICADE W/ SIGN	C30
FLASHING ARROW SIGN	FAS
FLASHING BEACON	
FLAGGER	
EXISTING MARKINGS	
PROPOSED MARKINGS	
WORK ZONE	
CONES/GLUED DELINEATORS	
STREET CENTERLINE	
RIGHT-OF-WAY	
CONSTRUCTION FENCE	
VEHICLE DIRECTION OF TRAVEL	

STAGE 1

WORK SCOPE:
DEMOLITION OF FORMER NAVY HEAD HOUSE.

GRAPHIC SCALE 1" = 40'

REGISTERED PROFESSIONAL ENGINEER — BRIAN R. STEPHENSON — NO. 69471 — CIVIL — STATE OF CALIFORNIA

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19710

RECORD DRAWING
REVIEWED BY:
ENGINEER OF RECORD
DATE:

NOTE: THIS DRAWING MAY BE A REDUCED SCALE PRINT OF THE ORIGINAL DRAWING. UTILIZE GRAPHIC SCALES TO VERIFY IF DRAWING IS A REDUCTION, AND ADJUST SCALES ACCORDINGLY TO THE GRAPHIC SCALES SHOWN.

SPEC NO. 2022-26	WBS NO. OC-0059-01
REFERENCES	
PROJECT ENGINEER	
CONTRACTOR	
CONSTRUCTION STARTED	
CONSTRUCTION COMPLETED	
COST	INSPECTOR

REVISIONS	DATE / APPROVED

PORT of SAN DIEGO — Waterfront of Opportunity

DESIGNED	P. JOHNSON
DRAWN	P. JOHNSON
CHECKED	B. STEPHENSON

APPROVAL RECOMMENDED — DISTRICT PROJECT MANAGER
APPROVED — DISTRICT MANAGER-DESIGN

SAN DIEGO, CALIFORNIA

NAVY PIER FREEDOM PARK - PHASE IIA
HEADHOUSE DEMOLITION

TRAFFIC CONTROL PLAN- PHASE 1/1

DATE	12/21/2022
A/E NO.	C6
SHEET	9 OF 44
DRAWING NO.	EM-2022-06
REV.	

