



Appendix A: Acronyms

Acronym/Abbreviation	Definition
°C	Celsius
°F	Fahrenheit
BMP	Best Management Practice
Buffer Areas	No Touch, Limited Use, and Transitional Use Buffer Areas in the Sweetwater and Otay Districts
Cal-IPC	California Invasive Plant Council
CCB	Center for Conservation Biology
CCC	California Coastal Commission
CCDP	Chula Vista Bayfront Development Policies issued by the California Coastal Commission
CC&Rs	Covenants, Conditions & Restrictions
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CH ₄	methane
City	City of Chula Vista
CNPS	California Native Plant Society
CRAM	California Rapid Assessment Method
CVBMP	Chula Vista Bayfront Master Plan
CWA	Clean Water Act
District	Unified Port District of San Diego
DR	Demand Reduction
EE	energy efficiency
EIR	Environmental Impact Report
ESA	Ecological Society of America
ESHA	Environmentally Sensitive Habitat Areas
GHG	greenhouse gases
HLIT	Habitat Loss and Incidental Take
ICLEI	International Council for Local Environmental Initiatives
INRMP	Integrated Natural Resources Management Plan
IPM	Integrated Pest Management
JPA	Joint Powers Authority
JURMP	Jurisdictional Urban Runoff Management Program
LED	Light-Emitting Diode
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
M&V Plan	Measurement and Verification Plan
MLLW	Mean Lower Low Water
MMRP	Mitigation Monitoring and Reporting Program
MSCP	Multiple Species Conservation Program
N ₂ O	nitrous oxide
NGO	non-governmental organization

Acronym/Abbreviation	Definition
NOAA	National Oceanic and Atmospheric Administration
NOD	Notice of Decision
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NRMP	Natural Resources Management Plan
NWR	National Wildlife Refuge
O&M	Operations & Maintenance
OMRI	Organic Materials Review Institute
ORWMP	Otay River Watershed Management Plan
PMP	Port Master Plan
Port	Unified Port District of San Diego
PWC	Personal Water Craft
QR Code	Quick Response Code
RAMP	Regional Advance Mitigation Planning
RCC	Resort Conference Center
RHMP	Regional Harbor Monitoring Program
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SCCWRP	Southern California Coastal Water Research Project
SDRWQCB	San Diego Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WAG	Wildlife Advisory Group
WHA	Wildlife Habitat Area
WQIP	Water Quality Improvement Plan



Appendix B: Ecosystem-Based Management and Ecosystem Services

B.1 Ecosystem-Based Management

Ecosystem-based management has become institutionalized in resource agencies as a core approach to addressing the challenges of protecting and managing ecosystem functions for the benefits they provide.

Human activities on land and in the ocean are changing coastal and marine ecosystems and threatening their ability to provide important benefits to society, such as healthy and abundant seafood, clean beaches, and protection from storms and flooding. Ecosystem-based management is a management approach to address these challenges. It considers the whole ecosystem, including humans and the environment, rather than managing one issue or resource in isolation. Key aspects of Ecosystem-based management include (NOAA 2013):

- Integration of ecological, social, and economic goals and recognition of humans as key components of the ecosystem.
- Consideration of ecological—not just political—boundaries.
- Accounting for the complexity of natural processes and social systems and using an adaptive management approach in the face of resulting uncertainties.
- Engaging multiple stakeholders in a collaborative process to define problems and find solutions.
- Incorporating an understanding of ecosystem processes and how ecosystems respond to environmental perturbations.
- A concern for the ecological integrity of coastal-marine systems and the sustainability of both human and ecological systems.

The following is derived from the Ecological Society of America's (ESA) position on ecosystem management as best science. The ESA describes ecosystem management as driven by explicit goals, executed by policies, protocols, and practices, and made adaptable by monitoring and research based on our best understanding of the ecological interactions and processes necessary to sustain ecosystem composition, structure, and function. It includes the following elements:

1. *Sustainability*. Ecosystem management does not focus primarily on “deliverables” but rather regards intergenerational sustainability as a precondition.
2. *Goals*. Ecosystem management establishes measurable goals that specify future processes and outcomes necessary for sustainability.

3. *Sound ecological models and understanding.* Ecosystem management relies on research performed at all levels of ecological organization.
4. *Complexity and connectedness.* Ecosystem management recognizes that biological diversity and structural complexity strengthen ecosystems against disturbance and supply the genetic resources necessary to adapt to long-term change.
5. *The dynamic character of ecosystems.* Recognizing that change and evolution are inherent in ecosystem sustainability, Ecosystem management avoids attempts to “freeze” ecosystems in a particular state or configuration.
6. *Context and scale.* Ecosystem processes operate over a wide range of spatial and temporal scales, and their behavior at any given location is greatly affected by surrounding systems. Thus, there is no single appropriate scale or time-frame for management.
7. *Humans as ecosystem components.* Ecosystem management values the active role of humans in achieving sustainable management goals.
8. *Adaptability and accountability.* Ecosystem management acknowledges that current knowledge and paradigms of ecosystem function are provisional, incomplete, and subject to change. Management approaches must be viewed as hypotheses to be tested by research and monitoring programs.

Ecosystem function depends on its structure, diversity and integrity. Ecosystem management seeks to maintain biological diversity as a critical component in strengthening ecosystems against disturbance. This challenge is compounded by the fact that diversity itself is a dynamic property of ecosystems. Thus, management of biological diversity requires a broad perspective and recognition that the complexity and function of any particular location is influenced heavily by the surrounding system.

Spatial and temporal scale are critical. Ecosystem function includes inputs, outputs, cycling of materials and energy, and the interactions of organisms. In order to monitor and manipulate these processes, scientists define ecosystem boundaries operationally. But boundaries defined for the study or management of one process are often inappropriate for the study of others; thus, ecosystem management requires a broad view. The mismatch between the scales at which humans make resource management decisions and at which ecosystems operate presents the most significant challenge to ecosystem management.

Uncertainty, surprise and limits to knowledge. Ecosystem management acknowledges that, given sufficient time and space, unlikely events are certain to occur. Adaptive management addresses this uncertainty by combining democratic principles, scientific analysis, education and institutional learning to increase our understanding of ecosystem processes and the consequences of management interventions, and to improve the quality of data upon which decisions must be made.

Humans as Ecosystem Components. Ecosystem management is as concerned with managing human activities as with managing lands and waters. There is little doubt that the resources upon which humans depend are delivered from ecosystems in finite quantity. Even more daunting is the fact that the delivery capacity of these resources is not distributed uniformly across the globe or in patterns that necessarily correlate with human demand.

Defining Sustainable Goals and Objectives. Ecosystem management recognizes that to meet resource demands sustainably we must value our ecosystems for more than economically important goods and services. Sustainable strategies for the provision of ecosystem goods and services cannot take as their starting points statements of need or want such as mandated timber supply, water demand, or arbitrarily set harvests of shrimp or fish. Rather, sustainability must be the primary objective, and levels of commodity and amenity provision must be adjusted to meet that goal.

Reconciling Spatial Scales. Implementation of Ecosystem management would be greatly simplified if management jurisdictions were spatially congruent with the behavior of ecosystem processes. Given the variation in spatial domain among processes, one perfect fit for all processes is virtually impossible; rather, ecosystem management must seek consensus among the various stakeholders within each ecosystem.

Reconciling Temporal Scales. Whereas management agencies are often forced to make decisions on a fiscal year basis, Ecosystem management must deal with timescales that transcend human lifetimes. Thus, while recognizing the need to make short-term decisions, and while acknowledging that unlikely events do happen, ecosystem management requires long-term planning and commitment.

Making the System Adaptable and Accountable. Successful ecosystem management requires institutions that are adaptable to changes in ecosystem characteristics and in our knowledge base. But to view management as experimental is not to advocate capricious implementation of untried or *avant-garde* actions. It is rather to acknowledge the limits of our understanding of even conventional management procedures to the complex array of ecosystem components necessary for sustained functioning.

Ecosystem management is not a rejection of an anthropocentric for a totally biocentric world view. Rather it is management that acknowledges the importance of human needs while at the same time confronting the reality that the capacity of our world to meet those needs in perpetuity has limits and depends on the functioning of ecosystems.

B.2 Ecosystem Services - A Chula Vista Bayfront Master Plan Primer

An ecosystem services approach begins with human dependency on nature. Ecosystem services are the direct and indirect contributions of ecosystems to human well-being. The approach considers the economic significance of biodiversity loss and ecosystem degradation in terms of negative effects on human well-being.

A tiered approach:

- **Recognizes** value, be it intrinsic, social or contemplative
- **Demonstrates** the economic value of a service in order to respond (example: the natural sewage treatment **function** of a wetland)
- **Captures** value by rewarding and supporting good conservation (e.g., payment for ecosystem services).

Economic valuations communicate the value of ecosystems and biodiversity and their largely unpriced flows of public goods and services.

Evaluating and integrating good stewardship is good economic practice.

Natural solutions, when available, are more cost-effective than technical solutions.

The conceptual framework for organizing ecosystem services places them in four categories: provisioning, ecosystem-regulating, supporting, and cultural services. These categories and examples are consistent with the broad international literature on ecosystem services (for instance, see Haines-Young and Potschin 2011).

Provisioning services are the goods or products obtained from ecosystems: food, fiber, raw material, fresh water, medicinal resources, genetic resources.

Ecosystem regulating services are the benefits obtained from an ecosystem's control of natural processes: local climate and air quality regulation, carbon sequestration and storage, moderation of extreme weather events, water purification and wastewater treatment, erosion prevention and maintenance of soil fertility, pollination, pest regulation through biological control.

Habitat or supporting services: habitats for species, maintenance of genetic diversity, primary productivity (photosynthesis), soil formation, nutrient cycling, water cycling.

Cultural services are the non-material benefits people obtain from ecosystem services: recreation and mental and physical health, tourism, aesthetic appreciation and inspiration for culture, art and design, ethical values, spiritual experience and sense of place.

Table B-1. Ecosystems, ecosystem services, and drivers of ecosystem change at the Chula Vista Bayfront Master Plan area.

Ecosystem	Ecosystem Services	Drivers of Ecosystem Change
<ul style="list-style-type: none"> Marine 	<ul style="list-style-type: none"> Subsistence and recreational fishing, habitat for fish nursery, climate regulation, ecotourism, recreation 	<ul style="list-style-type: none"> Sediment quality and contamination, pollution from stormwater runoff, fresh water runoff from extreme storm events diluting salinity, nutrient runoff and deposition, climate change, destruction of fish nursery habitats
<ul style="list-style-type: none"> Salt Marsh and Mudflats 	<ul style="list-style-type: none"> Nutrient cycling, carbon sequestration, habitats for species, habitats for genetic diversity, ecotourism, recreation, aesthetic appreciation, spiritual experience 	<ul style="list-style-type: none"> Nutrient runoff and deposition, industrial and urban pollution, sediment transport and quality, climate change, invasive species, conversion of wetlands
<ul style="list-style-type: none"> Upland Transition and Dry Uplands 	<ul style="list-style-type: none"> Water regulation, climate regulation extreme events regulation, soil conservation, pollination, biological control, habitats for species, habitats for genetic diversity, recreation, cultural value, ecotourism 	<ul style="list-style-type: none"> Climate change, salt buildup, fire, population growth, invasive species
<ul style="list-style-type: none"> Parks and Transition Zones 	<ul style="list-style-type: none"> Pollination regulating local climate, stormwater runoff, erosion prevention, nutrient cycling, habitats for species, primary productivity, water cycling, recreation, tourism, aesthetic appreciation, sense of place 	<ul style="list-style-type: none"> Over use, improper management, climate change, invasive species
<ul style="list-style-type: none"> Built Environment 	<ul style="list-style-type: none"> Ecosystem services generally consumed rather than produced. LEED standards reduce resource consumption. Green spaces and roof-gardens contribute to air quality, energy conservation, microclimate regulation, noise reduction, water regulation, pollination, pest regulation, cultural value, recreation, tourism 	<ul style="list-style-type: none"> Waste generation and trash, water pollution, air pollution, invasive species, climate change



Appendix C: Setting

This Appendix describes the setting of the CVBMP footprint. The proposed development and use by parcel is presented first followed by a description of important natural resources and ecosystem functions and connections. Historic habitat loss and land use of San Diego Bay is detailed last.

For a detailed description of natural resources within the CVBMP footprint, see the CVBMP Final EIR (2010).

C.1 CVBMP Parcels Proposed Development and Use

Table C-1 presents the proposed uses and specifications for each of the parcels within the CVBMP footprint as shown in Map 1-2.

Table C-1. Chula Vista Bayfront Master Plan parcels and proposed development and use.

Parcel Number	Proposed Use	Proposed Development
H-1	Community Boating Center	10,000-20,000 square feet; 1–2 stories; 15–30 feet high
H-1A	Signature Park	5 acres
H-3	Resort Conference Center	1,500-2,000 hotel rooms; 415,000 square feet net conference space; 100,000 square feet restaurant; 20,000 square feet retail; 300 240 feet high
H-9	Retail/Commercial Recreation and Marina Support	25,000-50,000 square feet; 1-2 stories; 15-30 feet high
H-9	Interim Park/Landscaping	2 acres
H-12	Ferry Terminal/Restaurant	10,000-25,000 square feet; 2 stories; 30–40 feet high
H-13, H-14	Residential	1,500 units; 19 stories; 220 feet high
H-13, H-14	Ancillary Retail	15,000 square feet
H-15	Mixed-Use Office/Commercial Recreation	420,000 square feet; 90-130 feet high
H-15	Hotel	250 rooms, 90-130 feet high
H-17	Bayfront Fire Station	9,500 square feet; 2 stories; 27 feet high
H-18	Interim Surface Parking Lot	1,100 parking spaces
H-18	Mixed-Use Office/Commercial Recreation	100,000 square feet; 6–10 stories; 85–155 feet high
H-18	Collector Parking Garage	1,100-3,000 parking spaces; 6-10 stories; 85-155 feet high
H-21	Retail/Commercial Recreation	75,000-150,000 square feet; 1–2 stories; 15–30 feet high
H-23	Resort Hotel	500 rooms, 300 feet high
H-23	Cultural/Retail	200,000 square feet; 30–65 feet high
HP-1, H-8	Signature Park	17 acres
HP-3	Shoreline Promenade (abutting H-9)	1 acre
HP-3	Shoreline Promenade (abutting HP-1 and H-8)	3 acres
HP-3	Shoreline Promenade (abutting HP14, HP-15, and HP-21)	3 acres
HP-3	Shoreline Promenade (abutting H-1 and H-1A)	2 acres
HP-5	Wetlands and Buffer	9 acres
HP-6, HP-7, HP-8	Parks/Open Space	8 acres
HP-9, HP-12, HP-13, HP-14, HP-15	Park/Open Space	18 acres

Table C-1. Chula Vista Bayfront Master Plan parcels and proposed development and use.

Parcel Number	Proposed Use	Proposed Development
HP-23A	Industrial Business Park Use	1 acre
HP-28	H Street Pier (first half)	0.4 acre
HW-1, HW-2, HW-3, HW-4	Marinas, Boat Navigation Area, Commercial Harbor	50 acres, 700 slips
HW-6	Marina (see H-1)	200 slips
HW-7	Navigation Channel	60 acres
O-1	Industrial Business Park Use	18 acres
O-3A, O-3B	RV Park	175-236 RV spaces, 1-2 stories, 15-35 feet high
O-4	Industrial Business Park Use	28 acres
OP-1A, OP-1B, OP-3	South Park/Open Space	51 acres
OP-2A, OP-2B	Ecological Buffer/Telegraph Creek Channel	27 acres
S-1	RV Park and Campground	19 acres
S-2	Signature Park/Open Space	18 acres
S-2A	Open Space	3 acres
S-3	Mixed-Use Office/Commercial Recreation	60,000–120,000 square feet, 2–3 stories, 30–45 feet high
S-4	Office	120,000 square feet, 8 stories, 125 feet high
SP-1	Ecological Buffer	41 acres
SP-2	Seasonal Wetland	14 acres
SP-3	Nature Center Parking and Access Road	3 acres
SP-4, SP-5, SP-6, SP-7, S-5	Parks/Open Space	11 acres

Table C-2 presents the parcels within the CVBMP and the vegetation community/land cover type for each. Due to changes in the project design, development of parcels may have changed since the CVBMP EIR (2010) was finalized.

Table C-2. Parcels of the Chula Vista Bayfront Master Plan and the vegetation communities/land cover types for each parcel.

Parcel Number	Vegetation Community/Land Cover Type	Acres
Sweetwater District		
Road	Disturbed Diegan coastal sage scrub	0.79
	Disturbed habitat	6.46
	Disturbed riparian	0.03
	Mulefat scrub	0.07
	Southern coastal salt marsh	0.03
	Urban/developed	1.16
S-1	Disturbed Diegan coastal sage scrub	0.06
	Disturbed habitat	17.73
	Urban/developed	0.72
S-2A	Disturbed Diegan coastal sage scrub	3.09
	Disturbed habitat	1.29
	Southern coastal salt marsh	0.04
	Urban/developed	1.04
S-3	Disturbed habitat	6.15
	Urban/developed	0.01
S-4	Disturbed habitat	4.98
	Urban/developed	1.10
S-5	Urban/developed	1.32
SP-1	San Diego Bay	0.26
	Disturbed Diegan coastal sage scrub	3.33
	Disturbed habitat	34.85
	Disturbed wetland	2.00
	Eucalyptus woodland	0.36
	Southern coastal salt marsh	0.04

*Navigational Channel

Table C-2. Parcels of the Chula Vista Bayfront Master Plan and the vegetation communities/land cover types for each parcel.

Parcel Number	Vegetation Community/Land Cover Type	Acres
	Urban/developed	0.24
SP-2	Coastal brackish marsh	3.40
	Disturbed habitat	6.52
	Disturbed riparian	3.05
	Urban/developed	1.39
SP-3	Disturbed Diegan coastal sage scrub	0.11
	Disturbed habitat	2.62
SP-4	Disturbed Diegan coastal sage scrub	0.24
	Disturbed habitat	3.03
	Mulefat scrub	0.03
	Urban/developed	0.64
SP-5	Disturbed Diegan coastal sage scrub	0.01
	Disturbed habitat	0.56
	Urban/developed	0.53
SP-6	Disturbed habitat	4.18
	Urban/developed	0.05
SP-7	Disturbed habitat	0.24
	Urban/developed	0.91
Harbor District		
Road	Disturbed habitat	0.75
	Non-native grassland	2.14
	Ornamental vegetation	0.09
	Southern coastal salt marsh	0.10
	Urban/developed	29.21
H-1	Urban/developed	2.26
H-1A	San Diego Bay	0.03
	Urban/developed	5.28
H-3	Disturbed habitat	0.26
	Non-native grassland	6.11
	Urban/developed	32.83
H-8	Urban/developed	6.05
H-9	Urban/developed	8.59
H-12	San Diego Bay	0.77
	Urban/developed	0.04
H-13	Non-native grassland	7.97
H-14	Non-native grassland	4.83
	Urban/developed	1.36
H-15	Urban/developed	9.44
H-17	Non-native grassland	1.72
	Urban/developed	0.07
H-18	Disturbed habitat	8.69
	Urban/developed	0.23
H-21	Non-native grassland	3.88
	Urban/developed	6.23
H-23	Urban/developed	24.42
HP-1	Disturbed habitat	1.44
	Non-native grassland	1.67
	Urban/developed	8.33
HP-3	San Diego Bay	1.33
	Non-native grassland	0.07
	Urban/developed	7.06
HP-5	Non-native grassland	4.61
	Southern coastal salt marsh	1.07
	Urban/developed	3.20

*Navigational Channel

Table C-2. Parcels of the Chula Vista Bayfront Master Plan and the vegetation communities/land cover types for each parcel.

Parcel Number	Vegetation Community/Land Cover Type	Acres
HP-6	Urban/developed	1.26
HP-7	San Diego Bay	0.01
	Disturbed habitat	0.07
	Non-native grassland	0.10
	Ornamental vegetation	0.23
	Southern coastal salt marsh	0.22
	Urban/developed	3.28
HP-8	Disturbed habitat	0.24
	Ornamental vegetation	0.48
	Southern coastal salt marsh	0.47
	Urban/developed	1.34
HP-9	Disturbed habitat	0.06
	Ornamental vegetation	0.19
	Urban/developed	0.68
HP-11	Disturbed habitat	1.90
	Southern coastal salt marsh	0.47
	Urban/developed	0.78
HP-12A	Urban/developed	4.03
HP-12B	Urban/developed	4.35
HP-13A	Urban/developed	1.08
HP-13B	Urban/developed	1.16
HP-14	San Diego Bay	0.03
	Urban/developed	2.85
HP-15	San Diego Bay	0.38
	Urban/developed	3.16
HP-23A	Urban/developed	1.26
HP-28	San Diego Bay	0.83
HW-1	San Diego Bay	21.78
	Southern coastal salt marsh	0.06
	Urban/developed	0.10
HW-2	San Diego Bay	13.54
	Urban/developed	0.03
HW-3	San Diego Bay	3.95
	Southern coastal salt marsh	0.12
	Urban/developed	0.11
HW-4	San Diego Bay	10.42
	Urban/developed	0.02
HW-5	San Diego Bay	0.33
HW-6	San Diego Bay	8.47
	Urban/developed	0.05
HW-7	San Diego Bay	86.84*
Otay District		
Road	Disturbed habitat	3.65
	Disturbed seasonal pond	0.63
	Eucalyptus woodland	0.13
	Non-native grassland	0.04
	Urban/developed	2.37
O-1	Disturbed habitat	15.45
	Disturbed seasonal pond	2.65
	Non-native grassland	0.23
O-A3	Disturbed habitat	0.26
	Urban/developed	9.07
O-3B	Disturbed habitat	0.99
	Urban/developed	3.68

*Navigational Channel

Table C-2. Parcels of the Chula Vista Bayfront Master Plan and the vegetation communities/land cover types for each parcel.

Parcel Number	Vegetation Community/Land Cover Type	Acres
O-4	Disturbed habitat	2.18
	Disturbed seasonal pond	2.05
	Non-native grassland	16.56
	Ornamental vegetation	0.22
	Urban/developed	6.13
OP-1A	Disturbed habitat	1.27
	Eucalyptus woodland	0.43
	Urban/developed	11.86
OP-1B	Disturbed habitat	7.07
	Eucalyptus woodland	1.40
	Urban/developed	2.40
OP-2A	San Diego Bay	0.14
	Disturbed habitat	4.13
	Disturbed seasonal pond	3.65
	Non-native grassland	4.12
	Ornamental vegetation	0.36
OP-2B	Urban/developed	11.61
	Disturbed habitat	1.90
	Non-native grassland	0.15
	Urban/developed	1.41
OP-3	Disturbed habitat	10.35
	Disturbed seasonal pond	0.14
	Eucalyptus woodland	0.26
	Non-native grassland	9.75
	Ornamental vegetation	4.80
	Urban/developed	0.85

*Navigational Channel

C.2 Important Habitat and Species Connections in the CVBMP Footprint and South San Diego Bay

Detailed habitat and species descriptions, locations, and extents are provided in the CVBMP Final EIR (2010) and other studies and reports maintained by the Port (some of which are subsequent to EIR publication).