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Appendix T

t. Vegetation and Wildlife

1. Multi-Habitat Planning Areas Interactive Map

Appendix U

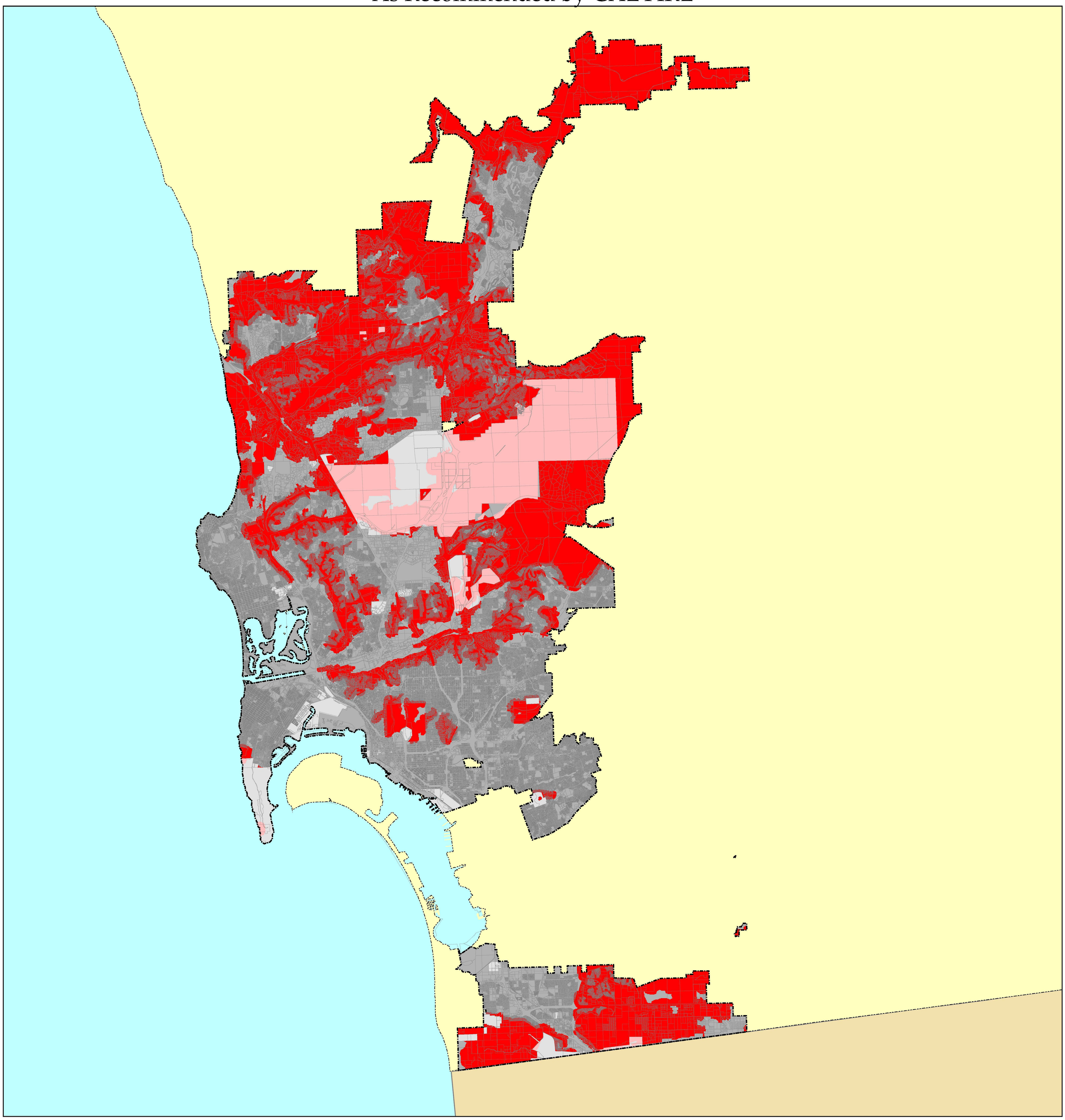
t. Climate Change Impacts

1. CalFire Map of San Diego County, Very High Fire Severity Zones in LRA

Fire and Resource Assessment Program
California Department of Forestry and Fire Protection

San Diego

Very High Fire Hazard Severity Zones in LRA
As Recommended by CAL FIRE



Fire Hazard Severity Zones

Local Responsibility Area	State or Federal Responsibility Areas
VHFHSZ	VHFHSZ
Non-VHFHSZ	Non-VHFHSZ

- City Boundary
- Parcels
- County Boundary

Government Code 51175-89 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of very high fire hazard severity zones within Local Responsibility Areas (LRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of, **potential** fuels over a 30-50 year time horizon and their associated expected fire behavior, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure (including firebrands) to buildings. Details on the project and specific modeling methodology can be found at http://frap.cdf.ca.gov/projects/hazard/methods.htm. Local Responsibility Area VHFHSZ maps were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data.

In late 2005 to be effective in 2008, the California Building Commission adopted California Building Code Chapter 7A requiring new buildings in VH FHSZs to use ignition resistant construction methods and materials. These new codes include provisions to improve the ignition resistance of buildings, especially from firebrands. The updated very high fire hazard severity zones will be used by building officials for new building permits in LRA. The updated zones will also be used to identify property whose owners must comply with natural hazards disclosure requirements at time of property sale and 100 foot defensible space clearance. It is likely that the fire hazard severity zones will be used for updates to the safety element of general plans.

This specific map is based on a geographic information system dataset that depicts final CAL FIRE recommendations for Very High FHSZs within the local jurisdiction. The process of finalizing these boundaries involved an extensive local review process, the details of which are available at http://frap.cdf.ca.gov/projects/hazard/blnet/ (click on "Continue as guest without logging in"). Local government has 120 days to designate, by ordinance, very high fire hazard severity zones within its jurisdiction after receiving the recommendation. Local government can add additional VHFHSZs. There is no requirement for local government to report their final action to CAL FIRE when the recommended zones are adopted. Consequently, users are directed to the appropriate local entity (county, city, fire department, or Fire Protection District) to determine the status of the local fire hazard severity zone ordinance.

This map was developed using data products such as parcel and city boundaries provided by local government agencies. In certain cases, this includes copyrighted geographic information. The maps are for display purposes only - questions and requests related to parcel or city boundary data should be directed to the appropriate local government entity.

N
W E
S

0 4 Miles
0 8 Kilometers

Projection Albers, NAD 1983
Scale 1: 74,000
at 36" x 48"
June 11, 2009

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Obtain FRAP maps, data, metadata and publications on the Internet at http://frap.cdf.ca.gov
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.

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MAP ID: FHSZL_c37_SanDiego

DATA SOURCES
CAL FIRE Fire Hazard Severity Zones (FHSZL06_3)