C.2.1 What is Unique about South Bay Habitats?

South San Diego Bay provides habitat values unique to the bay and Southern California Bight. These values are described below.

Fish Nursery and Breeding and Resting Area

- Eelgrass beds provide a significant nursery for over 25 fish species that utilize San Diego Bay.
- Habitats of south San Diego Bay supports fish species, including important fishery species, during the larval and juvenile life stage, such as California halibut, white sea bass, northern anchovy, and spotted and barred sand bass.
- South San Diego Bay provides protection from predators for fish eggs and larvae in eelgrass, salt marsh, and open currents.

Foraging Area

- South San Diego Bay habitats support populations of forage fish (e.g., slough anchovy, topsmelt, and shiner perch) of the California least tern and many other birds and fishes.
- Intertidal mudflats are important foraging habitat for fish during high tide and shorebirds at low tide.
- South San Diego Bay is the only ecoregion in the Bay where green sea turtles are known to forage.

Important Species and Habitats

- Largest expanse of protected waters in southern California for migratory birds on the Pacific Flyway.
- South San Diego Bay is a Western Hemisphere Shorebird Reserve Network Site, with more than 20,000 shorebirds per year.
- Globally important¹ numbers of seabirds, such as gull-billed terns and Caspian terns, nest in south bay.
- Twelve species of fish indigenous to bays and estuaries of the Southern California Bight utilize the south bay.
- NOAA Essential Fish Habitat of Particular Concern includes estuary and eelgrass habitats in south bay.
- The south bay is the northern range for many fish species commonly encountered further south in eastern subtropical and tropical Pacific and not normally distributed in the Southern California Bight, including the California halfbeak, bonefish, California needlefish, shortfin corvine, Pacific seahorse, California butterfly ray, banded guitarfish, red goatfish, Pacific sierra, green jack, midline thread herring, and scalloped hammerhead.
- San Diego Bay serves as important habitat for a resident population of up to 60 juvenile and adult ESA-listed green sea turtles (Eguchi et al. 2010).

1. "Globally important" is a term used by the Audubon Society to categorize locations and congregations of bird species.

C.2.2 Habitats of South San Diego Bay

Table C-3. Breakdown of habitat subtypes native to south San Diego Bay.

Uplands	<ul style="list-style-type: none"> - Beach, beach wrack - Berms, dikes - Moist grassland - Grassland/ ephemeral wetland complex - Maritime Succulent Scrub and Boxthorn - Coastal Sage Scrub - Inland Dunes
Wetlands	<ul style="list-style-type: none"> - Low Salt Marsh & Marsh Plain - High Salt Marsh - Diked Pond - Salt Pond - Freshwater Marsh - Willow Clumps - Riparian Forest (Sycamore/ Willow)
Marine Tidal Connections	<ul style="list-style-type: none"> - Open Water - Nearshore Subtidal Unvegetated (Sandy) - Nearshore Subtidal Vegetated (Eelgrass) - Tidal Flat - Tidal Channel Network - Stream Mouth/ Brackish Water - Hardened Structures

Values for Protecting Upland Transition Communities

- Uplands transitions have unique plant assemblages.
 - Characteristic species include: California boxthorn, variegated dudleya, salt-grass, sea-blite, alkali heath, and sea lavender.
 - Special status plant species include salt marsh bird's beak, coastal dune milk vetch, Brand's phacelia, southwestern spiny rush, estuary suaeda, woolly seablite, San Diego County viguiera, San Diego barrel cactus, variegated dudleya, Nuttall's lotus, Palmer's frankenia, and red sand-verbena.
- Special status wildlife species include: San Diego black-tailed jackrabbit, western burrowing owl, and loggerhead shrike. The silvery legless lizard is a special status reptile.
- Certain birds forage in wave wrack lines, such as the large-billed savannah sparrow, Belding's savannah sparrow, and flycatchers.
- Uplands provide nesting sites for colonial seabirds, rare shorebirds, and burrowing owls.
- Coastal upland invertebrates are the primary prey for many species of wildlife and are important as pollinators, including: funnel web weavers, wolf spiders, trap-door spiders, endemic nocturnal sand spiders, globose dune beetle, sandy beach tiger beetle, mudflat tiger beetle, and wandering skipper.
- Uplands help buffer rises in sea level and may provide for habitat migration.

Wetlands

The USACE, the CDFW, and the CCC all have jurisdiction of wetlands in the project footprint. Map C-1 details the jurisdiction of each agency.

Functions of Aquatic Subhabitats

Tidal creeks and channels	Provides: Refuge for small fish, eggs and larvae of larger fish. Example species: Gobies and topsmelt.
Sandy bottom sediment	Provides: Refuge for crustaceans (prey item) and fish. Example species: Important habitat for bottom-dwelling species (e.g., rays, sharks, flatfish). Burrows of ghost shrimp are used by arrow goby.
Emergent vegetation	Provides: Habitat and refuge for many small fish species. Example species: Some gobies and California killifish.
Submerged vegetation	Provides: Productive refuges used by most small fish species, including eelgrass. Example species: Pipefish, gobies, California killifish, Pacific staghorn sculpin, and mullet.
Nearshore shallow water	Provides: Substrate and food for larvae and juveniles of many species that use bays, lagoons, and estuaries as nurseries. Transient species from intertidal and nearshore soft-bottom habitat use the bay during the spring and summer - entering the lagoons as eggs/ larvae or as juveniles/ adults seeking habitat and food. Example species: California halibut, diamond turbot, sardines, and croakers. Seasonal species include: sun-perch, anchovies, croakers, stingrays, and halibut.
Open water	Provides: Uninterrupted tidal exchange. Example species: Anchovies, sardines, topsmelt, and striped mullet.
Saline pools	Provides: Areas with increased salinity due to reduced tidal circulation. Example species: Only the most salt tolerant species, including topsmelt, and California killifish.
Brackish and fresh water	Provides: Habitat for fish tolerating or preferring low salinity. Example species: Topsmelt and striped mullet.

C.2.3 Distribution of Species in South San Diego Bay

Fish Species Utilizing San Diego Bay

Figure C-1 depicts common fish species found in south San Diego Bay and highlights the species that are characteristic only in the southern ecoregion of San Diego Bay due to habitat conditions.

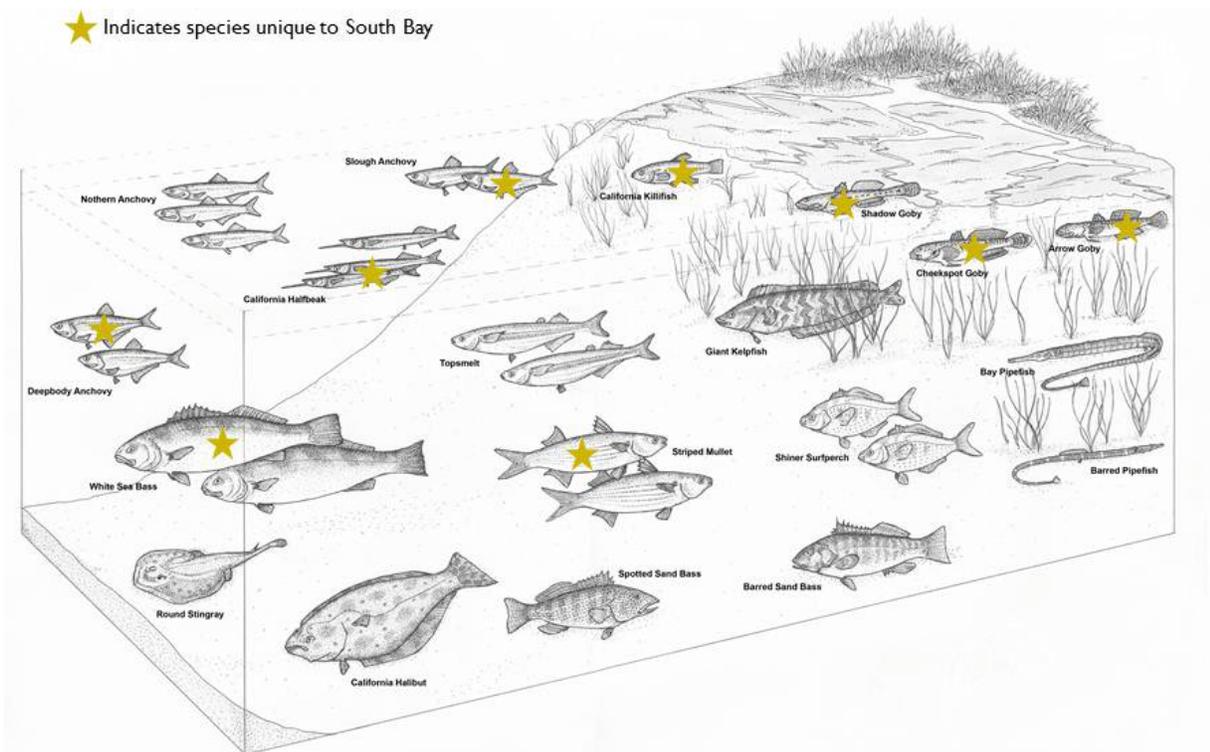
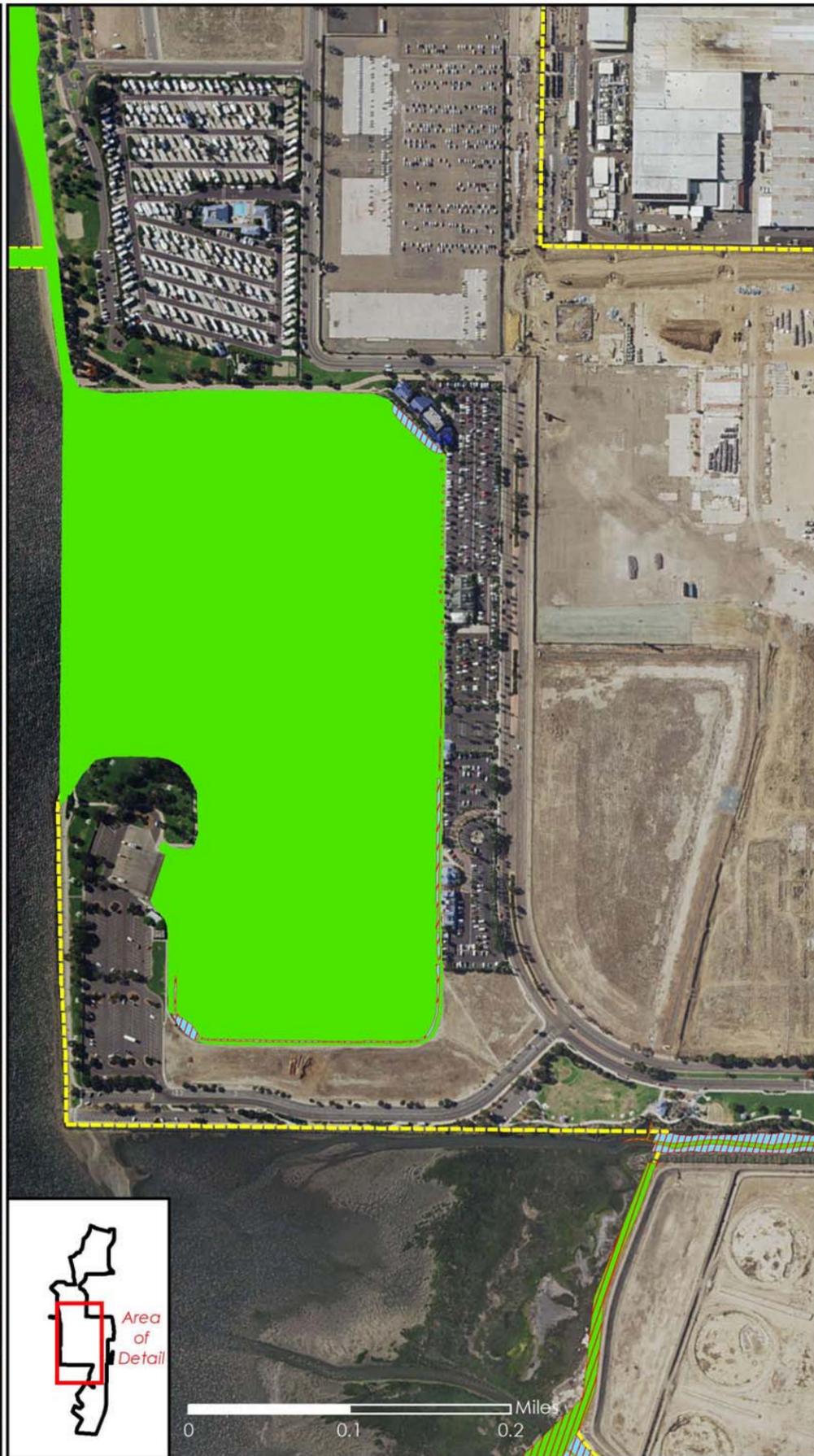
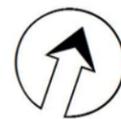


Figure C-1. Common fish species found in south San Diego Bay.



MAP C-1



- CDFW Jurisdictional Resources
 - USACE Wetland Exempt
 - USACE Waters of the US
 - CCC Wetlands
 - USACE Wetlands
 - CVBMP Project Footprint
 - Potential CCC Wetlands
- All Data from CVBMP EIR 2010

Wetlands and Jurisdictions within the CVBMP Project Footprint

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Habitat Subtypes Supporting Birds

South San Diego Bay can be split into three distinct foraging habitats: upland transitional, intertidal, and subtidal. Bird species that utilize south San Diego Bay exploit different foraging habitats depending on the adaptations and specializations of each species, demonstrated in Figure C-2.

Upland habitat is frequently used for roosting and foraging sites by bird species that normally occupy intertidal and subtidal habitats when those areas are inundated. As a transitional habitat, it maintains connectivity between habitats throughout the bay.

San Diego Bay’s broad, gentle slopes provides a range of water depths in intertidal habitats to accommodate a wide assemblage of bird species, including shorebirds, marsh birds, and dabbling ducks. Shorebird species are particularly well-adapted with varying bill lengths, leg lengths, and foraging strategies to exploit the changing topography within the bay. In addition, the unique vegetation found in salt marsh habitat provides cover for the federally- and state-listed light-footed clapper rail.

Foraging Habitat Partitioning by Birds of San Diego Bay

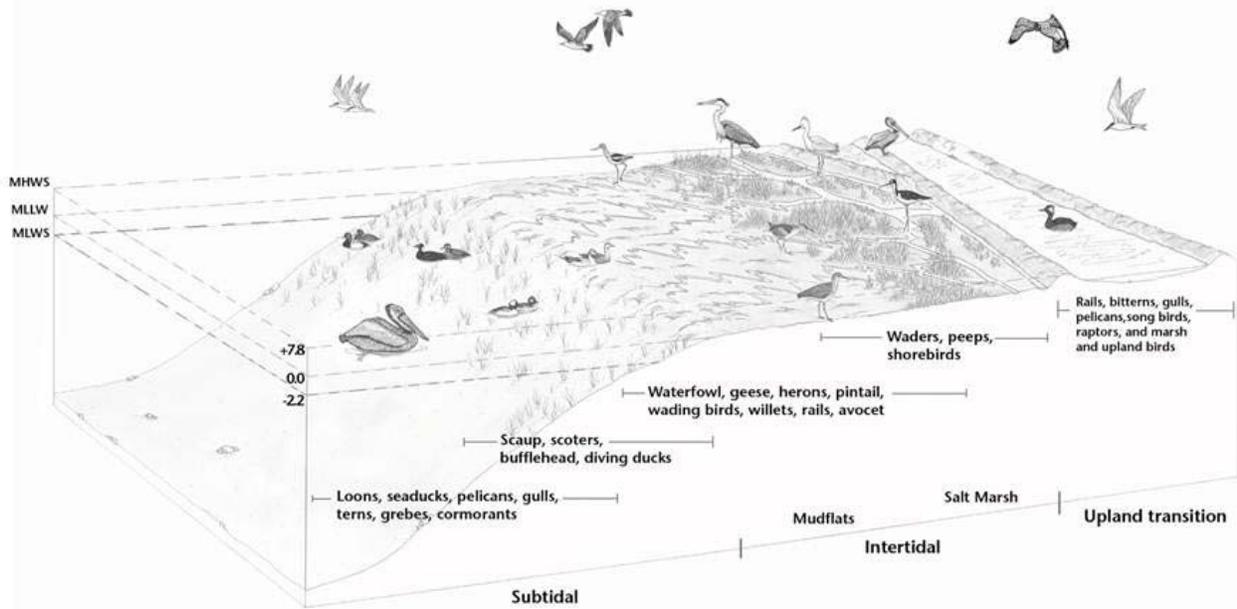


Figure C-2. Foraging habitat partitioning by birds of San Diego Bay.

Subtidal areas are utilized by diving birds such as pelicans, cormorants, and diving ducks that search for prey from the water surface or from the air. Salt marsh habitat shelters rare resident, specialist birds such as the light-footed clapper rail; produces abundant fish and wildlife; and sequesters carbon at a much higher level than other habitats (see also Section D.3: Carbon Sequestration Benefits & Potential in Wetlands).

C.2.4 Key Attributes of Ecosystem and Habitat Quality

The following are physical conditions favor species reproduction, growth, and diversity of aquatic and marine species.

Buffer and Landscape Condition

- Mosaic of habitats supports the maximum species and densities of birds.
- Connectivity for fish.
- Buffer from urban uses (watershed functions, clean fresh water and sediment sources).

Hydrologic Condition

- Slow tidal retreat, range of tidal depths to maximize foraging time for different foraging strategies.
- Hydroperiod.
- Water quality.

Physical Structure

- Warm, nutrient-rich, shallow waters, which enable the presence of larval and juvenile fish in large numbers.
- Broad, intertidal shorelines with gentle slopes.
- Environmental gradients and transitions of salinity, non-vegetated, vegetated
- Shelter from waves; areas of quiet water.
- Higher salinities provide for organisms indigenous to estuaries.
- Brackish water provide for certain species such as avian dabblers.
- Sediment size (fine, particularly) that support benthos.
- Substrate complexity and structural patch richness.
- Topographic complexity on micro scale to trap water, allow anchoring, to hold on.
- Upland refugia for birds during high tide and tidal surges.
- Microchannels in mudflats and marshes.

Biotic Structure

- Plankton.
- Vegetation - algae, eelgrass, salt marsh. Vertical biotic layers.
- Horizontal interspersed of vegetation.
- Invasion, aggressive or over-abundant species.
- Benthic invertebrate abundance.

C.3 History of Habitat Loss in San Diego Bay

Table C-4 estimates habitat losses within San Diego Bay from 1859 to 1995 by comparing a 1859 geodetic chart and 1995 aerial photo, as updated in 2007.

Table C-4. Habitat Change in San Diego Bay.

Habitat (depths in feet) ^a	1859 Acres (% of total)	2007 Acres (% of total)	2007 % Loss or Gain Since 1859
Deep Subtidal (>-20)	2212 (12%)	4394.8 (28%)	+99%
Moderately Deep Subtidal (-12 to -20)	954 (5%)	Not Available	Not Available
Shallow Subtidal (-2.2 to -12)	6400 (35%)	3767.5 (24%)	-41%
Vegetated Shallow Subtidal ^b	Unknown	3734 (24%)	Unknown
Intertidal excluding Salt Marsh (+2 to -2.2, high tide line to -3 on 1859 coverage)	6148 (33%)	984 (6%)	-84%
Artificial hard substrate ^{c,d} (riprap and seawall; piers, wharves)	0	Not Available	Not Available

Table C-4. Habitat Change in San Diego Bay.

Habitat (depths in feet) ^a	1859 Acres (% of total)	2007 Acres (% of total)	2007 % Loss or Gain Since 1859
Salt Marsh	2785 (15%)	843 (5%)	-69.7%
Upland Transition	Unknown	2308 (15%)	Unknown
Riparian	Unknown	7 (<1%)	Unknown
Freshwater Marsh	Unknown	1 (<1%)	Unknown
Salt Works			
Crystallizer	Not Applicable	121 (<1%)	Not Applicable
Pickling	Not Applicable	59 (<1%)	Not Applicable
Primary	Not Applicable	462 (3%)	Not Applicable
Primary/Intertidal	Not Applicable	106 (<1%)	Not Applicable
Secondary	Not Applicable	366 (2%)	Not Applicable
Dikes	Not Applicable	62 (<1%)	Not Applicable
Total	18,500	15,694	

a. All depths based on Mean Lower Low Water.

b. Vegetated shallows is a subset of shallow subtidal, so is not included in the totals.

c. Plus 131 acres (53 ha) horizontal surface structures (piers, etc.).

d. Artificial hard substrate is a subset of subtidal and intertidal habitats, so is not included in the totals.

C.4 Cultural Land Use History of the CVBMP area

Chula Vista is located within the historical territory of the Kumeyaay peoples. At the time of Spanish contact, the Kumeyaay were nomadic and inhabited portions of present-day San Diego County, Imperial County, and Baja California, Mexico. They lived in autonomous bands that typically occupied a main village and several smaller inhabitations, moving seasonally based on food sources (Loumala 1978; City of Chula Vista 2012c).

The Kumeyaay peoples practiced a fairly typical hunting-and-gathering routine common among California Native Americans. Kumeyaay peoples living along the coast gathered clams, abalone, scallops, sea stars, octopuses, and other marine species from lagoons and tidepools, and gathered grunion during runs (Baksh n.d.). Tule reeds were used to make boats, or balsas, for offshore fishing (Hoffman and Gamble 2006). Hooks made from abalone shells and yucca fiber lines were used for fishing, as were agave or yucca fiber nets and spears made with cactus thorns (Baksh n.d.). While the Kumeyaay peoples hunted large game (e.g., deer, mountain sheep, and antelope), they relied primarily on small game (e.g., rabbits, ground squirrels, woodrats, and other small animals) and birds (e.g., pigeons, doves, larks, robins, quail, and other birds) (Baksh n.d.). Bow and arrows were used for hunting game animals, and birds and traps, clubs, throwing sticks, and yucca fiber nets were used to capture small game animals (Baksh n.d.). While hunting game provided the Kumeyaay peoples with important sources of protein and fat, the bulk of their diet came from plant foods, such as edible seeds, nuts, beans, fruits, and other plant foods (Baksh n.d.). Acorns were a staple of the Kumeyaay peoples’ diet, and agave, pine nuts, chia, wild cherry, yucca buds and seeds, manzanita berries, elderberries, and mesquite beans were other plant foods consumed (Loumala 1978; Baksh n.d.; Hoffman and Gamble 2006).

In 1769, Spanish colonization of Alta California began with the arrival of Father Crespi and Father Junipero Serra (City of Chula Vista 2005). The creation of the mission system impacted the Kumeyaay culture, especially their socio-political structure (Loumala 1978). In 1795, Chula Vista became part of the Spanish land grant, Rancho del Rey (“The King’s Ranch”), that served as grazing lands for large herds of cattle and horses (Chula Vista Historical Society 1991; City of Chula Vista 2012a, 2012c).

Following Mexican independence from Spain in 1821, there were fundamental changes in California. Missions were secularized or abandoned, and large land grants (“ranchos”) were given to citizens. In 1831, Rancho del Rey became the Rancho de la Nacion (“National Ranch”), which encompassed the area now known as Chula Vista, National City, Bonita, Sunnyside, and the Sweetwater Valley (City of Chula Vista 2012b). Rancho de la Nacion was also used as grazing land for cattle and horses until 1845, when the land was granted to John Forster (City of Chula Vista 2012b).

At the end of the Mexican-American War in 1848, California became part of the United States' territory. In 1850, California became a state and under American law land grants such as Forster's were allowed to continue as private property. Forster eventually sold the land to a French developer, who in turn sold it to the Kimball brothers in 1868. This would be the beginning of Chula Vista, as the Kimball brothers wanted to turn the land into productive American cities and farms (City of Chula Vista 2012b, 2012c). In the 1880s the American settlement boom began in the area, and by 1889 there were ten houses under construction and the City of Chula Vista was created (City of Chula Vista 2012b).

The subtropical climate and long growing season of the San Diego region meant that certain crops performed exceptionally well. In 1888, the Sweetwater Dam was completed and brought water to Chula Vista residents and farms (City of Chula Vista 2012c). Citrus trees were found to be extremely successful, and for a while Chula Vista was the largest lemon-growing center in the world. Aside from lemons, main crops were celery, tomatoes, strawberries, lettuce, cucumbers, and marigolds. In the 1920s, Mexican and Japanese immigrants provided the majority of agricultural labor (City of Chula Vista 2012c). The Great Depression affected the area, but agriculture provided Chula Vista with a considerable income (City of Chula Vista 2012a). In 1931, lemon orchards produced approximately \$1 million in revenue, and celery brought in almost \$600,000 (City of Chula Vista 2012a).

Salt works is also a part of the historic land use of the Chula Vista bay region. In 1870, La Punta Salt Works was established in the southeast corner of the San Diego Bay, but the facility closed in 1901 (ORWMP 2006). The Western Salt Company was established in 1902 about a quarter mile northeast of La Punta Salt Works location (ORWMP 2006). In 1911, more land was purchased in the south end of the Bay to expand the facility and by 1916 the facility stretched across the entire end of the South Bay (ORWMP 2006). This expansion eliminated historic salt marsh and mudflat habitat with the creation of diked evaporation ponds (ORWMP 2006). A flood in 1916 damaged the facility, but it was reconstructed by 1918 (ORWMP 2006). In 1922, the facility switched ownership to the H.G. Fenton Company, and in 1999 approximately 964 acres of the salt works was incorporated into the South Bay Unit of San Diego Bay NWR (ORWMP 2006).

Wartime production also played a significant role in the history of Chula Vista. In 1916, the Hercules Powder Company built a kelp processing plant on Gunpowder Point (Living Coast Discovery Center 2013). Acetone and potash were extracted from kelp and were used to make cordite, an explosive used by the British in World War I (Living Coast Discovery Center 2013; City of Chula Vista 2005). During the war, Hercules produced 20,838,000 kilos of cordite for the British (City of Chula Vista 2012a). The large-scale production of cordite meant that Hercules had three kelp harvesters working almost continuously and 1,500 employees working day and night (City of Chula Vista 2005). Remnants of the Hercules buildings on Gunpowder Point are still present and can be seen from nature center trails (Living Coast Discovery Center 2013).

In 1941, the Rohr Aircraft Corporation relocated to Chula Vista prior to the attack on Pearl Harbor and United States' involvement in World War II. Rohr employed 9,000 workers at the height of wartime production, causing a demand for housing that led to the conversion of orchard and agriculture lands into homes (City of Chula Vista 2012a). The population of Chula Vista tripled from 1940 to 1950, growing from 5,000 residents to over 16,000 residents (City of Chula Vista 2012a). The rapid population growth and development during and after World War II, not only in Chula Vista but the greater San Diego area, greatly stressed San Diego Bay (ORWMP 2006). The Bay was seen as a disposal site for bilge water, garbage, and sewage even before World War II; but the rapid growth during the war overwhelmed the few San Diego sewage plants (ORWMP 2006). Contamination of the Bay steadily increased, and in 1955 a quarantine was placed in the central Bay area by the California Department of Public Health as the contamination in the Bay from sewage waste was considered a hazard to public health (ORWMP 2006). After the San Diego metropolitan Sewerage System became operational in 1963 and all domestic discharges and discharges from the Naval Amphibious Base were connected in 1964, sewage dumping in the Bay ceased and San Diego Bay showed rapid recovery (ORWMP 2006).

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Appendix D: Sea Level Rise, Climate Change, and Carbon Sequestration Assumptions

D.1 Sea Level Rise

D.1.1 Sea Level Rise Summary Points

The following subsections represent the current thinking on climate change and sea level rise for San Diego Bay as adopted by the San Diego Bay Sea Level Rise Adaptation Strategy (International Council for Local Environmental Initiatives [ICLEI] 2012). This strategy was funded by the San Diego Foundation, and included the following governmental groups: the City of Chula Vista, the City of Coronado, the City of Imperial Beach, the City of National City, the City of San Diego, the Port, and the San Diego County Regional Airport Authority. The U.S. Navy, Federal Emergency Management Agency, and San Diego Gas & Electric also contributed as stakeholders and technical advisors. Other governmental and non-governmental conservation groups such as the Tijuana River National Estuarine Research Reserve, were involved in developing the adaptation strategy. The key scientific points that underpinned this planning effort are adumbrated below.

Causes of Global Sea Level Rise

- Thermal expansion of the oceans
- Melting of land based ice glaciers

Historical Sea Level Rise

- Global rise has been about 1.8 centimeters every ten years since 1960 (United Nations' Intergovernmental Panel on Climate Change 2007).
- At San Diego Bay, the documented sea level rise has been 2.06 millimeters per year over the period spanning 1906 to 2006 (NOAA website).

Various Scenarios

The State of California (2010) uses of projections:

- By year 2050: between 26 and 43 centimeters
- By year 2100: between 78 to 176 centimeters

Aside from these, the Port/City will utilize as appropriate the California Coastal Commission's Sea Level Rise Policy Guidance (2015). That document cites sea level rise scenarios presented in Table D-1.

Table D-1. National Research Council (NRC 2012) Sea Level Rise Projections.

	Low end of range	Mid-range	High end of range
2030	2 in.	6 in.	12 in.
2050	5 in.	11 in.	24 in.
2100	17 in. (1.4 ft)	37 in. (3.1 ft)	66 in. (5.5 ft)

San Diego Bay Sea Level Rise Planning Scenarios

Current elevations within the Chula Vista Bayfront Master Plan project footprint are presented in Map D-1, Map D-2, and Map D-3.

ICLEI (2012) present four scenarios for sea level rise in San Diego Bay. These were developed by Rick Gersberg at San Diego State University.

- 2050 Daily Conditions - Mean high tide in 2050 with 0.5 meters of sea level rise
- 2050 Extreme Event - 100 year extreme high water event in 2050, with 0.5 meters of sea level rise, including such factors as El Niño, storm surge, and unusually high tides
- 2100 Daily Conditions - Mean high tide in 2100 with 1.5 meters of sea level rise
- 2100 Extreme Event - 100-year extreme high water event in 2100, with 1.5 meters of sea level rise, including such factors as El Niño, storm surge, and unusually high tides

These are all so-called 'bathtub models' which suffer for not accounting for the following factors:

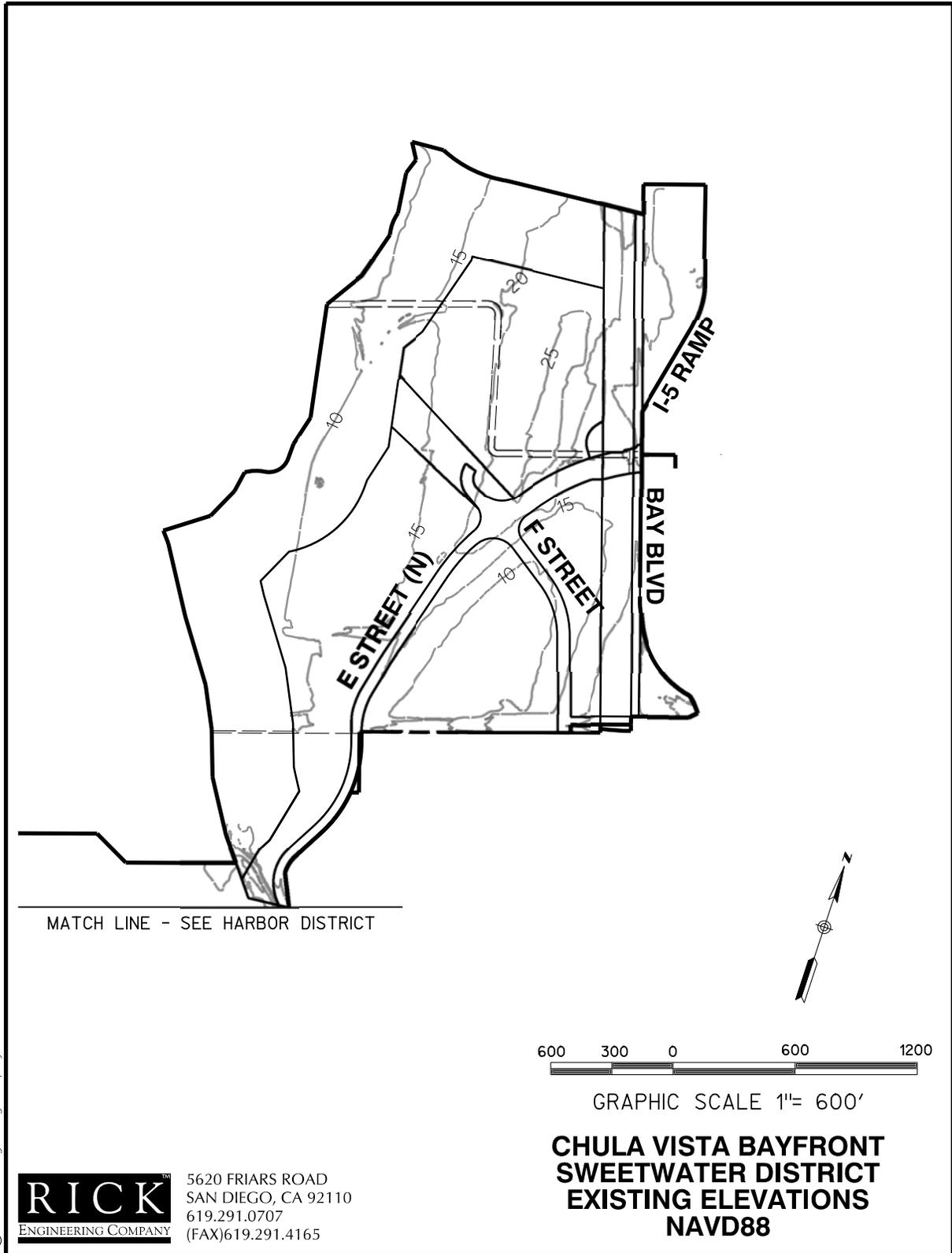
- Undetected topographic features;
- Erosion during storm events;
- Existing shoreline protection infrastructure such as sea walls or revetments;
- Future changes to land use and land form.

Placeholders for maps of sea level rise within San Diego Bay are provided below. They are currently being created with the most up to date information and reviewed by the Port. Once approved, they should be included here. The Port/City will utilize as appropriate the California Coastal Commission's Sea Level Rise Policy Guidance (2015).

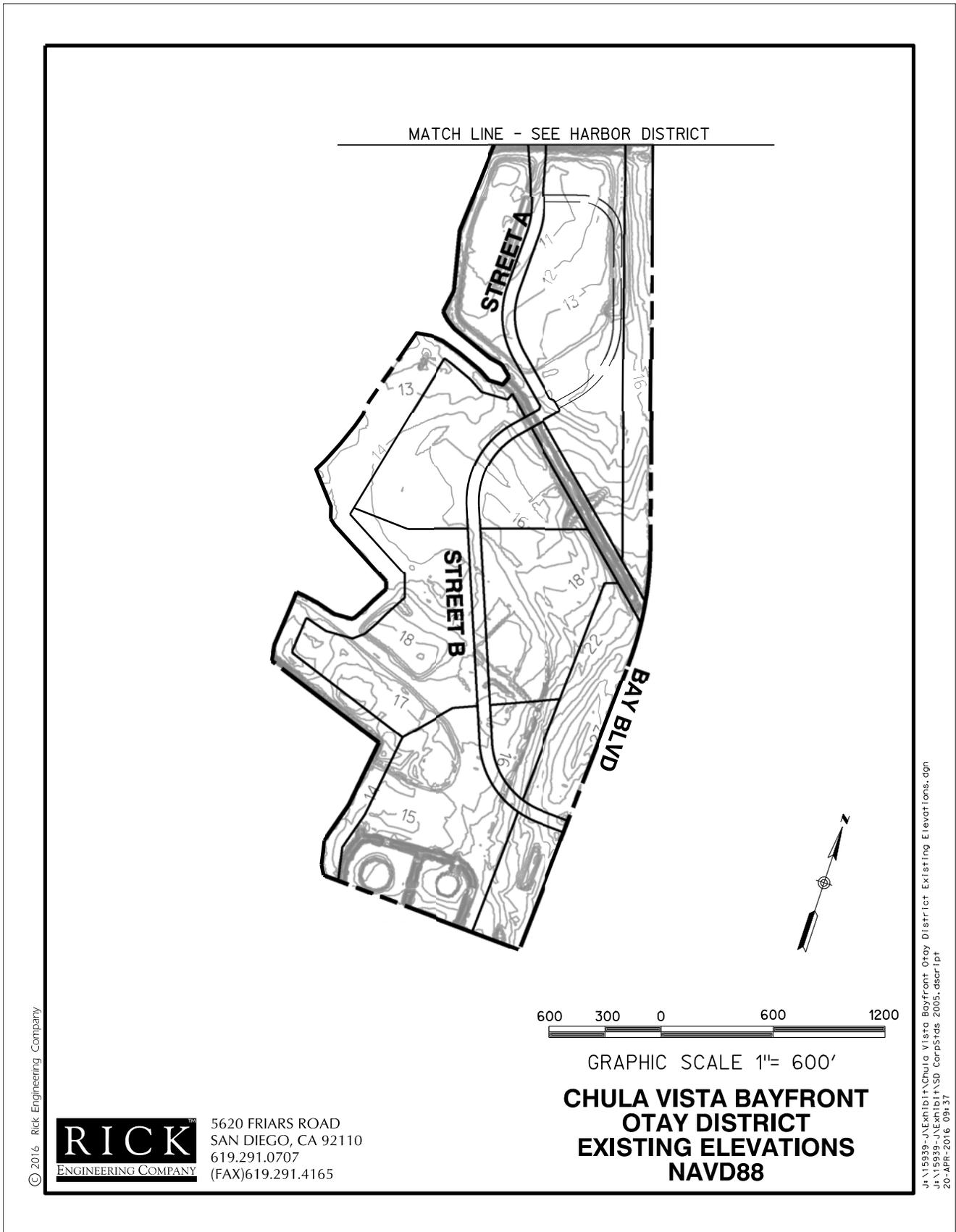
Sea Level Rise Impacts

The following describes the various impacts that can result from sea level rise.

- **Flooding** - normally dry land being covered by water for a limited period of time due to storm events.
- **Inundation** - land that was once dry becomes permanently wet.
- **Erosion** - wearing away of the earth's surface - episodic and chronic.
- **Saltwater Intrusion** - the physical migration of saltwater into freshwater aquifers. The region's potable water supply is considered less vulnerable to salt water intrusion than to rising water tables.
- **Water Table Rise** - the top of the freshwater aquifer rises. A rising water table would pose many risks to infrastructure, including stormwater facilities, sewer mains, potable water distribution, electricity and natural gas distribution, and transportation facilities.



Map D-1. Current elevations within the Sweetwater District of the Chula Vista Bayfront Master Plan project as of November 2008 (Port of San Diego 2008, 2013, 2016).



Map D-3. Current elevations within the Otay District of the Chula Vista Bayfront Master Plan project as of January 2016 (Port of San Diego 2008, 2013, 2016).

The primary impacts identified by ICLEI (2012) sea level rise strategy for the bay include inundation and erosion. Intertidal ecosystems are particularly susceptible to inundation, these include marshes, tidal flats, tidal creeks, and the rocky intertidal zone. Examples of these include the Sweetwater Marsh, J Street Marsh, and tidal flats. These areas support multiple threatened and endangered species and are key locations on migratory bird routes. These areas present a high vulnerability to inundation because of their extensive exposure, high sensitivity, and low capacity to adjust or adapt to an elevated tidal regime.

Sea level rise, coupled with potentially larger storm events could result in greater erosion liabilities, leading to degraded water quality in some erosion-receiving areas causing more sediment and higher turbidity. The impact of erosion depends on the amount of along-shore transport caused by water flow, the frequency and intensity of storms, the amount of re-supply available, and the management practices and planning decisions made within the watershed. Upland ecosystems of undeveloped dry lands around the Bay which are important habitat for ground-nesting birds, present a high vulnerability to erosion. Subtidal ecosystems, such as eelgrass beds, provide shelter from waves and from marine predators and are less vulnerable to erosion.

D.2 Climate Change and Extreme Heat Predictions

This brief report reviews current literature pertinent to the projected extremes in temperature and precipitation over the next 70 years in the interior coastal zone of San Diego County.

Temperature

The earliest impact of global climate change will be a pronounced rise in extreme summertime temperature along with a more modest rise in wintertime temperature. Projected warming across the county ranges from 1.5 degrees Fahrenheit (°F) to 4.5 °F. The interior warming rises considerably more than coastal. Rise in temperature will be most notable during extreme heat waves, which will expand temporally from June-September to April-December. Heat waves are projected to increase in frequency, duration and magnitude. Under a consensus model, heat wave events will increase three-fold. Under the A2 emissions scenario and GFDL model (no significant control of GHG emissions accompanied by moderate warming), the peak temperature in the coastal zone of San Diego County, which includes San Diego Bay, will increase 2-4 °F by 2050 (Messner et al. 2011). The same model also predicts that the coastal zone should expect 200-300 days per year over 65 °F (Messner et al. 2011).

The frequency of extreme temperatures currently estimated to occur every 100 years (100 year heat events) is projected to increase by at least 10-fold in many regions of California under moderate emissions scenarios. Under higher emissions scenarios, those extreme temperatures are projected to occur close to annually in most regions. Observations confirm that changes in extremes (from data over the past 20 years) are not always proportional to changes in the mean. Adaptation to extreme events can be more challenging than adaptation to gradual changes in the mean. With both day and night time trends in warmest days and nights increasing, it would be expected that fire weather frequency would also increase. Highest annual three-day average maximum temperature (100 year return level) for San Diego County increases from 105 °F for the period 1950-2000 to 110 °F to 117 °F for the period 2051-2100. The highest three day average minimum (night time) temperature, 100 year return level, from 1950-1999 was 70-72 °F; the projected highest three day average minimum tempera-

ture, 100 year return, for 2051-2100 is 77 °F to 87 °F. Coherent changes in temperature suggest significant differences in the severity of hot spells (both in length and intensity) and decreases in frost days and, more generally, cold spells. A significant difference in the magnitude of changes in temperature extremes is found when comparing the two emissions scenarios, A2 and B1, suggesting mitigation in GHG emissions would limit the severity of these changes (Mastreandrea et al. 2011).

The Center for Conservation Biology (CCB) at University of California, Riverside found through modeling that suitable environmental conditions for coastal sage scrub were predicted to decrease between 10% and 100%, with the greatest reductions at higher temperatures and extremes in drought. Decline of chaparral was less pronounced since higher percentages of suitable habitat remain at the elevated temperatures with current or reduced precipitation. Their modeling also predicted that 34% more CCS acreage will burn in 2041-2050 than in 1996-2005. Climate envelopes for species will shift 10-50 times faster than occurred at the end of the last ice age. The CCB also modeled predicted habitat for the Quino checkerspot butterfly and the California gnatcatcher in association with plant species. Potential habitats for each were reduced by 69–100% relative to the climate change model only (Preston et al. 2008)

Climate Wizard data indicate that both mean maximum temperature in August ($p < 0.0001$) and mean minimum temperature in January ($p = 0.00628$) have already begun to increase over the last 100 years by 0.015 degrees Celsius (°C)/year and 0.014°C/year respectively.

Precipitation

Precipitation projections are less certain, but the region will maintain an overall Mediterranean climate through the 21st century. The future will most likely continue to have a high degree of year-to-year variability, and the variability may deepen. The region will remain highly vulnerable to severe droughts. There is projected to be an increased likelihood of an extended perfect drought scenario, which would affect southern California, the Sacramento River basin, and the Colorado River basin at the same time for as much as 30–50 years vs. <5 years from the previous 100 year record. Mean soil moisture conditions are expected to drop below the 1989 drought threshold with an increasing frequency and greater severity (Messner et al. 2011).

Overall, however, trends in precipitation intensity are inconclusive for San Diego County, though the consensus modeling (Climate Wizard) projects an overall slight drop in annual precipitation. Consensus modeling does indicate, however, an increase of up to 50% in precipitation for the June-August season, especially in the second half of the century.

D.3 Carbon Sequestration Benefits & Potential in Wetlands

The following sections present brief summary points related to carbon sequestration in wetlands, and the potential for creating carbon off-sets.

Carbon Sequestration Benefits in Wetlands

- sequester GHGs from the atmosphere;
- store carbon reservoirs in the soil;
- provide adaptation to sea-level rise;
- increase flood protection;
- provide wildlife habitat;
- improve water quality.

Carbon Sequestration Potential

Wetlands act both as a reservoir for carbon, ultimately sequestered from the atmosphere, and producers of methane (CH₄) and nitrous oxide (N₂O) through biogeochemical processes. Table D-2 presents examples of potential relative carbon storage potentials for various wetland habitat categories.

Table D-2. Summary of potential GHG reductions in coastal wetlands.

Wetland type	Carbon sequestration	Methane production	Net GHG sink
Mudflat (saline)	Low	Very Low	Low to Medium
Salt Marsh	High	Very Low	High
Freshwater	Very High	High to Very High	Neutral or Variable
Estuarine Forest	High	Low	High
Mangrove	High	Low to High	Low to High*
Seagrass	High	Low	High

Source: Philips Williams & Associates, Ltd. and Science Applications International Corporation (2009).
*dependent on salinity.

Table D-3 illustrates the potential for carbon stores various habitats.

Table D-3. Carbon stores in coastal wetlands and seagrass beds.

Ecosystem Type	Standing Soil Carbon (gCm ²)		Long Term Rate of C accumulation in sediment (gCm ⁻² y ⁻¹)
	Plants	Soil	
Tropical forests	12,045	12,273	2.3-2.5
Temperate forests	5,673	9,615	1.4-12.0
Boreal forests	6,423	34,380	0.8-2.2
Wetlands	4,286	72,857	20
Tidal salt marshes	-	-	210
Mangroves	7,990	-	139
Seagrass meadows	184	7,000	83
Kelp forests	120-720	n.a.	n.a.

Source: E. Pidgeon. 2009. "Carbon Sequestration by Coastal Marine Habitats: Important Missing Sinks." In D. Laffoley and Grimsditch (eds.), *The Management of Natural Coastal Carbon Sinks*. Gland, Switzerland: IUCN.

n.a. = not available

Potential Offset Projects

- Wetland Creation,
- Wetland Restoration, and
- Wetland Enhancement (Sediment placement to attain a vegetated surface elevation; Sediment placement to maintain a vegetated marsh; Sediment placement to convert a shallow tidal basin to a vegetated tidal marsh.)

Outstanding Issues

There are still many uncertainties related to developing an offsets methodology for this project type including:

1. An absence of good datasets on wetlands practices and trends. See Table D-4.

Table D-4. Publications in peer-reviewed journals.

Topic	No. Papers (2008)
Carbon sequestration	5,731
C sequestration / forests	2,246
C sequestration / wetlands	176
C sequestration / tidal wetlands	6

2. Lack of established accounting guidance and emission factors/sequestration rates for relevant tidal wetlands classifications.
3. Wetlands are somewhat unique for offsets projects because federal and state agencies have a large role in their regulation and management, and actually own much of the land that could be used for tidal wetlands projects. It must therefore be determined how to establish a methodology that determines what is beyond “business-as-usual” activities of the public sector, in addition to that of the private sector.
4. Permanence - will the project last and how long?
5. Leakage - will activities to sequester carbon on the project site indirectly lead to increases in carbon release off-site?

Key Questions for Carbon Sequestration Projects

- Does the project lend itself to a performance standard-based approach?
- Can the project demonstrate that carbon sequestered will be additional; i.e., would not have occurred without carbon financing?
- Can GHG emissions budgets be quantified for existing land uses and for the project?
- Is the reduction potential significant?
- Can the project boundary and GHG fluxes across that boundary be clearly defined?
- Can ownership be unambiguously determined?
- Can leakage be assessed; i.e., will secondary carbon losses occur external to the project boundary because of the project?
- Can risk to carbon storage permanence be assessed and mitigated.

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Appendix E: Potential Concepts for “Beyond Compliance” Conservation

The primary purposes of this Appendix are to:

1. Promote “beyond regulatory compliance” improvement in habitat quantity or quality, benefiting resiliency of natural estuarine resources consistent with the Port’s business growth mission, when regulation is not the primary driver.
2. Promote innovation and leveraging of effective public-private financial strategies for common purposes, and to implement practical work that furthers the NRMP’s indicators of success.

Pilot approaches may be employed within the CVBMP planning area that have the potential to benefit the larger San Diego Bay region. The pilot approaches would follow this NRMP’s guiding principles (Section 1.4: The NRMP’s Core Guiding Principles) for: CCDP compliance; Ecosystem-Based Management and ecosystem services; Trans-boundary integrated planning; Nature-based benefits accessible to all; Best science and accountability; Non-regulatory conservation planning; and Collaboration.

The underlying rationale behind the recommendations in this section are:

Even if all the best practices to reduce threats to wildlife in the CVBMP controlling documents are fully implemented, this benefit could be overwhelmed by sea level rise and other future changes beyond local control. Reducing risk to wildlife should be balanced with investing in resilience for vulnerable natural resources by improving habitat quality and quantity.

All innovations and disciplines are needed to sustain the CVBMP area’s core values (Section 1.3: The Bayfront Environ’s Core Natural Resource Values), and pooling of resources towards a common vision. The legal framework for project-by-project requirements and project-linked financing tools maybe insufficient tools to keep up with the need to implement conservation work in an era of budget constraint.

An approach to pursue conservation using pilot projects recognizes that there are knowledge gaps that cannot be filled in advance of needed work. Also, the CVBMP footprint is small and not always the most appropriate scale to problem-solve or to address a desired change cost-effectively and sustainably. The measures of success identified in this NRMP (see Section 7.0: Moving Forward: Implementation of the NRMP, Monitoring for Adaptive Management, Addressing SLR, and Future Funding) require many scales of action (e.g. site-specific to regional).

In the sections below are: five project concepts for potential grant or other funding (Sections E.1–E.5), four potential planning process improvements (Sections E.6–E.9), and a summary of research opportunities (Section E.10). Criteria that could be used to evaluate successful conservation are presented in the last section (Section E.11) of this Appendix. The background and purpose of each is presented, followed

by the desired outcomes or objectives. Some project phasing or other considerations are presented in some cases. These project concepts are illustrative rather than exhaustive in scope. The examples are intended to lead to the practical implementation of work for the future of the CVBMP area and vicinity, potentially through Requests for Proposal, grant opportunities, other funding sources, or combinations.

It is recommended that the work proposed in the following sections be undertaken programmatically and potentially under an umbrella agreement with the resource and regulatory agencies (see the pilot project described below in Section E.9), because habitat goals and sea level rise adaptation would benefit from a holistic approach to planning and compliance, and because otherwise the work would be burdened by the time frame required by regulatory compliance processes.

Whether funding is through mitigation opportunity, through opportunities for beneficial re-use of dredged sediment, grant programs, or other sources, a certain sequence of work should take place, both to improve decision-making and to comply with laws such as the California Coastal Act and California Environmental Quality Act (CEQA). This recommendation is also true regardless of whether the work takes place as individual projects, in phases over time. The six-step outline below would be typical for a grant-funded project.

1. Feasibility Study

- Purpose: Identify fatal flaws and develop range of conceptual alternatives.
- Objectives:
 - Define existing conditions.
 - Establish opportunities and constraints.
 - Formulate alternatives.
 - Analyze alternatives.
 - Evaluate alternatives.
- Time frame: Typically six months to two years.
- Funding: Usually government or non-governmental organizations (NGO).

2. Preliminary Design

- Purpose: Develop preliminary designs for the alternatives suitable to start environmental review.
- Objectives:
 - Refine major project components (e.g. habitat architecture, earthwork, structures).
 - Define project component scale and scope (e.g. earthwork volume, area of disturbance).
 - Develop construction methods and maintenance needs (e.g. equipment type and number).
 - Prepare construction cost estimates.
 - Conduct technical studies necessary to support environmental review.
- Time frame: Typically one to two years.
- Funding: Usually government or NGOs but can be private (e.g. Poseidon).

3. Environmental Review

- Purpose: Obtain CEQA compliance, identify environmental impacts, select alternatives and mitigation, and consider proposed project.
- Potential Requirements for an EIR:

- Issue Notice of Intent (NOI)/Notice of Preparation (NOP).
 - Conduct scoping.
 - Prepare administrative draft EIR or other document as applicable.
 - Prepare draft EIR or other document as applicable.
 - Release draft EIR for public comment period.
 - Prepare responses to public comments.
 - Prepare final EIR or other document as applicable.
 - Select proposed project or an alternative.
 - Obtain Notice of Decision (NOD) or equivalent depending on applicable CEQA document.
- Time frame: Typically one to one and one-half years.
 - Funding: Usually government or NGOs but can be private (e.g. Poseidon).
4. Final Design and Permitting
- Purpose: Prepare construction documents and obtain permits/approvals for proposed project.
 - Objectives:
 - Prepare construction plans for key milestones (e.g. 30%, 60%, 100%).
 - Prepare construction specification for key milestones (e.g. 30%, 60%, 100%).
 - Prepare construction cost estimates for key milestones (e.g. 30%, 60%, 100%).
 - Prepare and submit permit applications (e.g. CDP).
 - Respond to questions/comments on permit applications.
 - Obtain final permits/approvals.
 - Time frame: Typically six months to two years.
 - Funding: Usually government, but can be private .
5. Construction
- Purpose: Hire construction contractor and construct project.
 - Objectives:
 - Develop contractor bidder list.
 - Prepare construction bid documents.
 - Release construction contractor bid solicitation.
 - Review construction contractor bids.
 - Select construction contractor.
 - Construct project.
 - Implement the restoration plan with as much community participation as possible.
 - Time frame: Typically one to two years.
 - Funding: Usually government, but can be private .
6. Monitoring
- Purpose: Determine project success and lessons learned.
 - Objectives:
 - Develop monitoring plan. Establish a benchmark reference condition or site to make more site-specific success criteria for NRMP indicators and conservation planning species.

- Perform fieldwork in accordance with monitoring plan.
 - Analyze field (e.g. species richness) and laboratory (e.g. grain size) data, as relevant.
 - Prepare monitoring reports (e.g. quarterly, annual, final).
 - Prepare compliance reports, as needed (e.g. mitigation).
 - Time frame: Typically four years (mitigation) to ongoing (restoration).
 - Funding: Usually government or NGOs, but can be private (e.g. Poseidon).
7. Tell the story about why the work was done and show how the provision of ecosystem services improves for people, fish, and wildlife.

E.1 Concepts for J Street Marsh & Telegraph Creek, Estuary-Watershed Connection

Background and Purpose

The mouths of streams that empty into San Diego Bay in their native condition form the primary ecological link between fresh water and the marine system, and between aquatic and upland terrestrial systems. Thus, the use of native vegetation to stabilize banks and shorelines at the stream mouth is generally beneficial. In their natural state, these systems filter or treat non-point source pollutants, and provide wildlife habitat. Leaf litter and other stream detritus form the energy base of a food web, and provide habitat and food for a variety of fish and wildlife.

This NRMP seeks to improve natural functions at the mouths of the J Street Channel and Telegraph Creek, their portions within the CVBMP footprint and beyond. The brackish marsh, salt-tolerant uplands, freshwater marsh, and willow groves could be re-established as compatible and permissible with designated functions for stormwater conveyance (see Section 5.3 of the Settlement Agreement and Section 3.0: Minimizing Harm to Neighboring Wetlands and Marine Waters).

The District will exercise diligent and good faith efforts to enter into the following cooperative agreement with the USFWS or other appropriate agency or organization (Settlement Agreement 4.4.1; CCDP 14.1): An agreement for long-term protection and management of the J Street Marsh and addressing additional protective measures such as educational signage, long-term maintenance, and monitoring and enforcement by District personnel and enforcement of resource regulations by the District and other Resource Agencies, and placement of enforcement signage. Subject to the cooperation of the applicable Resource Agency, such cooperative agreement will be executed prior to the commencement of development within the Otay District (Settlement Agreement 4.4.1.2; CCDP 14.1(b)).

Desired Outcomes and Objectives

The broad objective of this project is to restore the natural functions at the mouths of Telegraph Creek and at J Street Marsh. These functions include: habitat for fish and wildlife including an abundant macro-invertebrate prey base; water and sediment quality management; aesthetic values and recreation. Specific habitat objectives include nesting, migratory rest, fish nursery support, and hiding cover for native fauna. Vegetation may include freshwater and brackish marsh suitable for a stormwater conveyance context (such as low-stature bendable species); shrubby willow riparian; saline-tolerant upland transition, and salt marsh.

The objective of improving watershed connections should address species typically found at the mouths of these streams such as striped mullet, dabbling ducks, and others dependent on brackish water and intermittent flood. The striped mullet is currently common in the lower Otay River and Sweetwater Channel.

The project should help accommodate impacts from sea level rise in the area of J Street Marsh, and improve the capacity of the area to handle it (see also Project E.3 below).

Studies, Phases and Alternatives

The NRMP recommends that the existing wetlands should be enhanced through the provision of mitigation opportunities for the loss of wetlands elsewhere and potentially creating a bank from the mitigation for future impacts. However, the work could also take place through grants. Removal of the rock revetment wall between these wetlands and the J Street Marsh would provide a better wetland/upland transition, for example. The NRMP promotes the elimination of the bridge over J Street Channel and the road it leads to, so that the wetlands there can be expanded and connected with the shoreline and the J Street Channel to enhance habitat value and to provide mitigation opportunity. In Phase IV of the CVBMP implementation, the road crossing associated with the creek and circulation are to be re-planned (this may require an amendment to the CCDP). The area would be replanted with native vegetation suitable for the riparian-estuarine interface.

A key consideration in the first phase of this project is the stormwater conveyance and flood safety function provided at and near the outlet of these streams. Techniques that provide necessary safety and compliance while able to accommodate additional ecological and water quality benefits need to be identified and assessed for feasibility. Biotechnical methods may be considered. A hydrologic and hydraulic study to maximize environmental benefit while providing stormwater conveyance and flood safety may be needed. A matrix of benefits-versus-impacts should be constructed. Each alternative should provide equal safety against flooding, but may vary based on overall project costs, constructability, and environmental benefits.

Baseline wetland studies would be needed to prepare for any mitigation credit opportunities. The local (MSCP) planning context should be considered for Endangered Species Act compliance and consultation under Section 7.

Design for this work should consider natural soil and plant processes to attenuate pollutants commonly found in polluted runoff from upstream urban areas such as sediment (turbidity), nutrients, oil and grease, and metals. (Refer to MM 6C - Vegetated Treatment Systems for more information on relevant management practices. See the State Water Resources Control Board (SWRCB) flood control channel measures/website.¹)

1. http://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/3_1b_plandes_floodcntl.shtml

E.2 Concepts to Minimize Loss due to Sea Level Rise In the CVBMP Buffer Areas by Terracing to Facilitate Habitat Migration

Background and Purpose

Global sea level rise is expected to be an accelerating process resulting in high tides and low tides increasing at faster rates than mean sea level. A time-sensitive opportunity exists within the CVBMP footprint to potentially plan a comprehensive approach for facilitating managed retreat or habitat migration of the marine to upland transition habitats. As sea level rise progresses, the habitats of concern that will be affected include eelgrass meadows, mud flats, salt marsh (lower and upper) transition zones and upland. The following is from NRMP controlling documents of the CVBMP.

Buffers within the PMP area have been designed to accommodate potential areas of future sea level rise inundation and are identified on Exhibit 2. The Chula Vista Bayfront plan also provides for an adequate amount of habitat migration within the identified buffer areas based on a projected sea level rise (CCDP 3.1).

All buffers shall be established and maintained by the Port/City. Within the western 200-foot width of Parcel SP-1, a portion of the buffer areas would be re-contoured and restored to provide habitat consistent with the native vegetation communities in the adjacent open space preserve areas and to provide mitigation opportunities for project impacts. Appendix 4.8-8 provides more specific detail of the mitigation opportunities available within the buffer area included within the Proposed Project. Table 4.8-5 provides a breakdown of the available maximum mitigation acreage that is available within the buffer. Figure 4.8-23 depicts the conceptual mitigation opportunities within the Sweetwater District. Figures 4.8-24 and 4.8-25 display the cross section of the buffer zones in the Sweetwater District indicated on the conceptual illustration. Figure 4.8-26 depicts the conceptual mitigation opportunities within the Otay District. The proposed restoration includes creating and restoring coastal salt marsh and creating riparian scrub vegetation communities. In addition, the coastal brackish marsh, disturbed riparian habitat, and wetland would be enhanced. (EIR and MMRP (page 37))

Studies, Phasing, and Alternatives

For the Buffer Areas of the CVBMP footprint (No-Touch, Limited Use, and Transitional Use Buffer Areas), two phases are considered together to minimize the net loss of habitat due to sea level rise.

The first phase considers incorporation of a strategy that prepares for habitat migration above the existing salt marsh within the Buffer Areas. This specific strategy would incorporate the grading of terraces at regular vertical intervals and of varying shapes to allow for some complexity in the horizontal distribution of terrace elevations. A specific design would provide the specifications of vertical interval and total areas for each terrace. Vertical interval would be associated with the projected sea level rise goals so as to provide for multiple terraces distributed through the Buffer Areas and designed in such a way that the horizontal topography allows for shaping to promote complexity and maximization of vertical edges. The project design may identify four mean sea level rise conditions consistent with the state (Coastal and Ocean Resources Working Group for the Climate Action Team [CO-CAT]) guidance: (i) Existing, (ii) 2030, (iii) 2050, and (iv) 2100. The design would determine the desired number of terraces based on these results and the target habitats

and species to support (see Table E-1). It is recommended that the project design shape the terraces to comply with the total acres required using a free form approach and allowing for habitat complexity (see Figure E-1). The project engineer should work with the project biologist to prepare the design to achieve a biologically driven habitat design instead of an engineering driven design.

Costs for the design, financing, and implementation phases may be part of a Request for Proposal. A financial strategy would be part of the Request for Proposal. A combination of mitigation opportunity and grant funding is anticipated, with Port investment in baseline studies and administrative oversight to set up the mitigation framework.

The second phase incorporates a strategy that would unfold over time as habitat migration is under way. As the salt marsh is transformed to lower elevation habitats, these areas may be restored appropriately to convert them into high-quality mudflats, and, in the lowest zones with permanent inundation, eelgrass meadows.



Figure E-1. Schematic illustration of desired design outcome.

E.3 Concepts to Improve J Street Marsh Intertidal and Upland Connections, and Ecosystem Services

Background and Purpose

The potential to improve the intertidal connection between J Street Marsh, the salt ponds, and the intake/discharge channels is a key opportunity to secure benefit to essential habitats and species of south San Diego Bay, as well as sea level rise resilience and hazard reduction, among other ecosystem services.

Desired Outcomes

Improve the intertidal connection of J Street Marsh, Telegraph Creek, and the salt ponds by building up the subtidal-intertidal elevation and lessening the slope gradient bayward of the J Street Marsh.

Besides improving habitat, potentially provide a habitat-based, “soft” infrastructure buffer for sea level rise by expanding the intertidal area in a continuum bayward of the existing shore. The created habitats could then migrate up to the existing shoreline under future sea level rise versus retreat inland from the existing shoreline.

Provide ecosystem services for people, fish, and wildlife to the maximum extent feasible by considering all means to sustainably deliver such services, including biodiversity, filtration, carbon sequestration, recreation, and tourism. All of these are impaired due to the habitat fragmentation that has occurred over time. Seek triple bottom line outcomes: ecological, economic, and social (community well-being).

Consistent with the NRMP, this work should provide for conservation planning species. Essential habitat conditions to support conservation planning species should improve or expand, especially surface elevations relative to tides, to estimate how many hours a day and times a year tidal flooding will occur. Depending on the selected species, other core ecological variables to design for are vegetation composition, abundance, height and density; soil salinity; and tidal inundation.

Study Considerations and Alternatives

The project, if implemented, would follow a path similar to that outlined in the introduction to this Appendix (pages E-2 to E-4). Any design should identify the conservation planning species intended to use the area, and a reference site where these species are currently active. The design would include defined sediment size, depth of sediment, tidal elevation, tidal inundation times, tidal flushing, level of channel sinuosity, secondary channel networks in the intertidal zone, habitat complexity for trapping sediment and creating pools, and ratio of organic to inorganic components of the sediment. The sediment depth should be sufficient to provide for infaunal organisms to retreat into deeper sediments or burrows so that not all are vulnerable to foraging shorebirds and fish.

The problem of a deficiency of fine sediment may complicate the achievement of desired results for habitats that require fine sediment. However, sandy sediment can build up elevations and provide a core or base with fine sediment over the top to provide for appropriate benthic infauna or vegetation. Alternatively, sediment trapping mechanisms may need to be considered; or sediment could be deposited near shore and allowed to accrete naturally with or without a trapping mechanism. As long as sediment supply is sufficient, the mudflat and marsh can build up (accrete) vertically and horizontally (bayward).

Another alternative to consider is to build a small mini levee/berm and vegetate it, then back fill behind it at the same rate as sea level rise. The elevation of the berm should allow overtopping by high tides with the water receding back to the bay.

The project design should accommodate and respond to market conditions and the flat or declining budgets of traditional funding sources. As far as possible it should take advantage of strategic alliances for cost efficiencies.

E.4 Concepts for F & G Street Marsh

Background and Purpose

The tidal connection between San Diego Bay and the F & G Street Marsh could be substantially improved as a wildlife corridor so a wider range of wildlife will readily use this area. This work will benefit from the removal of Lagoon Drive/E Street, which is planned as part of the E Street extension improvement project by the City of Chula Vista.

According to the CCDP and the CVBMP Settlement Agreement:

As a future and separate project, the District will investigate, in consultation with the USFWS, the feasibility of restoring an ecologically meaningful tidal connection between the F & G Street Marsh and the upland marsh on parcel SP-2, consistent with USFWS restoration concepts for the area. At a minimum the investigation will assess the biological value of tidal influence, the presence of hazardous materials, necessary physical improvements to achieve desired results, permit requirements, and funding opportunities for establishing the tidal connection. This investigation will be completed prior to the initiation of any physical alteration of SP-2, F Street, and/or the F & G Street Marsh. In addition, once emergency access to the CVBMP project area has been adequately established, such that F Street is no longer needed for public right-of-way, the District and City will abandon/vacate the F Street right-of-way for vehicular use, but may reserve it for pedestrian and bicycle use if ecologically appropriate (Settlement Agreement 4.4.5, CCDP 14.5).

The CCDP also states that a pedestrian bridge is proposed to create a linkage over a tidal inlet associated with the F & G Street Marsh:

Tidal habitats should be treated as ESHAs and the bridge crossing must be designed to enhance the habitat values present and reduce erosion. This bridge span must be extended and the existing incised channel slope should be cut back, reducing the slope and then creating additional salt marsh habitat on the created floodplain. Site-specific studies to assess the extent and quality of natural resources at the site will be required at the time development is proposed (CCDP 5.12).

Desired Outcome

By removing Lagoon Drive and reconnecting tidal access to the F & G Street Marsh, connectivity for wildlife would be enhanced between the CVBMP project footprint and the adjacent WHAs. It is desired that a habitat corridor/connection via redesign for the E Street cross-over, allow for movement of species between the CVBMP footprint and the NWR.

Steps and Considerations

1. As a future and separate project, the District will investigate, in consultation with the USFWS, the feasibility of restoring an ecologically meaningful tidal connection between the F & G Street Marsh and the upland marsh on parcel SP-2, consistent with USFWS restoration concepts for the area. The investigation will assess the biological value of tidal influence, the presence of hazardous materials, necessary physical improvements to achieve desired results, permit requirements, and funding opportunities for establishing the tidal connection. This investigation will be completed prior to the initiation of any physical alteration of SP-2, F Street, and/or the F & G Street Marsh. In addition, once emergency access to the CVBMP project area has been adequately established, such that F Street is no longer needed for public right-of-way, the District and City will abandon/vacate the F Street right-of-way for vehicular use, but may reserve it for pedestrian and bicycle use if ecologically appropriate (Settlement Agreement 4.4.5 and CCDP 14.5).
2. Consistent with the NRMP, consider means to enhance ecosystem services, including biodiversity, filtration, carbon sequestration, recreation, and tourism, all of which are impaired due to the habitat fragmentation that has occurred over time. Any intertidal structures should be designed with conservation planning species in mind in terms of elevation, slope, grade, salinity, etc., by establishing a benchmark reference site to emulate that is currently used by the species.

E.5 Concepts to Assess Sea Level Rise Risk and Vulnerability

The warming climate is a concern of this NRMP because the effects of sea level rise and heat stress could overwhelm all the other measures adopted for natural resources protection in the CVBMP project footprint and WHAs. While climate change mitigation requires a response at a global scale (with our local contribution), adaptation can effectively occur at local scales.

This project should support decisions to implement cost-effective work for adapting to sea level rise and effectively protect the CVBMP project footprint and WHAs. This is in addition to the sea level rise Buffer Areas as a baseline measure established in the CCDP, and the minimum elevation requirements for development in the City of Chula Vista planning area. This project would serve as a pilot or model for similar adaptation elsewhere in San Diego Bay and the region (such as the Port's Climate Action Plan 2013c).

Desired Outcomes/Objectives

The outcome desired for this project is an Adaptation Plan based on a risk and vulnerability assessment for sea level rise on the CVBMP footprint and potentially the WHAs. It would protect the whole continuum of shoreline communities dependent on San Diego Bay conditions beginning with eelgrass in the subtidal shore and progressing to saline-tolerant upland transition plant communities of the highest tidal shore. Upland transition can include high marsh elements inundated once or twice per year, such as California boxthorn and saltbush species, perennial grass-pickleweed community, salt panne or sand flat inclusions, or brackish/freshwater marsh/riparian elements such as rushes, bulrush, arrowweed, or salt marsh fleabane. Conservation planning species are:

- Intertidal endemic fishes such as those in the goby family, and those young-of-year fishes dependent on eelgrass as a nursery such as California halibut. These benefit from warm, sheltered water, a detrital or planktonic-based food chain, and a continuum of tidal access between eelgrass, mudflat, and salt marsh channel. The mudflat has gradual elevation change and pocket shelter such as rocks, vegetation, algae, or other complexity such as ghost shrimp burrows.
- Migratory shorebirds that depend on abundant mud-dwelling infaunal organisms and a broad mudflat that provides sufficient foraging time for birds with a range of foraging behavior (beak lengths and styles) to get adequate nutrition at low tide. They also require high tide roosting and shelter in the upland transition.

The project should identify critical problems of scale and the capacity to implement the adaptation practices. Any obstacles to implementation should be identified, such as sources of fine sediment, conflict with jurisdictional mandates, need for permitting or impact analysis, timing, cost, or other impediment.

A successfully implemented Adaptation Plan would demonstrate ecological sustainability, financial sustainability, equitable use of public funds, and consistency with the missions of stakeholder jurisdictions such as public access, navigation access, and recreation values.

Studies or Steps

The phases or steps for this work may include those identified in NOAA's Coastal Service Center process for coastal decision-making (<http://www.csc.noaa.gov/digitalcoast/training/list>).

1. A Vulnerability Study specific to the CVBMP footprint should be nested in scale to others already accomplished in San Diego Bay and the region. The Study may incorporate a Risk Assessment that addresses which areas and ecosystem services are most vulnerable, and which impacts are likely to cause the greatest losses.
2. Establish the baseline risk to ecosystem services by assessing exposed infrastructure (to include natural resources as infrastructure and source of ecosystem services). This may directly support the review of cost and benefit.
3. Consider developing alternatives (see below) appropriate for the local low-energy shoreline. The final array of alternatives and decisions could involve stakeholder input due to: unique local conditions and knowledge, history, community interests, the desired vision of the Chula Vista and neighboring community, and administrative and legal aspects.
4. Analyze alternatives and mixes of alternatives for cost-benefit. This analysis should be conducted under four mean sea level conditions: (i) Existing, (ii) 2030, (iii) 2050, and (iv) 2100, to be consistent with the state (CO-CAT) guidance. The alternatives should consider placement and alignment of any structures both within and outside the CVBMP footprint. Obstacles to implementation should be clearly stated in each case. Evaluate adaptive capacity as part of alternatives review (regulatory and planning approaches such as development restrictions, hazard mitigation, shoreline management, post-disaster recovery and emergency plans; fiscal capacity; shoreline structures, evacuation routes and redundant water/wastewater/power systems).
5. Develop the Adaptation Plan. The Adaptation Plan may include:
 - Goals, Objectives, Action Measures, Strategies for developed lands, strategies for undeveloped land.

- Implementation goals that are unambiguous, quantifiable, and time-bounded. Implementation should include a phasing plan to spread out the cost over time. It should include public policy recommendations.
 - Designs and formulation of standards by an engineer or geoscientist while using a performance-based approach to recommendations that focuses on outcomes. This is to avoid pitfalls of poor execution, and overly conservative design.
 - Cost estimate.
 - Funding options.
 - CEQA review.
 - CCC review, if necessary
6. Monitor Effectiveness. Is the community less vulnerable? Are natural resources more resilient?
 7. Share and build on results. Include strategies for stakeholder and public outreach, education, and capacity building.

Alternative Adaptation Options to Evaluate for Effectiveness and Cost-Benefit

Potential Accommodation or Damage Prevention Through Planning

- Integrate upstream areas into planning for possible stream flooding. This could include loss reduction through raising roads; floodplain storage by creating dry basins for holding storm water; retrofitting by removing impervious surfaces, reinforcing, bracing and anchoring structures, flood-proofing structures. Watershed-based open space preservation and conservation can be designed to store floodwaters.
- Building codes include flood-proofing. Adapt existing usable infrastructure for the new evolving waterfront.
- Prohibit coastal hardening (verify that we can plan for a low energy shoreline). Offer incentives for removal of existing structures.
- Prevent development. Redevelopment restrictions, compact community design, government purchase of development rights. Loss reduction through acquisition, demolition, and relocation.
- Managed Retreat: moving development out of the tidal flood zone in a planned and controlled manner using techniques such as rolling easement, zoning, abandonment, relocation, avoidance; this can be based on certain benchmarks of sea level rise. Implement rolling easements or similar policies that allow for shoreline retreat. In highly developed areas there are extensive impediments, high planning costs, and issues of property loss, 'takings', incentives for coastal development, tourism, and tax base impacts.
- Discourage development. Establish a tax based on property value and proximity to coast or need for shoreline hardening or beach nourishment (used in The Netherlands, Sandbridge, Virginia). Create an alongshore buffer/easement for ecosystem retreat, management, and adaptation via: property purchase, purchase of development rights, setbacks/deed restrictions, development disincentives, sale incentives. Insurance incentives/disincentives; clarification of coverage - cost of insurance, based on flood risk, can create a disincentive for building in high risk areas.

- Loss distribution through insurance. Insurance is typically guided by an historical understanding of the frequency and severity of risk factors. As climate change presents a shift away from known weather patterns and extreme events, insurance companies, and the insured, will be required to re-evaluate risk under a new set of untested assumptions about the frequency and severity of extreme events.
- Allow only short-term, inundation-friendly uses.
- Strategic Retreat is the gradual abandonment of dwellings in high risk areas and new development in low risk areas. Allow only structures that are non-permanent, relocation-friendly, elevated/raised, modular, floating, or decomposing.
- Drinking water and wastewater facilities - public infrastructure vulnerability reduction.
- Stormwater management through detention and permeable surfacing (not sea water flood).
- Accommodation through emergency flood response plan; early warning alert system/surveillance with siren or telephone warning system.

Potential Hard Structures

- Embankment, sea wall, revetment, bulkhead (to protect low areas from flooding).
- Design structures to withstand extreme storm events.

Soft Approaches

- Artificial nourishment with mud or sand.
- A vertical levee that eventually becomes submerged as water migrates in.
- Wetland augmentation vertically, horizontally. Salt marshes and other habitats absorb and disperse energy from waves. When designed to encourage the size and connectivity of native aquatic and terrestrial habitats, this benefits many other ecosystem services, including public access.
- Conduct a risk and vulnerability assessment for the CVBMP footprint and surrounding areas to sea level rise impacts from the open coast. This could lead to consideration for establishing a berm in shallow waters offshore of the Silver Strand, or building up the Silver Strand as a berm to protect flooding of the south bay.
- Living Shoreline Restoration. Consider establishing stabilizing vegetation on a berm in shallow waters offshore of the natural or hardened shoreline. Create breaks or gaps in the berm and adjust their height to allow tidal flow. It may fill naturally behind the berm or may be filled with materials to achieve elevations suitable for planting. The structure would fall between the mean high tide and mean low tide. At high tide the waves should wash over the structure bringing in fresh nutrients and organics and dropping sediments. At low tide, water would run out of the marsh to allow for flushing. Gaps in the structure would allow ingress and egress of marine resources. Slope grading would vary depending on the distance from the high water mark to the structure.
- Invasive species management and other processes for preserving native species under anticipated conditions of climate change.

Risk Acceptance (Do Nothing)

- The ecosystem has little to no ability to adapt or recover. There is inland inundation and salt water intrusion.

E.6 Concepts for Artificial Structures and Substrates - Improved Value for Native Species Through Project Design

Background and Need

Shoreline structures that employ as many natural habitat elements as appropriate for site conditions while serving the purpose of the artificial structure are sometimes called living or soft shorelines. They conserve, as feasible, natural sand or mud edges, sheltered pockets, or vegetated elements. They are suited for areas of low to moderate wave energy. Living shorelines create habitat and vegetated buffers that can improve water quality and reduce the effects of upland runoff. Artificial structures in the intertidal zone have potential to provide improved habitat value through design of surfaces available for colonization by algae or invertebrate organisms, or for sheltering fish or for roosting birds.

Objectives

Where they are necessary or beneficial, artificial structures in the intertidal and subtidal zone should improve habitat value for native organisms and other ecosystem services.

Steps or Phases, Alternatives to Examine

- During the CEQA process for structures interfacing bay waters, consider applying design, engineering, and construction practices for conservation planning species selected depending on the site for the structure. Define the physical conditions for the conservation planning species such as appropriate tidal circulation, light, substrate, or sediment replenishment. Maintain or restore conditions for the species and, where possible, deterrence of non-native species.
- Potentially establish needs for the conservation planning species at the site where the structure is to be placed, in as physical terms as possible for the life history stage of the species at that site.
- Potentially apply construction design principles such as surface roughening, sinuosity, particle or feature size or grade, tidal exposure, hardness, etc. Structures should not result in “dead zones” for aquatic species that cannot exit with the tide. Tidal flushing and connectivity to the areas landward of an intertidal structure should be considered through appropriate opening locations and sizes governed by conservation planning species likely to utilize the structure or tides specific to each site.
- If water quality improvement is one of the objectives, runoff from the adjacent watershed should be directed into or through the wetland as opposed to a simple excavated basin with a limited watershed.
- Site-specific engineering may be required to ensure that the intertidal zone and supporting structures provide functional ecological benefits. Design Criteria could include placement and orientation to maximize fine sediment retention; dynamic shore condition; ecological function; ecological process. Appropriate shoreline applications will act as part of the natural system, not against it.
- Potentially analyze alternatives: hard, soft stabilization with fill, hybrid, placement, alignment, impacts to native flora/fauna. Soft approaches: riparian vegetation management, upland transition vegetation management, sand or finer sediment nourishment, dune restoration (sand replenishment eventually will

be needed), tidal marsh enhancement, tidal marsh creation, bank grading, fiber logs. Hybrid approaches: marsh toe revetment; marsh sill; marsh with groins, offshore breakwater system. Placing sediment off the shoreline to let it naturally wash in. Design in fringe wetlands that improve water quality.

- Potentially develop financial incentives for the use of soft shorelines or improved habitat value of artificial substrates.

E.7 Concepts for Restoring Fine Sediment Dynamics

Background

A management plan might be created to protect and restore the role of fine sediment in the bay. Natural fine sediment supply and dynamics has both marine and fresh-water influences.

Desired Outcome

Sources of fine sediment may be identified for possible restoration work or as part of a broad program that allows for ecosystem markets and mitigation markets to play a role in recovering fine sediment supply through nourishment and retention (such as by trapping if necessary) in south San Diego Bay.

Steps

A study funded through a grant may be conducted on the feasibility, cost-benefit, and priority for promoting fine sediment beyond the current baseline. The results could determine if fine sediment criteria should be considered in project and restoration design, and analysis of alternatives.

E.8 Concepts for Regional Restoration Planning to Benefit the CVBMP Area, and Coordinate Public-Private Funding Towards Conservation Need

Background and Purpose

Restoration Planning based on an ecological need (proactive) vs. opportunistically by project requirement (reactive) may be best to optimize conservation effort. Case studies are available throughout the United States where regulatory agencies, private interests, and planners have achieved improved outcomes for both mitigation need and ecosystem benefit. An example in the San Diego region are the multiple-species programs tied to project permitting under the state's Natural Communities Conservation Planning program, but there are many others. Creative wetland mitigation banking or in-lieu fee arrangements for both wetlands and species offsets are other examples.

The NRMP contains a broad portfolio of possible conservation and restoration actions for a small space with intense concentration of ecosystem values, influenced by regional and global environmental and economic drivers, and in an era of flat or declining budgets. None of these are expected to change in the near term. Projects affecting natural resources in and potentially surrounding the CVBMP area should contribute the most possible to NRMP resilience goals and offset the consequences of these drivers, using incentives, regulatory, and/or financial tools to benefit joint private and public interests.

Desired Outcomes, Objectives

The desired outcome is a planning overlay that provides:

- Faster, less expensive, and more effective at benefiting habitat quantity and quality than traditional project-by-project work.
- Higher quality habitat by considering a landscape context and understanding the biophysical habitat elements that support conservation planning species, and evaluating future threats to those conditions.
- Fewer delays in infrastructure development and improvements.
- A blended regulatory and financial strategy that aligns with achieving NRMP goals and objectives for the well-being and resilience of people, fish, and wildlife.
- CEQA efficiencies such as by use of categorical exclusions and pilot projects (which would still require CEQA review) to build more complex problems from, or by focusing on a more cohesive strategy on a landscape level that results in cost efficiency.
- Demonstrate one of two overarching strategies to maximizing flexibility to spend money to benefit habitat recovery and conservation species:
 1. Planning efficiencies that help accomplish more with the funds that are available, which is mostly spent on environmental compliance responsibilities, especially project-level documentation and various kinds of monitoring; and
 2. Partnerships, alliances and collaboratives that will pay off while bringing in new investment from partners or from beneficiaries of ecosystem services.

Suggested Studies and Steps

- Seek grants to support a market analysis and feasibility study for one of the project ideas in this Appendix, through its project design plans and planning documents. Evaluate financial opportunities to set up restoration, mitigation banking, and ecosystem service markets and what scale is necessary to be effective for aquatic resources. The market should define the scale needed.
- Evaluate the local appropriateness of the many examples in California and the U.S. of attempts to achieve the above outcomes using programmatic agreements. Evaluate whether the scale of the habitat work is worth extra administrative overhead expense by looking at case studies elsewhere. See for example: National Cooperative Highway Research Program (2011). Other examples include: (1) Joint Aquatic Resources Permit Application for San Francisco Bay and State of Washington; (2) Minnesota state wetlands policy; (3) Natural Capital Project (Stanford, University of Minnesota, The Nature Conservancy, and World Wildlife Fund, producing one of first applications that places a monetary value on ecosystem services - InVEST [Nelson et al. 2009]); (4) Willamette Basin Partnership in Oregon. Funded through an NRCS Innovation Grant meant to help create markets for ecosystem services. Mitigation activity and planning are driven by a markets approach, which tends to demand both transparent criteria for measuring environmental improvements and damages and an assessment of benefits associated with alternative mitigation outcomes. (5) Regional Advance Mitigation Planning (RAMP) in California to meet needs for infrastructure and flood protection while advancing regional and statewide conservation goals. Launched in 2008 by a coalition of infrastructure and natural resource agencies, nongovernmental organizations, and academic researchers, RAMP is an effort to develop a more comprehensive approach to mitigating biological resource impacts caused by state infrastructure projects, such as roads and levees. It allows for natural resources to be protected or

restored as compensatory mitigation before infrastructure projects are constructed, often years in advance. Mitigating in advance allows for more efficient project approvals, more certainty to cost estimates, and takes advantage of conservation opportunities before important land is lost to conversion. There is a RAMP Statewide Framework for implementing regionally.

- Set up for broad environmental offsets, not single species, or wetlands alone. A baseline description of ecosystem services is needed to support this, followed by a needs assessment at a landscape or watershed level (such as impairment correction, fine sediment, carbon sequestration, more mudflat, more upland transition, more access to fresh/salt water interface). A trade-off analysis should be conducted among natural resources of concern for a particular location where work is proposed.
- Rate sites for their potential to provide specific ecosystem services and support specific conservation planning species. A natural resource economist should integrate social-economic values into the formula for site valuation and priorities. Consider the offset site's economic benefits to people; for example, sites that are restored and provide access and visibility to people have a higher value.
- Continue the culture of collaboration and partnership established by the WAG.

E.9 Concept to Conduct a Market Analysis of Mitigation Opportunity and Pilot Project for a Programmatic Approach to Regulatory Compliance and Sea Level Rise Accommodation

With the interplay of natural resources, their use, and the variety of benefits they provide as extraordinarily concentrated as they are in San Diego Bay, mitigation opportunities are precious, as are development opportunities. A project-by-project approach could have unintended consequences that forego future choices of greater benefit to NRMP goals and sea level rise adaptation. Therefore, this NRMP recommends that the planning and regulatory process be realigned in a programmatic framework to facilitate conservation work in the areas affecting the health of the CVBMP area. As illustrated by this NRMP's Guiding Principles in Section 1.4, and Implementation Principles in Section 7.3, the first purpose of the programmatic framework is to identify how the core natural resource values (see Section 1.3: The Bayfront Environ's Core Natural Resource Values) of the CVBMP area, and potentially its connected areas, could be enhanced, regardless of the requirements of the source of funding or regulation. The second purpose would be to facilitate the most progress to achieving NRMP goals through as many means as possible, whether it be grants, mitigation, beneficial re-use of sediment, or other.

Achieving habitat goals would benefit from a market analysis of mitigation opportunities, to determine how effective mitigation banking or other mechanisms would be in meeting the Port's needs, and at what scale such a mechanism, or combination with other means, would need to function to be financially viable. Opportunities for conservation work are very constrained, and conservation goals may be at risk from sea level rise and other threats. The financial viability of relying on mitigation as a source of funds for NRMP beyond-compliance goals identified in the CVBMP controlling documents may not be practical.

In addition, such an analysis would inform planners about whether the NRMP recommendations of this Appendix would benefit from a programmatic approach to determining what mix of grant funding and private sector investment could work.

A San Diego Bay-wide pilot project is suggested to identify and overcome regulatory hurdles that can stand in the way of implementing projects to adapt to sea level rise while providing habitat enhancement opportunities. Placement of dredge material, for example, can be pre-planned for vulnerable locations onshore, providing climate change resilience and habitat benefit. This pilot project may include an effort to work with the resource and regulatory agencies to develop policies and procedures to facilitate such beneficial reuse projects and a conceptual model for implementing such work. Under current regulation, it is difficult to get a permit to place fill in wetlands even though such an activity may be useful and necessary in the future to offset sea level rise. Consequently, it would be useful to have the regulations modified prior to the time dredge and fill projects are needed in the future, so that important sediment sources are not lost to bay natural resource benefit and sea level rise adaptation.

E.10 Concepts for Research Opportunities Supporting NRMP Goals

This NRMP seeks to foster partnerships with research institutions to conduct work that makes a difference on the outcomes and indicators of success for the CVBMP area. All of the research opportunities below may require partnerships to leverage funds and technical support. Examples are:

- Investigate the dynamics of fine sediment in south bay as it relates to retention of conservation values and future resilience to sea level rise. Investigate and differentiate between clays/silts and sandy sediment processes in the bay.
- Investigate best methods to evaluate ecosystem services provided by the status quo, to compare to benefit achieved in the future. Compare existing ecosystem valuation tools such as InVEST (Natural Capital Project)² and SolVES (Social Values for Ecosystem Services).³
- Evaluate the effectiveness of the climate change adaptation measures in the CVBMP project footprint and vicinity, and benefits or trade-offs for people. Also assess cost-benefit in at least three time frames. Adaptation measures examples could include planting native vegetation, planting urban trees, water conservation, reduced shoreline erosion, or sediment nourishment.
- Refine the list of conservation planning species so that providing for them has more of a physical basis, and biologists can provide direction for incorporating into project scopes and habitat design. Improve understanding of the biophysical parameters that support each species.
- Refine the measures of community well-being. Evaluate social benefits of sustainable community living adjacent to wildlife habitat.
- Refine the economic measures of success, for efficient use of scarce funds which makes a difference on accomplishing long-term NRMP goals.

E.11 Recommended Evaluation Criteria

The following five evaluation criteria align with this NRMP's guiding principles (Section 1.4: The NRMP's Core Guiding Principles), and could be used to evaluate proposals or financing opportunities.

2. http://www.naturalcapitalproject.org/pubs/NatCap_InVEST_Tool_Description_All_TEEBcases_2010.pdf

3. solves.cr.usgs.gov/

1. Which NRMP objectives are achieved by the proposed work?
2. Is the proposed work required by the Settlement Agreement, CCDB, or MMRP?
3. Identify which indicators and conservation planning species benefit from the proposed work (see Table E-1 and Figure E-2). (These species are to help consider design criteria such as tidal range, sediment, size, or slope of habitat area.)
4. What primary (P) and secondary (S) ecosystem services are provided? Check off in Table E-1 if, for example:
 - Water quality threat addressed;
 - Flood protection benefit delivered;
 - Species abundance threat reduced;
 - Species habitat improved;
 - Increased recreational opportunity;
 - Increased land value for property adjacent to new natural areas;
 - Improved proximity of nature to recreators;
 - Proximity to trails, roads, boat ramps;
 - Resident or visitor usage rates and people are within walkable, drivable distances of the resource.
5. Additional Ranking Criteria as appropriate:
 - Builds resilience against a known vulnerability identified in the NRMP (climate change, invasion, feral predators).
 - Reduces a threat through habitat improvement in quantity or quality (such as risk to conservation planning species by provision of escape cover from predators).
 - Reduces user conflict.
 - Addresses multiple, cumulative impacts - e.g. environmental, subsistence fisheries, commercial fisheries, biodiversity, etc.
 - Protects a restoration investment or a future restoration opportunity.
 - Ecosystem-based. Gets to the underpinnings of ecosystem values (physical attributes that foster habitat quality).
 - Increases ecosystem services: nature-people interface, carbon stocks.
 - Restores “missing” habitat elements from historical mudflat, salt marsh, and/or upland transition.
 - Ecosystem trade-offs are analyzed transparently.
 - Project may be replicated, scaled up, or may catalyze other beneficial work.
 - Strengthens other bay-related planning processes.
 - Improves probability of successful implementation of CVBMP goals and objectives by making them more operational (provides a valuable management step).

Table E-1. Fill in with P for primary ecosystem service, and S for secondary service.

X	Icon	Provisioning	X	Icon	Regulating	X	Icon	Habitat/Supporting	X	Icon	Cultural
		Food			Local Climate & Air Quality			Habitats for Species			Recreation, Mental & Physical Health
		Raw Materials			Carbon Sequestration, Storage			Maintenance of Genetic Diversity			Tourism
		Fresh Water			Moderation of Extreme Events						Aesthetic Appreciation, Inspiration for Culture, Art and Design
		Medicinal Resources			Waste-water Treatment						Spiritual Experience, Sense of Place
					Erosion Prevention, Soil Fertility						
					Pollination						
					Biological Control						

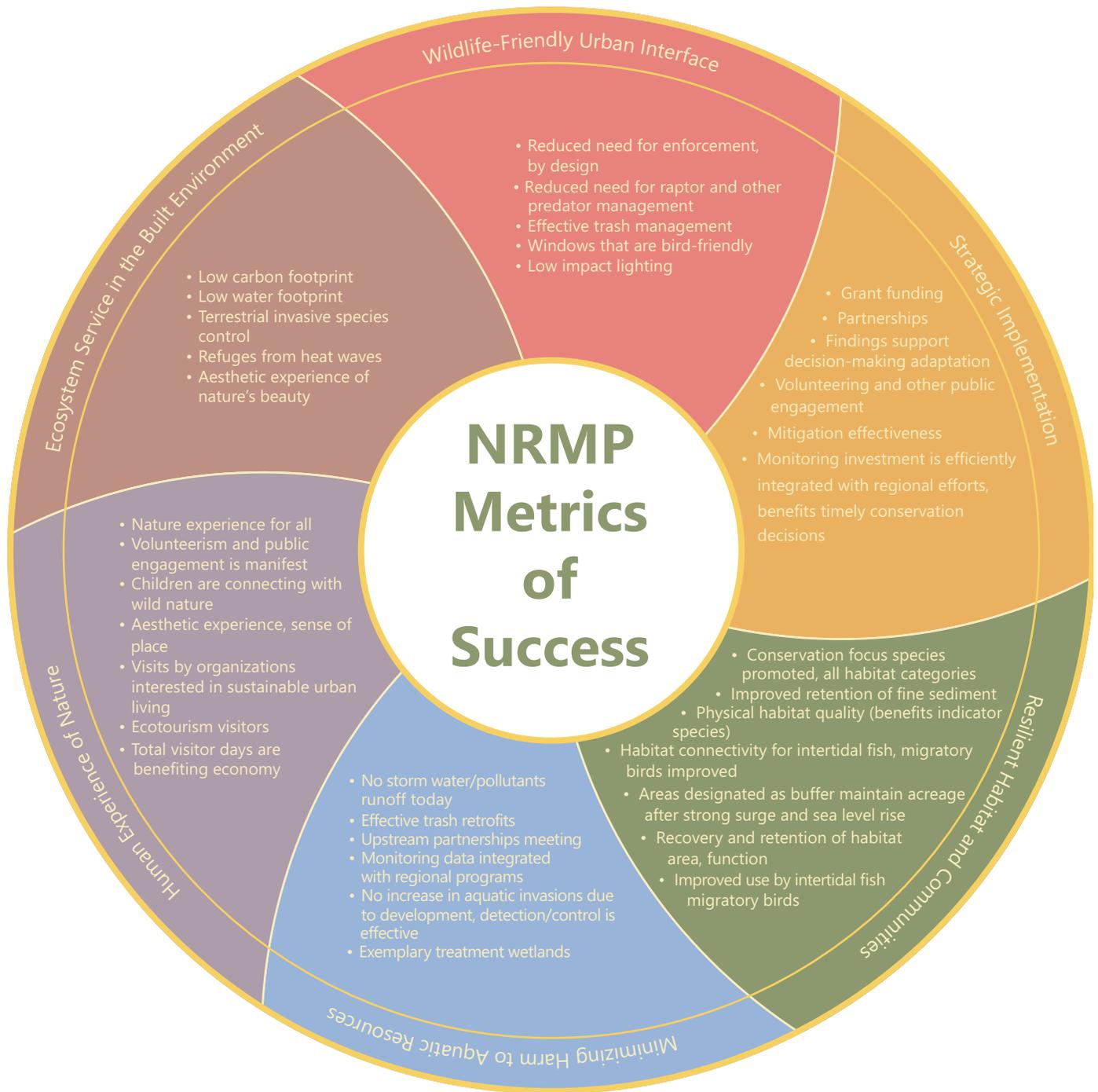


Figure E-2. Success Indicators for NRMP implementation.

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Appendix F: Comprehensive Plant List

The following plant lists are intended as guidance for landscape planning. As a comprehensive guide, specifications for each plant species are listed, as well as preferences for sun exposure and irrigation needs. These lists are developed specifically for coastal San Diego Urban/Wildland interface for specific ecosystem services, such as supporting native pollinator species, habitat, stormwater runoff filtration, and the human experience of nature. Each species listed is known to be in cultivation and should be available from local and state-wide sources. Seeds of many herbaceous species (containing no above-ground woody parts) are available from S&S Seeds, or by contract from local seed collecting companies. Several species included are listed by the USFWS as threatened or endangered, and seed collection permits must be obtained from USFWS. Taxonomy is consistent with the Jepson Manual, 2nd Edition (Baldwin et al. 2012).

Recommendations made here are plants native to California from locations within the state with a similar dry Mediterranean climate with an average rainfall of approximately 15 inches per year. Many of the recommended species are those that occur within the coastal environment of southwestern San Diego County. There is increasing availability of plant material in nurseries propagated from local genetic stock. For new plantings at the Chula Vista Bayfront, this would be the top choice when available. There are at least two reasons for this as a practice consistent with the goal of sustainable landscapes. Both reasons emerge from the principle that plants, like all organisms, often form local populations with distinct gene pools. From the perspective of sustainable horticulture, obtaining plants from within the local genetic population will assure forms of the species that are most adapted to the locale. From the perspective of conservation, the introduction of conspecific plants (same species) from outside the local gene pool may unwittingly introduce genetic material not contained within the local gene pool. The effects of this dynamic are subtle and long-term, but could contribute to a homogenization of local gene pools and the loss of genetic diversity.

One note to observe when using these lists is the ambiguous separation of perennials and shrubs. Used here is a broad understanding of a perennial plant that would include all herbaceous perennials and plants referred to as suffrutescent. These are plants that are found mostly within Mediterranean climates that may develop a scaffold of branches above ground that are woody at the base but always herbaceous within the current season's growth. These are sometimes referred to as subshrubs, but are considered perennial in the broad sense in this treatment.

Another is the distinction between trees and shrubs. Used here is a naturalistic approach that considers the life history of the species in question. Many of the larger shrubs can eventually become tree-like, especially with pruning. However, even in nature, these large growing shrubs have multiple trunks from the base of the plant with crowns typically much more dense than trees. With regard to this list, shrubs rarely exceed 20 feet in height. Most tree species listed are considerably taller when mature.

F.1 Annuals

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Wildflower Gardens	Bedding	Flower Color	Flowering Season	Shade	Part Shade	Full Sun
<i>Calandrinia ciliata</i>	red maids	SD	4-18	4-18	R-M-L	X		rose-red	Feb-May			X
<i>Castilleja densiflora</i>	Parish's owl's clover	CSD	4-12	4	M-L	X		yellow-purple	Mar-May			X
<i>Castilleja exerta</i>	red owl's clover	CSD	6-12	4	M-L	X		purple	Mar-May			X
<i>Cistanthe maritima</i>	sea kisses	CSD	4-18	4-18	R-M-L	X		rose-red	Feb-May			X
<i>Chloropyron maritimum subsp maritimum</i>	salt marsh bird's beak	CSD	4-16	4-16	L	X		white-cream	May-Oct			X
<i>Clarkia amoena</i>	godetia	CA	12-24	6-12	M-L	X	X	pink-lavender	Jun-Aug		X	X
<i>Clarkia bottae</i>	punch-bowl godetia	SD	12-24	12-18	M-L	X	X	pink	Apr-Jul		X	X
<i>Clarkia concinna</i>	red ribbons	CA	4-12	12	M-L	X	X	red	Apr-Jul		X	X
<i>Clarkia purpurea subsp. quadrivulnera</i>	four-spot clarkia	CSD	12-24	6-12	M-L	X	X	red-purple	Apr-Aug		X	X
<i>Clarkia rubicunda</i>	red godetia	CA	24-36	24-36	M-L	X	X	pink-lavender	May-Aug		X	X
<i>Clarkia unguiculata</i>	elegant clarkia	SD	12-24	12	M-L	X	X	pink-salmon-red-purple	Apr-Sep		X	
<i>Collinsia heterophylla</i>	Chinese houses	CSD	10-20	8-12	M-L	X		white and violet	Mar-Jun	X	X	
<i>Dicranostegia orcuttiana</i>	Orcutt's bird beak	CSD	4-18	4-18	L	X		white and yellow	Mar-Aug			X
<i>Eschscholzia californica</i>	California poppy	SD	12-24	12-24	M-L	X	X	orange	Feb-Sep			X
<i>Eschscholzia caespitosa</i>	tufted gold- poppy	SD	4-12	8-18	L	X		yellow	Mar-May			X
<i>Gilia capitata</i>	blue gilia	SD	4-12	3-6	M-L	X		blue	Apr-Aug			X
<i>Gilia tricolor</i>	bird's-eye gilia	CA	4-12	3-6	M-L	X		purple, yellow, and white	Mar-Jun			X
<i>Lasthenia gracilis</i>	goldfields	CSD	2-4	3-8	M-L	X		yellow	Feb-Apr			X
<i>Layia platyglossa</i>	tidy tips	CSD	12-24	12-18	M-L	X	X	yellow and white	Mar-May			X
<i>Linanthus dianthiflorus</i>	farinose ground pink	CSD	4-8	4-6	L	X		pink, white and red	Feb-Jun			X
<i>Lupinus bicolor</i>	miniature lupine	CSD	3-6	3-6	M-L	X		blue and white	Mar-Jun			X
<i>Lupinus microcarpus var. densiflorus</i>	valley lupine	CA	12-24	12-24	M-L	X	X	yellow	Apr-Jun			X
<i>Lupinus nanus</i>	valley sky lupine	SD	4-12	4-12	M-L	X		blue	Mar-May			X
<i>Lupinus succulentus</i>	arroyo lupine	CSD	12-24	12-24	M-L	X	X	blue	Feb-May			X
<i>Mentzelia gracilenta</i>	slender stick-leaf	SD	36-48	12-24	L	X		yellow	Apr-May			X
<i>Nemophila maculata</i>	spotted nemophila	CA	8-12	8-12	R-M	X		white and blue	may-Jul		X	
<i>Nemophila menziesii</i>	baby blue eyes	SD	3-6	8-12	R-M	X	X	blue	Feb-May		X	
<i>Phacelia campanularia</i>	desert bluebell	SD	4-24	4-24	L	X	X	blue	Feb-May			X
<i>Phacelia grandiflora</i>	giant-flowered phacelia	CSD	12-40	12-40	M	X	X	lavender	Apr-Jun		X	X
<i>Phacelia parryi</i>	Parry's phacelia	CSD	4-36	4-36	L	X		violet	Mar-May		X	X
<i>Platystemon californicus var. nutans</i>	San Diego cream cups	CSD	4-12	4-12	M-L	X		cream-yellow	Mar-May			X
<i>Salvia columbariae</i>	chia	CSD	3-24	2-9	L	X		violet	Mar-Jun			X
<i>Triphysaria eriantha</i>	butter and eggs	SD	2-6	2-3	M-L	X		yellow and white	Feb-Apr			X
<i>Zeltnera venusta</i>	California centaury	CSD	4-8	4-9	L	X	X	pink-salmon	May-Aug		X	X

Key to native status: CSD, species native to coastal southwest San Diego County; SD, species native to San Diego County; CA, plants native to California; Cv, Plant cultivars derived from California hybrids of native species. Cultivar selections of wild plants are listed as SD or CA, depending on where the selections were originally made. Key to irrigation: R, regular watering to keep soil moist; M, moderate to occasional watering applied deeply and allowed to dry between irrigations; L, infrequent to no irrigation needed except during winter drought.

F.2 Perennials

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Perennial Border	Massing	Specimen	Flower Color	Flowering Season	Evergreen	Summer or Stress Deciduous	Winter Dormant	Shade	Part Shade	Full Sun
<i>Abronia maritima</i>	red sand verbena	CSD	3-6	18-24	M-L		X		wine red	Feb-Oct	X					X
<i>Abronia umbellata</i>	pink sand verbena	CSD	3-6	18-24	M-L		X		pink	all year	X					X
<i>Achillea millefolium</i>	yarrow	CSD	3-18	18+	M-L	X			white to pink	Apr-Sep	X			X	X	
<i>Agave shawii</i> var. <i>shawii</i>	Shaw's agave	CSD	36-60	36+	L			X	yellow	Sep-May	X					X
<i>Ambrosia pumila</i>	San Diego ambrosia	CSD	12-24	24+	L		X		none	Apr-Jul	X			X	X	
<i>Anemopsis californica</i>	yerba mansa	CSD	8-24	12+	R-M-L		X		white	Mar-Aug		X		X	X	
<i>Aquilegia formosa</i>	western columbine	SD	24-36	12-18	R-M			X	red and yellow	Apr-Sep			X	X	X	
<i>Artemisia douglasiana</i>	Douglas mugwort	CSD	24-60	24+	M-L		X		insignificant	n/a	X			X	X	
<i>Asclepias californica</i>	round-hood milkweed	SD	18-24	12-18	L	X	X		purple	Apr-Jul						X
<i>Asclepias fascicularis</i>	narrow-leaf milkweed	SD	18-24	36+	L	X	X		white	May-Oct			X			X
<i>Camissoniopsis cheiranthifolia</i> subsp. <i>suffruticosa</i>	beach evening primrose	CSD	4-24	12-24	L	X	X		yellow	Apr-Aug	X					X
<i>Corethrogyne filaginifolia</i>	California sand-aster	CSD	18-36	18	L	X			pink	Jul-Nov	X					X
<i>Dudleya attenuata</i> subsp. <i>attenuata</i> *	Orcutt's dudleya	CSD	2-10	2-6+	L			X	white flushed rose	May-Jun	X					X
<i>Dudleya blochmaniae</i> *	Blochman's dudleya	CSD	4-12	1-3+	L			X	white	Apr-Jun		X				X
<i>Dudleya brevifolia</i> *	short-leaf dudleya	CSD	1-2	1-2+	L			X	pale yellow	Apr-Jun		X				X
<i>Dudleya edulis</i> *	ladies fingers	CSD	6-12	6-12+	L			X	cream	May-Jul	X			X	X	
<i>Dudleya lanceolata</i> *	lance-leaf dudleya	CSD	6-12	6-12+	L			X	yellow to red	Apr-Jun	X			X	X	
<i>Dudleya pulverulenta</i> *	chalk dudleya	CSD	12-24	12-24+	L			X	red	May-Jul	X			X	X	
<i>Dudleya variegata</i> *	variegated dudleya	CSD	2-8	1-3+	L			X	yellow	Apr-Jun	X					X
<i>Dudleya visida</i> *	sticky dudleya	CSD	6-24	3-8+	L			X	pink	May-Jun	X					X
<i>Epilobium canum</i>	California fuchsia	CSD	6-30	12-48	M-L	X	X		bright orange-red	Jun-Dec			X	X	X	
<i>Ericameria palmeri</i>	Palmer's goldenbush	CSD	6-18	6-18	L	X			yellow	Sep-Nov	X					X
<i>Erigeron glaucus</i>	seaside aster	CA	8-12	24-36	M-L	X			lavender	May-Jul	X					X
<i>Eriogonum grande</i> var. <i>rubescens</i>	red buckwheat	CA	24-36	36+	L	X			rose	Apr-Sep	X			X	X	
<i>Eriophyllum confertiflorum</i>	yellow yarrow	CSD	18-24	18-24	M-L	X			gold	Apr-Aug		X				X
<i>Erysimum capitatum</i>	western wallflower	SD	12-24	12-18	L	X			orange-yellow-lavender	Mar-Sep	X					X

Key to native status: CSD, coastal southwest San Diego County; SD, species native to San Diego County; CA, plants native to California; Cv, Plant cultivars derived from California hybrids of native species. Cultivar selections of wild plants are listed as SD or CA, depending on where the selections were originally made. Key to irrigation: R, regular watering to keep soil moist; M, moderate to occasional watering applied deeply and allowed to dry between irrigations; L, infrequent to no irrigation needed except during winter drought. Spread: x+ indicates spread after 1-3 years, but the species is known to form larger clumps over time.

*Dudleyas are succulents that form a rosette of leaves (cluster resembling a rose). Dimensions given are for single rosettes. Most species form tight clumps made up of many (even hundreds) rosettes. Most of those listed are part of the maritime succulent scrub found on coastal bluffs.

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Perennial Border	Massing	Specimen	Flower Color	Flowering Season	Evergreen	Summer or Stress Deciduous	Winter Dormant	Shade	Part Shade	Full Sun
<i>Euthamia occidentalis</i>	western golden rod	CSD	24-60	24+	R	X			gold	Jul-Nov			X			X
<i>Grindelia camphorum</i>	gumplant	CSD	18-60	18-60	M-L	X			yellow	May-Nov	X					X
<i>Helianthus californicus</i>	California sunflower	CSD	48-84	48+	R-M-	X			yellow	Jul-Oct			X			X
<i>Heterotheca sessiliflora</i>	bristly goldenaster	CSD	8-24	8-24	M-L	X			yellow	Jun-Sep	X					X
<i>Heuchera maxima</i>	Island alum root	CA	24-36	12-18	M-L	X	X		white-pink	Apr-May	X				X	
<i>Heuchera rubescens</i>	San Diego alum root	SD	4-8	8-12	M-L	X	X		pink-red	May-Sep	X					X
<i>Heuchera</i> Rancho Santa Ana Hybrids	RSABG alum root hybrids	Cv	6-18	18+	M	X	X		pink-coral-salmon-red	Apr-Jul	X				X	
<i>Iris douglasiana</i>	coast iris	CA	8-18	24-72	M-L	X	X		purple-white	Mar-Apr	X				X	X
<i>Iris</i> Pacific Coast Hybrids	PCH iris	Cv	12-24	12-36	M-L	X	X		many colors	Mar-Apr	X				X	X
<i>Isocoma menziesii</i>	goldenbush	CSD	36-60	24	L	X			Yellow	Sep-Nov			X			X
<i>Iva hayesiana</i>	San Diego marsh-elder	CSD	36	36	M		X		insignificant	n/a	X				X	X
<i>Lepechinia calycina</i>	pitcher sage	CA	36-48	36-48	M-L	X			white-lavender	Apr-Jun				X	X	
<i>Leptosyne maritima</i>	San Diego sea-dahlia	CSD	12-30	12-30	M-L	X			yellow	Feb-Jun		X				X
<i>Lupinus formosus</i>	summer lupine	SD	8-30	8-30	L	X			purple	Apr-Sep		X			X	X
<i>Lupinus latifolius</i> var. <i>parishii</i>	Parish s stream Lupine	SD	24-48	24-48	M	X			purple-white	May-Aug	X					X
<i>Mimulus aurantiacus</i> var. <i>pubescens</i>	sticky monkey flower	SD	24-48	24-48	M-L	X			pale yellow	Mar-Jun		X			X	X
<i>Mimulus aurantiacus</i> var. <i>puniceus</i>	coast monkey flower	CSD	24-36	24-36	M-L	X			red-orange	Mar-Jun		X			X	X
<i>Mimulus clevelandii</i>	Cleveland monkey flower	SD	24-36	24-36	M-L	X			yellow	Apr-Jun		X			X	X
<i>Mirabilis laevis</i> var. <i>crassifolia</i>	wishbone flower	CSD	24-30	24-30	L	X			purple	Dec-Jun		X			X	X
<i>Monardella macrantha</i>	scarlet monardella	SD	12-24	18-36	M-L		X		red	May-Aug	X					X
<i>Oenothera elata</i> subsp. <i>hookeri</i>	Hooker s evening primrose	SD	18-48	12-18	R-M	X	X		yellow	Jun-Sep	X				X	X
<i>Penstemon centranthifolius</i>	scarlet Bugler	SD	24-36	18-24	L	X			red	Apr-Jul		X				X
<i>Penstemon clevelandii</i>	southern penstemon	SD	24-30	18-24	L	X			purple	Apr-Jul		X				X
<i>Penstemon heterophyllus</i>	foothill penstemon	SD	8-12	12-18	L	X			blue-violet	May-Jul	X					X
<i>Penstemon spectabilis</i>	showy penstemon	SD	36-48	18-24	L	X			blue	Apr-Jul		X				X
<i>Pluchea odorata</i>	salt marsh fleabane	CSD	36-48	18-30	M-L	X			rose-purple	Jul-Nov			X		X	X
<i>Romneya coulteri</i>	Matilija poppy	CSD	60-84	60+	L		X		white	May-Sept	X					X
<i>Salvia spathacea</i>	hummingbird sage	SD	24-48	24+	M-L	X			rose-purple	Apr-Sep	X				X	X

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*Dudleyas are succulents that form a rosette of leaves (cluster resembling a rose). Dimensions given are for single rosettes. Most species form tight clumps made up of many (even hundreds) rosettes. Most of those listed are part of the maritime succulent scrub found on coastal bluffs.

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Perennial Border	Massing	Specimen	Flower Color	Flowering Season	Evergreen	Summer or Stress Deciduous	Winter Dormant	Shade	Part Shade	Full Sun
<i>Sidalcea malvaeflora</i> subsp. <i>californica</i>	chaparral checkerbloom	SD	6-24	18-36	M-L	X			pink	Mar-Jun		X			X	X
<i>Silene laciniata</i>	southern pink	CSD	4-6	6-12	M-L	X			red	Mar-Jul		X			X	
<i>Sisyrinchium bellum</i>	blue eyed grass	CSD	6-18	4-8	L	X	X		blue-violet	Mar-May		X				X
<i>Solidago velutina</i> subsp. <i>californica</i>	California golden rod	SD	12-36	12	L	X			yellow	May-Nov			X		X	X

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F.3 Ferns

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Shade	Part Shade	Full Sun
<i>Adiantum capillus-veneris</i>	western five-fingered fern	SD	18-24	12+	M-L	X	X	
<i>Adiantum jordanii</i>	California maidenhair	CSD	6-18	12+	M-L	X	X	
<i>Dryopteris arguta</i>	coastal wood fern	SD	12-24	12+	M-L	X	X	
<i>Pellaea andromedaefolia</i>	coffee fern	CSD	6-28	12+	L		X	X
<i>Pellaea mucronata</i>	bird's-foot fern	SD	6-12	12+	L	X	X	X
<i>Pentagramma triangularis</i> subsp. <i>viscosa</i>	gold-back fern	CSD	2-6	6-12	L	X	X	
<i>Polypodium californicum</i>	California polypody fern	CSD	4-12	12+	M-L	X	X	
<i>Woodwardia fimbriata</i>	giant chain fern	SD	36-72	24+	R-M	X	X	

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F.4 Bulbs and Bulb-Like Plants

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Dedicated Bulb Garden	Meadow	Flower Color	Flowering Season	Shade	Part Shade	Full Sun
<i>Allium crispum</i>	crinkled onion	CA	6-12	3	L	X		rose-purple	Mar-Jun			X
<i>Allium praecox</i>	early onion	CSD	8-18	3	M-L		X	pale pink	May-Jun		X	
<i>Allium uniflorum</i>	pink meadow onion	CA	6-24	6+	M-L	X	X	white-pink	May-Jun			X
<i>Bloomeria crocea</i> var. <i>crocea</i>	common goldenstar	CSD	12-24	3-6	L	X	X	yellow	Apr-Jun		X	X
<i>Brodiaea coronaria</i>	garland brodiaea	CSD	8-12	3-6	L	X	X	violet	Apr-Jun		X	X
<i>Brodiaea elegans</i>	harvest brodiaea	CSD	8-12	6+	L	X	X	violet	Apr-Aug			X
<i>Calochortus albus</i>	white globe lily	SD	8-36	3	L	X		white	Apr-Jun		X	X
<i>Calochortus amabilis</i>	Diogenes' lantern	CA	8-18	3	M-L	X		yellow	Apr-Jun		X	X
<i>Calochortus concolor</i>	golden-bowl mariposa lily	SD	12-24	3	L	X		yellow	May-Jul		X	X
<i>Calochortus splendens</i>	splendid mariposa lily	SD	8-24	3	L	X		deep lilac	May-Jul			X
<i>Calochortus superbus</i>	superb mariposa lily	SD	16-24	3	L	X		white-yellow-lavender	May-Jul			X
<i>Chlorogalum pomeridianum</i>	wavy-leafed soap plant	SD	24-60	12-18	L		X	white	May-Aug			X
<i>Dichelostemma capitatum</i>	blue dicks	CSD	12	3-6	L	X	X	blue	Mar-Jun			X
<i>Dichelostemma congestum</i>	fork-toothed ookow	CA	24-36	3-6	L	X	X	blue-purple	Apr-Jun		X	X
<i>Dichelostemma ida-maia</i>	firecracker flower	CA	18-30	3-6	L	X	X	red	May-Jul		X	X
<i>Dichelostemma multiflorum</i>	wild hyacinth	CA	18-30	6+	L	X		pink to blue	May-Jun		X	X
<i>Fritillaria affinis</i>	checker lily	CA	18-36	3	M-L	X	X	brown-purple mottled yellow	Mar-Jun		X	X
<i>Fritillaria biflora</i>	chocolate lily	CSD	6-12	3-9	L	X		dark brown to green-purple	Mar-May		X	X

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Notes on bulbs: Many native bulbs may be eaten by gophers. It is suggested that gopher baskets be used when planting to protect the bulbs from predation. Those with an "L" under irrigation should not receive any irrigation from June until fall rains. Summer moisture can cause the bulbs to rot. Purchase only nursery-produced bulbs, never ones that are wild-collected.

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Dedicated Bulb Garden	Meadow	Flower Color	Flowering Season	Shade	Part Shade	Full Sun
<i>Lilium humboldtii</i> var. <i>ocellatum</i>	occellated Humboldt lily	SD	60-84	12+	L	X		light orange spotted red	May-Aug		X	X
<i>Lilium pardalinum</i>	leopard lily	SD	36-72	12+	R	X	X	red to yellow with maroon spots	May-Aug		X	X
<i>Triteleia hyacinthina</i>	white brodiaea	CA	12-24	6+	M-L		X	white	Mar-Jul		X	X
<i>Triteleia ixioides</i>	golden brodiaea	CA	8-24	6+	L	X	X	gold-yellow	May-Jul		X	X
<i>Triteleia laxa</i>	Ithurial's spear	CA	8-18	6+	L	X	X	blue-purple	Apr-Jun		X	X
<i>Triteleia peduncularis</i>	long-rayed brodiaea	CA	18-30	6+	M-L		X	white	May-Jul		X	X

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F.5 Perennial Grasses and Grass-Like Plants

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Short Meadow	Tall Meadow	Fresh Water Wetland	Salt Marsh	Shade	Part Shade	Full Sun
Sedges and Rushes												
<i>Bolboschoenus maritimus</i> subsp. <i>paludosus</i>	saltmarsh bulrush	CSD	48-60	48-60+	SM				X			X
<i>Carex amplifolia</i>	bingleaf sedge	CA	18-36	24+	R-M-L		X	X		X	X	
<i>Carex barbarae</i>	Santa Barbara sedge	SD	12-48	24+	M		X				X	
<i>Carex densa</i>	dense sedge	CA	12-24	12+	R-M		X	X			X	X
<i>Carex globosa</i>	round-fruit sedge	SD	6-12	12+	M-L	X					X	X
<i>Carex gracilior</i>	slender sedge	CA	12-24	12-24	R-M		X	X			X	X
<i>Carex multicaulis</i>	rush sedge	SD	12-24	12-24	M-L		X			X	X	
<i>Carex nudata</i>	torrent sedge	CA	24-36	24-36	R-M		X	X			X	X
<i>Carex pansa</i>	sand dune sedge	CA	3-12	24+	M	X					X	X
<i>Carex praegracilis</i>	cluster field sedge	SD	6-12	8+	M	X						X
<i>Carex spisa</i>	San Diego sedge	CSD	36-48	24+	R-M		X	X			X	X
<i>Carex subfusca</i>	brown sedge	SD	4-8	12+	M-L	X					X	X
<i>Carex triquerta</i>	trigonous sedge	CSD	12-24	13-24	L		X			X	X	
<i>Eleocharis coloradoensis</i>	dwarf spike rush	CSD	2-4	12+	W			X				X
<i>Eleocharis macrostachya</i>	pale spike sedge	CSD	12-36	36+	W			X				X
<i>Eleocharis montevidensis</i>	Dombey's spike rush	CSD	12-24	24+	W			X				X
<i>Juncus acutus</i> subsp. <i>leopoldii</i>	southwestern spiny rush	CSD	36-60	36-60	M-L		X	X			X	X
<i>Juncus bolanderi</i>	Bolander's rush	CA	12-36	12+	W			X				X
<i>Juncus covillei</i>	Coville's rush	CA	6-12	12+	W			X				X
<i>Juncus effusus</i> var. <i>austrocalifornicus</i>	Pacific rush	CSD	24-60	12-24	M		X	X			X	X
<i>Juncus mexicanus</i>	Mexican rush	CSD	12-24	12-24+	M-L		X	X			X	X

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Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Short Meadow	Tall Meadow	Fresh Water Wetland	Salt Marsh	Shade	Part Shade	Full Sun
<i>Juncus patens</i>	California gray rush	SD	18-36	12-24	M-L		X				X	X
<i>Juncus phaeocephalus</i>	brown-headed rush	SD	6-24	12+	R-M		X	X				X
<i>Juncus xiphioides</i>	flat-leaf rush	CSD	18-36	12+	W			X				X
<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	common tule	CSD	36-160	60+	W			X	X			X
<i>Schoenoplectus californicus</i>	southern bulrush	CSD	36-160	60+	W			X				X
<i>Schoenoplectus pungens</i> var. <i>longispicatus</i>	common three-square bulrush	CSD	12-36	36+	W			X				X
True Grasses												
<i>Agrostis pallens</i>	seashore bent grass	SD	2-24	12+	M-L	X						X
<i>Aristida purpurea</i>	purple three awn	SD	12-36	24	L		X					X
<i>Bromus carinatus</i>	California brome	CSD	18-36	24-36	L		X				X	X
<i>Distichlis spicata</i>	salt grass	CSD	6-30	36+	L	X						X
<i>Elymus condensatus</i> 'Canyon Prince'	San Miguel Island giant wildrye	CA	24-36	36-48	L		X				X	X
<i>Elymus glaucus</i>	blue wildrye	SD	12-18	18-24	L		X				X	X
<i>Elymus triticoides</i>	creeping wildrye	CSD	24-48	24+	M-L		X				X	X
<i>Festuca californica</i>	California fescue	SD	36-48	12-18	M-L		X				X	X
<i>Festuca rubra</i>	red fescue	SD	6-12	12+	M-L	X				X	X	X
<i>Hordeum brachyantherum</i>	meadow barley	CSD	24-36	24	M-L		X				X	X
<i>Koeleria macrantha</i>	junegrass	CSD	12-18	8-12	L	X					X	X
<i>Melica imperfect</i>	melic	CSD	18-36	12	M-L		X				X	X
<i>Muhlenbergia rigens</i>	deergrass	SD	36-48	36-48	M-L		X				X	X
<i>Sporobolus airoides</i>	alkali sacaton	CSD	24-36	24-36	M-L		X					X
<i>Stipa lepida</i>	foothill needlegrass	CSD	12-18	8-12	L	X					X	X
<i>Stipa pulchra</i>	purple needlegrass	CSD	12-24	8-12	L		X				X	X

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F.6 Ground Covers

Botanical Name	Common Name	Native Status	Height (inches)	Spread (inches)	Irrigation	Flower Color	Flowering Season	Fruit Color	Evergreen	Deciduous	Shade	Part Shade	Full Sun
<i>Abronia maritima</i>	red sand verbena	CSD	3-6	18-24	M-L	wine red	Feb-Oct	n/a	X				X
<i>Abronia umbellata</i>	pink sand verbena	CSD	3-6	18-24	M-L	pink	all year	n/a	X				X
<i>Arctostaphylos edmundsii</i> 'Carmel Sur'	Carmel Sur manzanita	CA	4-18	48-72	M	white	Dec-Feb	Red	X			X	X
<i>Arctostaphylos hookeri</i> 'Monterey Carpet'	Monterey carpet manzanita	CA	8-18	48-72	M	white	Feb-Mar	Orange-Red	X			X	X
<i>Arctostaphylos</i> x 'Emerald Carpet'	emerald carpet manzanita	Cv	4-8	36-60	M	white	Dec-Feb	n/a	X			X	X
<i>Arctostaphylos</i> x 'Indian Hill'	Indian Hill manzanita	Cv	12-24	48-60	M-L	white	Dec-Feb	Red	X				X
<i>Arctostaphylos</i> x 'John Dourley'	Dourley's manzanita	Cv	18-36	48-72	M-L	light pink	Jan-Mar	Red	X				X
<i>Artemisia californica</i> 'Canyon Gray'	Canyon Gray Coastal sagebrush	CA	6-12	36-60	M-L	insignificant	n/a	n/a	X				X
<i>Baccharis pilularis</i> 'Pigeon Point'	Pigeon Point Coyote Brush	CA	18-36	72-144	M-L	insignificant	n/a	n/a	X				X
<i>Berberis aquifolium</i> 'Compacta'	compact Oregon grape	CA	24-36	24+	M	yellow	Jan-Apr	deep blue	X			X	X
<i>Berberis aquifolium</i> var. <i>repens</i>	creeping Oregon grape	CA	24-36	24+	M-L	yellow	Jan-Apr	deep blue	X			X	X
<i>Ceanothus griseus</i> var. <i>horizontalis</i>	Carmel creeper	CA	24-36	60+	M-L	blue	Feb-Jun	n/a	X				X
<i>Epilobium canum</i>	California fuchsia	SD	6-30	12-48	M-L	orange-red	Jun-Dec	n/a		X			X
<i>Erigeron glaucus</i>	seaside aster	CA	8-12	24-36	M-L	lavender	May-Jul	n/a	X				X
<i>Eriogonum fasciculatum</i> 'Dana Point'	Dana Point buckwheat	CA	12-18	36-48	L	buff	May-Aug	deep brown	X			X	X
<i>Grindelia stricta</i> var. <i>playphylla</i>	spreading gum plant	CA	24-36	48-72	M-L	yellow	May-Nov	n/a	X				X
<i>Iris douglasiana</i>	coast iris	CA	8-18	24-72	M-L	purple-white	Mar-Apr	n/a	X			X	X
<i>Iris</i> 'Pacific Coast Hybrids'	PCH iris	Cv	12-24	12-36	M-L	many colors	Mar-Apr	n/a	X			X	X
<i>Iva hayesiana</i>	San Diego marsh-elder	CSD	36	36	M-L	insignificant	n/a	n/a	X			X	X
<i>Salvia leucophylla</i> 'Point Sal Spreader'	Point Sal purple sage	CA	24-36	72+	L	lavender pink	Feb-May	n/a	X				X
<i>Salvia mellifera</i> 'Terra Seca'	Terra Seca sage	CA	12-24	36-60	L	light blue	Apr-Jun	n/a	X				X
<i>Salvia mellifera</i> x <i>S. sonomensis</i> 'Mrs. Beard'	Mrs. Beard's sage	Cv	6-12	24-48	L	blue	Apr-Aug	n/a	X				X
<i>Salvia sonomensis</i> x <i>S. clevelandii</i> 'Bee's Bliss'	Bee's bliss sage	Cv	6-12	36-60	L	lavender	Apr-Jul	n/a	X				X

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F.7 Shrubs

Botanical Name	Common Name	Native Status	Height (feet)	Spread (feet)	Irrigation	Flower Color	Flowering Season	Fruit Color	Clipped or Formal Hedge	Informal Screen	Specimen	Evergreen	Summer/Stress Deciduous	Winter Deciduous	Shade	Part Shade	Full Sun
<i>Arctostaphylos bakeri</i> 'Louis Edmunds'	Louis Edmunds' manzanita	CA	4-6	4-6	M	bright pink	Mar-May	mahogany		X	X						X
<i>Arctostaphylos densiflora</i> 'Harmony'	harmony manzanita	CA	2-3	4-6	M	soft pink	Jan-Mar	mahogany	X	X	X						
<i>Arctostaphylos densiflora</i> 'Howard McMinn'	McMinn manzanita	CA	4-6	5-8	M	soft pink	Jan-Mar	mahogany	X	X	X						X
<i>A. densiflora</i> 'Sentinal'	sentinal manzanita	CA	6-8	4-8	M	soft pink	Jan-Mar	mahogany	X	X	X						X
<i>Arctostaphylos edmundsii</i>	Little Sur manzanita	CA	1-2	8-12	M	white	Feb-Apr	mahogany			X						X
<i>Arctostaphylos glandulosa</i> subsp. <i>crassifolia</i>	Del Mar manzanita (A federally endangered local species, in cultivation. Purchase from a certified grower.)	CSD	2-3	3-6	L	soft pink	Jan-Mar	mahogany		X	X						X
<i>Arctostaphylos hookeri</i>	Monterey manzanita	CA	2-3	4-8	M-L	white	Feb-Mar	mahogany			X					X	X
<i>Arctostaphylos manzanita</i>	Parry manzanita	CA	6-20	6-15	M-L	white	Dec-Mar	mahogany		X	X	X					X
<i>Arctostaphylos pajaroensis</i>	Pajaro manzanita	CA	6-8	6-10	M-L	pink	Nov-Feb	mahogany		X	X						X
<i>Arctostaphylos purissima</i>	La Purissima manzanita	CA	2-3	3-6	M-L	pure white	Dec-Feb	mahogany			X					X	X
<i>Arctostaphylos rudis</i>	shagbark manzanita	CA	3-6	4-8	L	white	Dec-Feb	mahogany	X		X						X
<i>Arctostaphylos obispoensis</i>	serpentine manzanita	CA	6-15	6-10	L	white	Jan-Mar	mahogany			X						X
Arctostaphylos hybrid cultivars*																	
<i>Arctostaphylos</i> x 'Austin Griffiths'	Griffith's manzanita	Cv	8-12	6-8	M-L	soft pink	Dec-Feb	mahogany	X	X	X	X					X
<i>Arctostaphylos</i> x 'Indian Hill'	Indian Hill manzanita	Cv	1-2	4-5	M-L	white	Dec-Feb	red			X						X
<i>Arctostaphylos</i> x 'John Dourley'	Dourley's manzanita	Cv	1.5-3	4-6	L	light pink	Jan-Mar	red			X						X

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<i>Arctostaphylos</i> x 'Sunset' (A natural hybrid of <i>A. hookeri</i> and <i>A. pajaroensis</i> from Monterey County)	sunset manzanita	CA	6-8	8-10	M-L	white	Dec-Mar	mahogany	X		X	X					X
<i>Arctostaphylos</i> x 'White Lanterns'	white lanterns manzanita	Cv	4-6	6-8	M-L	white	Jan-Apr	mahogany	X		X	X					
<i>Arctostaphylos</i> x 'Winterglow'	winterglow manzanita	Cv	2-3	4-6	M-L	white	Dec-Feb	mahogany	X			X					X
<i>Artemisia californica</i>	coastal sagebrush	CSD	2-4	4	L	light yellow	Aug-Sep	brown					X				X
<i>Artemisia palmeri</i>	Palmer's sagewort	CSD	3-6	6	L	light yellow	Jul-Aug	brown					X			X	X
<i>Atriplex canescens</i>	four-wing saltbush	CSD	3-6	6	L	light yellow	Jun-Sep	chartreuse	X			X					X
<i>Atriplex lentiformis</i>	big saltbush	CSD	6-10	6-10	L	light yellow	Jul-Oct	tan tinged pink	X	X		X					X
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote Brush	CSD	4-8	4-8	L	white	Jul-Sep	white	X	X		X					X
<i>Baccharis sarothroides</i>	broom baccharis	CSD	3-6	3-6	L	white	Jun-Aug	white			X	X					X
<i>Bahiopsis laciniata</i>	San Diego goldeneye	CSD	2-4	2-4	L	golden yellow	Feb-Aug	brown					X				X
<i>Berberis aquifolium</i>	Oregon grape	CA	4-8	4 +	M	yellow	Dec-Mar	metallic blue		X		X				X	X
<i>Berberis</i> x 'Golden Abundance'	golden abundance Oregon grape	Cv	4-6	4 +	M	golden yellow	Dec-Mar	metallic blue		X	X	X				X	X
<i>Berberis pinnata</i>	California holly grape	SD	4-8	4 +	L	yellow	Feb-Apr	dark blue		X	X	X				X	X
<i>Brickellia californica</i>	California brickellbush	CSD	2-6	2-6	L	white	Jul-Dec	white				X					X
<i>Carpenteria californica</i>	California bush anemone	CA	6-10	6-10	M	white	May-Jul	brown		X	X	X				X	X
<i>Ceanothus cuneatus</i> var. <i>rigidus</i> 'Snowball'	snowball Monterey ceanothus	CA	2-4	6-10	M-L	white	Mar-Apr	brown				X					X
<i>Ceanothus griseus</i> 'Louis Edmonds'	Louis Edmonds' Carmel ceanothus	CA	6	20	M-L	blue	Feb-Apr	brown	X			X					X
<i>Ceanothus griseus</i> 'Santa Ana'	Santa Ana Carmel ceanothus	CA	5-8	6-10	M-L	dark blue	Feb-Apr	brown				X					X
<i>Ceanothus maritimus</i>	Hoover ceanothus	CA	3-6	4-8	M-L	violet	Jan-Mar	brown				X					X

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<i>Ceanothus oliganthus</i> var. <i>sorediatus</i>	Hoover Jim brush	SD	5-15	10-15	L	blue	Feb-Mar	brown		X	X	X					X
<i>Ceanothus purpureus</i>	hollyleaf ceanothus	CA	3-6	4-10	M-L	violet-purple	Feb-Mar	brown				X					X
<i>Ceanothus thrysiflorus</i>	blue blossom	CA	6-20	10-20	M-L	blue	Feb-May	brown		X		X				X	X
<i>Ceanothus thrysiflorus</i> 'Skylark'	Skylark blue blossom	CA	4-6	9-12	M-L	blue	Apr-Jun	brown	X	X	X	X				X	X
<i>Ceanothus thrysiflorus</i> 'Snow Flurry'	snow flurry wild lilac	CA	9-12	9-12	M-L	white	Feb-Apr	brown		X	X	X				X	X
<i>Ceanothus tomentosus</i>	Ramona lilac	SD	6-8	6-8	L	blue	Feb-Apr	brown		X		X					X
<i>Ceanothus verrucosus</i>	warty-stem ceanothus	CSD	8-12	8-12	L	white	Jan-Mar	brown		X		X					X
<i>Ceanothus</i> hybrid cultivars*																	
<i>Ceanothus</i> x 'Concha'	concha wild lilac	Cv	4-6	6-9	M-L	cobalt blue	Feb-Apr	brown		X	X	X					X
<i>Ceanothus</i> x 'Dark Star'	dark star wild lilac	Cv	4-6	7-10	L	cobalt blue	Feb-Apr	brown		X	X	X					X
<i>Ceanothus</i> x 'Frosty Blue'	frosty blue wild lilac	Cv	8-12	8-12	M-L	blue	Mar-May	brown		X	X	X					X
<i>Ceanothus</i> x 'Joyce Coulter'	Joyce Coulter wild lilac	Cv	3-6	10-15	M-L	blue	Feb-May	brown	X			X					X
<i>Ceanothus</i> x 'Julia Phelps'	Julia Phelps wild lilac	Cv	4-8	8-12	L	cobalt blue	Feb-Apr	brown			X	X					X
<i>Ceanothus</i> x 'Ray Hartman'	Ray Hartman wild lilac	Cv	12-20	12-20	M-L	blue	Mar-May	brown		X	X	X					X
<i>Ceanothus</i> x 'Sierra Blue'	Sierra blue wild lilac	Cv	12-20	12-20	L	vivid blue	Mar-Apr	brown		X	X	X					X
<i>Ceanothus</i> x 'Wheeler Canyon'	Wheeler Canyon wild lilac	Cv	3-6	6-12	M-L	cobalt blue	Mar-May	brown		X	X	X					X
<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birch-leaf mountain mahogany	SD	3-10	3-6	L	insignificant	Mar-May	white feathers	X	X		X					X
<i>Cercocarpus betuloides</i> var. <i>blancheae</i>	island mountain mahogany	CA	10-20	10	L	insignificant	Apr-May	white feathers	X	X	X	X					X
<i>Comarostaaphylis diversifolia</i> subsp. <i>diversifolia</i>	summer holly	SD	12-20	15-20	L	white	May-Jun	red		X	X	X					X
<i>Cornus sericea</i> subsp. <i>occidentalis</i>	creek dogwood	SD	6-15	6 +	R	cream bright red stems	May-Jul	white to cream		X				X		X	X
<i>Dendromecon harfordii</i>	island bush poppy	CA	8-15	8-15	M-L	yellow	Apr-Jul+	brown	X	X	X	X					X

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<i>Dendromecon rigida</i>	bush poppy	SD	8-10	4-8	L	yellow	Apr-Jun	brown		X		X					X
<i>Ericameria palmeri</i>	Palmer's goldenbush	CSD				yellow	Sep-Nov	brown		X		X					
<i>Eriogonum arborescens</i>	Santa Cruz Island buckwheat	CA	2-8	2-8	L	white to pink	Apr-Oct	tan		X	X	X					X
<i>Eriogonum cinereum</i>	ashleaf buckwheat	CA	2-6	2-6	L	white-pink	all year	tan				X					X
<i>Eriogonum fasciculatum</i> subsp. <i>fasciculatum</i>	coast California buckwheat	CSD	2-4	4	L	white	Mar-Jun	tan		X			X				X
<i>Eriogonum giganteum</i>	St. Catherine s lace	CA	6-10	8-12	L	white to rose	Feb-Sep	tan		X	X	X					X
<i>Eriogonum latifolium</i>	coast buckwheat	CA	1-2	4-6	L	white to rose	Feb-Sep	tan			X	X					X
<i>Frangula californica</i>	California coffeeberry	SD	6-12	6-12	L	yellow-green	May-Jul	red-purple	X	X	X	X					X
<i>Frangula californica</i> 'Eve Case'	Eve Case coffeeberry	CA	3-6	3-6	M-L	yellow-green	May-Jul	red-purple	X	X	X	X				X	X
<i>Frangula californica</i> 'Mound San Bruno'	Mound San Bruno coffeeberry	CA	3-6	3-6	M-L	yellow-green	May-Jul	red-purple	X	X	X	X				X	X
<i>Frangula californica</i> subsp. <i>tomentella</i>	hoary coffeeberry	SD	12-18	12-18	L	green-yellow	May-Jul	deep red-purple	X	X	X	X					X
<i>Fremontodendron mexicanum</i>	California flannel bush	SD	8-20	12-20	L	gold	Mar-Jun	brown	X	X	X	X					X
<i>Fremontodendron</i> x ' <i>California Glory</i> '	California glory flannel bush	Cv	12-18	8-12	L	yellow	Mar-Jul	brown	X	X	X	X					X
<i>Fremontodendron</i> x ' <i>San Gabriel</i> '	San Gabriel flannel bush	Cv	12-18	12-20	L	gold	Mar-Jul	brown	X	X	X	X					X
<i>Gambelia speciosa</i>	showy island snapdragon	CA	2-3	3-6	M-L	red	Mar-Jun	insignificant	X	X	X	X			X	X	X
<i>Garrya fremontii</i>	Fremont silk tassel	SD	5-10	5-10	L	silver	Jan-Apr	gray	X	X		X					X
<i>Garrya veatchii</i>	canyon silktassel	SD	4-6	4-6	L	silver	Feb-Apr	gray	X	X		X					X
<i>Heteromeles arbutifolia</i>	toyon	CSD	6-20	6-20	M-L	cream	Jun-Aug	bright red or gold	X	X	X	X				X	X
<i>Keckiella antirrhinoides</i>	yellow bush penstemon	SD	3-6	3-6	L	yellow	Apr-Jun	insignificant	X	X			X				X
<i>Keckiella cordifolia</i>	heartleaf keckiella	SD	4-6 +	6-8 +	M-L	orange red	May-Jul	insignificant			X		X			X	X

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<i>Lupinus albifrons</i>	silver bush lupine	SD	4-8	4-8	L	violet to lavender	Mar-Jun	brown		X	X		X				X
<i>Lupinus arboreus</i>	tree lupine	CSD	3-7	3-7	L	yellow	Apr-Jul	brown		X	X	X					X
<i>Lycium andersonii</i>	waterjacket boxthorn	CSD	4-6	6-8	L	pale violet	Mar-May	orange-red		X			X				X
<i>Lycium californicum</i>	coast desert-thorn	CSD	3-5	5-8	M-L	white	Mar-Aug	bright red		X			X				X
<i>Malacothamnus fasciculatus</i>	chaparral mallow	CSD	6-10	6+	L	pink	May-Jul	brown		X			X				X
<i>Malacothamnus palmeri</i> var. <i>involucratas</i>	Carmel Valley bush mallow	CA	6-8	6-8	L	white	Feb-Jun	brown		X	X	X					X
<i>Malosma laurina</i>	laurel leafed sumac	CSD	10-20	10-20	L	cream	Jun-Jul	cream		X	X	X					X
<i>Malva assurgentiflora</i>	malva rose	CA	5-10	5-10	L	rose-purple	Apr-Jun	brown	X	X	X		X			X	X
<i>Ornithostaphylos oppositifolia</i>	Baja California birdbush	SD	6-8	8-12	L	white	Jan-Apr	mahogany		X	X	X					X
<i>Peritoma arborea</i>	bladderpod	CSD	3-6	2-4	L	yellow	all year	light brown		X			X				X
<i>Philadelphus lewisii</i>	wild mock-orange	CA	6-10	6-10	M-L	white	Apr-Jun	brown		X	X			X		X	
<i>Pluchea sericea</i>	arrowweed	CSD	10-15	10+	M-L	pink	Mar-Jul	light brown	X	X		X					X
<i>Prosopis glandulosa</i> var. <i>torreyana</i>	honey mesquite	SD	10-15	15	L	yellow	Apr-Aug	brown			X			X			X
<i>Prunus ilicifolia</i> subsp. <i>ilicifolia</i>	holly-leaf cherry	SD	10-20	10	L	cream	Apr-May	red-purple	X	X		X					X
<i>Quercus dumosa</i>	Nuttall's scrub oak	CSD	10-20	10-20	L	green	Mar-May	green-brown			X	X					X
<i>Rhamnus crocea</i>	redberry	CSD	3-6	3-6	L	green-yellow	Jan-Apr	bright red		X	X	X				X	X
<i>Rhamnus ilicifolia</i>	holly-leaf redberry	SD	8-15	8-15	L	green-yellow	Mar-Jun	red	X	X	X	X				X	X
<i>Rhus integrifolia</i>	lemonade berry	CSD	3-15	15+	L	white-pink	Feb-May	red	X	X	X	X				X	X
<i>Rhus ovata</i>	sugar berry	SD	12-18	12-18	L	pink-red	Mar-May	red	X	X	X	X					X
<i>Ribes aureum</i> var. <i>gracillimum</i>	golden currant	SD	3-6	3-4	M	yellow	Feb-May	blue-black		X	X			X		X	X
<i>Ribes indecorum</i>	white-flowered currant	SD	4-6-	3-4	L	white	Dec-Mar	blue-black		X	X		X			X	X
<i>Ribes malvaceum</i>	chaparral currant	SD	4-8	3-6	L	pink	Nov-Apr	blue-black		X	X		X			X	X
<i>Ribes sanguineum</i> var. <i>glutinosum</i>	pink-flowered currant	CA	4-8	3-6	M-L	pink	Feb-Apr	blue-black		X	X			X		X	X

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<i>Ribes speciosum</i>	fuchsia-flowered gooseberry	SD	4-6	6-8	L	bright red	Jan-May	red		X	X		X			X	X
<i>Ribes viburnifolium</i>	Catalina currant	CSD	2-3	3-6	M-L	red-purple	Feb-Apr	red	X	X		X			X	X	
<i>Salix exigua</i>	sandbar willow	CSD	10-15	10-15	M	green-yellow	Feb-May	green-white		X				X			X
<i>Salix lasiolepis</i>	arrow willow	CSD	15-30	15-30	M	green-yellow	Jan-Mar	green-white		X	X			X			X
<i>Salvia apiana</i> **	white sage	CSD	3-5	5	L	white	Apr-Aug	light brown		X	X		X				X
<i>Salvia brandegeei</i> **	Brandeeg's sage	CBC	3-6	6	L	blue	Feb-Aug	light brown		X	X		X				X
<i>Salvia clevelandii</i> **	fragrant sage	CSD	3-5	5	L	deep blue	Apr-Jul	dark brown		X	X		X				X
<i>Salvia clevelandii</i> 'Winifred Gilman**	Winifred Gilman's sage	CA	2-3	3	L	deep blue	Apr-Jul	dark brown		X	X	X					X
<i>Salvia leucophylla</i> **	purple sage	CSD	4-6	6+	L	pink-lavender	Apr-Jun	light brown	X	X	X		X				X
<i>Salvia mellifera</i> **	black sage	CSD	3-6	6	L	white-light blue	Mar-Jun	light brown	X	X	X		X				X
<i>Salvia munzii</i> **	San Miguel Mountain sage	SD	3-6	6	L	light blue	Jan-May	light brown		X	X		X				X
<i>Salvia clevelandii</i> x <i>S. leucophylla</i> hybrids																	
<i>Salvia</i> x 'Allen Chickering**	Allen Chickering sage	Cv	4-6	6-8	L	sky blue	Apr-Jun	dark brown		X	X		X				X
<i>Salvia</i> x 'Aromas**	Ken Taylor's sage	Cv	4-6	6-8	L	bright blue	Apr-Jun	dark brown		X	X		X				X
<i>Salvia</i> x 'Whirley Blue**	Whirley Blue sage	Cv	4-6	6-8	L	bright blue	Apr-Jun	dark brown		X	X		X				X
<i>Sambucus nigra</i> subsp. <i>caerulea</i>	blue elderberry	CSD	10-20	10-20	M-L	cream	Mar-Sep	blue-black			X			X			X
<i>Simmondsia chinensis</i>	jojoba	CSD	3-6	3-6	L	yellow	Mar-May	green-brown	X	X	X	X					X
<i>Styrax redivivus</i>	snowdrop bush	SD	5-12	5-12	M-L	white	Apr-Jun	light brown		X	X			X		X	X
<i>Trichostema lanatum</i>	woolly blue curls	SD	2-3	2-3	L	magenta-violet	Apr-Jul	light brown		X	X	X					X
<i>Venegasia carpesioides</i>	canyon sunflower	CSD	2-5	2-5	M-L	yellow	Feb-Jul	dark brown		X	X		X		X	X	
<i>Xylococcus bicolor</i>	mission manzanita	CSD	6-10	6-10	L	white	Dec-Feb	mahogany		X	X	X					X

Key to native status: CSD, coastal southwest San Diego County; SD, species native to San Diego County; CBC, north coastal Baja California (within the California Floristic Province) CA, plants native to California; Cv, Plant cultivars derived from California hybrids of native species. Cultivar selections of wild plants are listed as SD or CA, depending on where the selections were originally made. Key to irrigation: R, regular watering to keep soil moist; M, moderate to occasional watering applied deeply and allowed to dry between irrigations; L, infrequent to no irrigation needed except during winter drought. Spread: x+ indicates spread after 1-3 years, but the species is known to grow larger over time

Notes on shrubs: Many native species and cultivars are tolerant of some water during the summer months. However, almost universally, this will shorten their lives, sometimes by decades. In San Diego, unless otherwise noted, the only irrigation that most native shrubs need is during winter drought and during a 1-2 year period of establishment. If planted in the fall and occasionally irrigated during winter-spring dry spells, the plants should be able to survive and thrive without any further irrigation, including drip. Drought tolerance is enhanced by mulching plants with up to 3 inches of wood-chip mulch. Avoid mulching within 3 inches of the base of the trunk.

*There are many (presumably hybrid) cultivars of both *Ceanothus* and *Arctostaphylos* available in the San Diego region. In landscape situations, these may be preferable because of greater garden tolerance. They tend to be a little more accepting of dry season water, so they tend to integrate more successfully when combined with non-natives that have moderate water needs. Still, most will be shorter lived with increasing dry season irrigation.

** Most species of *Salvia* native to California are naturally summer/stress deciduous. In the landscape, *Salvias* will retain foliage during the dry season with a deep irrigation every 4-6 weeks. More frequent irrigation will substantially reduce their life-span.

F.8 Climbers

Botanical Name	Common Name	Native Status	Height	Spread	Irrigation	Shade	Part Shade	Full Sun
<i>Aristocratic californica</i>	California dutchman's pipe	CA	12 +	12 +	M-L	X	X	X
<i>Calistegia macrostegia</i>	California morning glory	CSD	6-30	30 +	M-L			X
<i>Clematis lasiantha</i>	chaparral clematis	SD	18	18 +	L		X	X
<i>Lonicera hispidula</i>	California honeysuckle	SD	6-18	6-18	M-L	X	X	X
<i>Lonicera subspicata</i> var. <i>subspicata</i>	southern honeysuckle	CSD	3-8	3-8	L		X	X
<i>Vitis girdiana</i>	desert wild grape	SD	30	30 +	M-L		X	X

Key to native status: CSD, coastal southwest San Diego County; SD, species native to San Diego County; CA, plants native to California; Cv, Plant cultivars derived from California hybrids of native species. Cultivar selections of wild plants are listed as SD or CA, depending on where the selections were originally made. Key to irrigation: R, regular watering to keep soil moist; M, moderate to occasional watering applied deeply and allowed to dry between irrigations; L, infrequent to no irrigation needed except during winter drought. Spread: x+ indicates spread after 1-3 years, but the species is known to grow larger over time

F.9 Trees

Botanical Name	Common Name	Native Status	Height	Spread	Irrigation	Shade	Part Shade	Full Sun
<i>Alnus rhombifolia</i>	white alder	SD	30-60	30-45	R-L		X	X
<i>Chilopsis linearis</i>	desert willow	SD	20-40	20-40	L			X
<i>Lyonothamnus floribundus</i> subsp. <i>asplenifolius</i>	Santa Cruz Island ironwood	CA	30-60	20-30	L		X	X
<i>Pinus quadrifolia</i>	four-needle pinyon	SD	10-30	10-20	L			X
<i>Pinus torreyana</i>	Torrey pine	CSD	30-50	20-40	L			X
<i>Platanus racemosa</i>	California sycamore	CSD	50-100	30-50	R-M			X
<i>Prunus ilicifolia</i> subsp. <i>lyonii</i>	Catalina cherry	CA	30-45	15-25	M-L			X
<i>Quercus agrifolia</i>	coast live oak	CSD	60-90	60-120	L			X
<i>Quercus chrysolepis</i>	canyon live oak	SD	40-70	50-70	M-L		X	X
<i>Quercus engelmannii</i>	mesa blue oak	SD	20-40	30-50	L			X
<i>Quercus tomentella</i>	island oak	CA	20-40	20-30	L			X
<i>Salix gooddingii</i>	black willow	CSD	40-60	40-60	M			X
<i>Salix laevigata</i>	red willow	CSD	25-40	25-40	M			X
<i>Umbellularia californica</i>	California bay	SD	20-60	20-60	M		X	X

Key to native status: CSD, coastal southwest San Diego County; SD, species native to San Diego County; CA, plants native to California; Cv, Plant cultivars derived from California hybrids of native species. Cultivar selections of wild plants are listed as SD or CA, depending on where the selections were originally made. Key to irrigation: R, regular watering to keep soil moist; M, moderate to occasional watering applied deeply and allowed to dry between irrigations; L, infrequent to no irrigation needed except during winter drought. Spread: x+ indicates spread after 1-3 years, but the species is known to grow larger over time

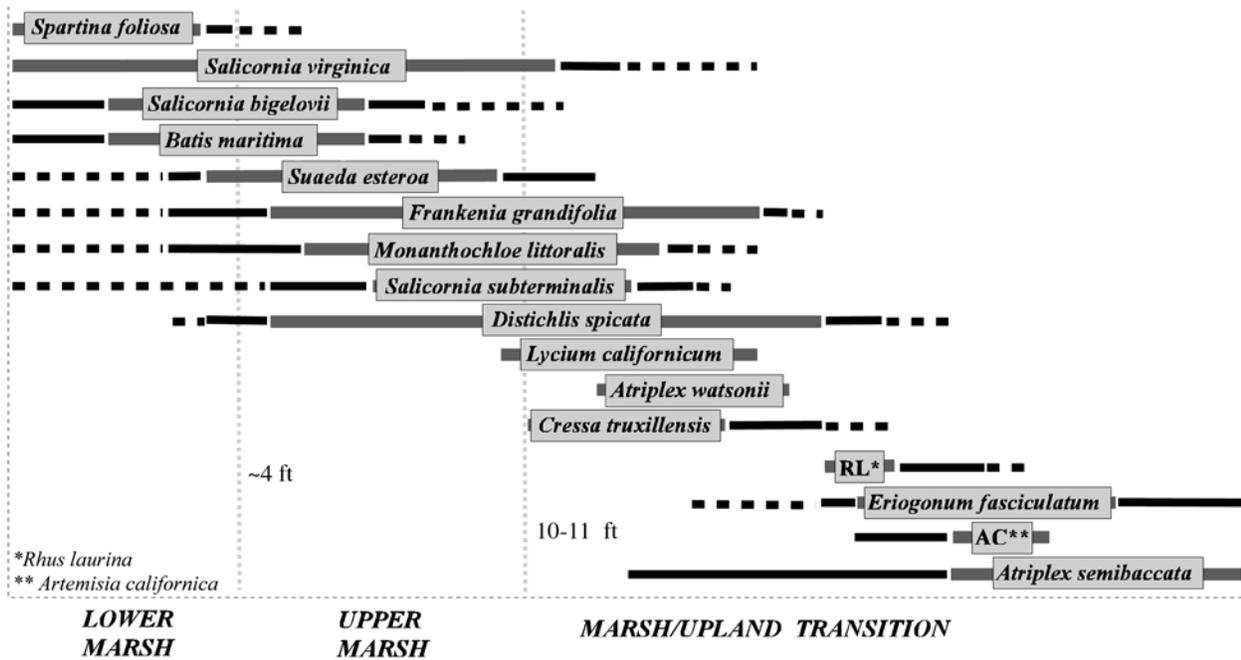
F.10 Bioswale Plants

Bioswales within the transitional buffer areas serve the important ecological function of regulating water quality from stormwater runoff. The following table provides a guideline for species suitable for functional bioswales that fit ecologically within buffer areas. Refer to lists in this appendix, as indicated, for species details. Zone 1 is the bottom of the bioswales; Zone 2 are the sides of the bioswales; Zone 3 is the top of the bioswales. Species are arranged by zone. All species listed are native to coastal southwestern San Diego County.

Species	Common Name	List	Zone
<i>Carex spissa</i>	San Diego sedge	Grass-like Plants (F5)	1
<i>Eleocharis montevidensis</i>	Dombey's spike rush	Grass-like Plants (F5)	1
<i>Euthamia occidentalis</i>	western goldenrod	Perennials (F2)	1
<i>Juncus effusus</i> var. <i>austrocalifornicus</i>	Pacific rush	Grass-like Plants (F5)	1
<i>Juncus mexicanus</i>	Mexican rush	Grass-like Plants (F5)	1
<i>Juncus xiphioides</i>	iris-leaf rush	Grass-like Plants (F5)	1
<i>Schoenoplectus pungens</i> var. <i>longispicatus</i>	common three-square	Grass-like Plants (F5)	1
<i>Achillea millefolium</i>	yarrow	Perennials (F2)	2
<i>Ambrosia pumila</i>	San Diego ambrosia	Perennials (F2)	2
<i>Asclepias fasciculatum</i>	narrow-leaf milkweed	Perennials (F2)	2
<i>Carex barbarae</i>	Barbara's sedge	Grass-like Plants (F5)	2
<i>Distichlis spicata</i>	salt grass	True Grasses (F5)	2
<i>Elymus tritichoides</i>	beardless wild-rye	True Grasses (F5)	2
<i>Epilobium canum</i>	California fuchsia	Perennials (F2)	2
<i>Iva hayesiana</i>	San Diego marsh-elder	Perennials (F2)	2
<i>Juncus acutus</i> subsp. <i>leopoldii</i>	southwestern spiny rush	Grass-like Plants (F5)	2
<i>Pluchea odorata</i>	salt-marsh fleabane	Perennials (F2)	2
<i>Stipa pulchra</i>	purple needlegrass	True Grasses (F5)	2
<i>Artemisia californica</i>	coastal sagebrush	Shrubs (F7)	3
<i>Atriplex canescens</i>	four-wing saltbush	Shrubs (F7)	3
<i>Baccharis sarothroides</i>	broom baccharis	Shrubs (F7)	3
<i>Camissoniopsis cheiranthifolia</i> subsp. <i>suffrutescens</i>	beach evening-primrose	Perennials (F2)	3
<i>Ericameria palmeri</i>	Palmer's goldenbush	Perennials (F2)	3
<i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i>	coast California buckwheat	Shrubs (F7)	3
<i>Leptosyne maritima</i>	sea dahlia	Perennials (F2)	3
<i>Lycium californicum</i>	coast desert thorn	Shrubs (F7)	3
<i>Mirabilis laevis</i> var. <i>crassifolius</i>	coastal wish-bone plant	Perennials (F2)	3
<i>Peritoma arborea</i>	bladderpod	Shrubs (F7)	3

F.11 Salt Marsh and Transition Zone Plants

Restoration of the Salt Marsh to Upland continuum demands an understanding of the placement of plants with respect to the *mean lower low water* (MLLW) measured as an elevation in feet. Plants listed at the lowest elevation endure salt water and inundation on a regular basis. Plants listed at the highest elevation are species that might receive salt water during the highest tidal events, perhaps once a year (Figure F-1). Upland species are members of the coastal sage scrub and maritime succulent scrub plant associations. Plant species listed here are local native species that are annuals, perennials and shrubs.



Schematic representation of changes in plant species abundance from lower marsh habitat to upland habitat in the San Diego Bay area. (Based on data presented in Zedler 1993 and Bay species list).

- Zone of greatest species abundance
- ▬ Zone of moderate abundance
- ⋯ Zone of least abundance

Figure F-1. Schematic of Salt Marsh Habitat and a sample of plant species associated with each zone.

Table F-1. Plant Species for salt marsh-upland transition zones (Sullivan and Noe 2001). Taxonomy is consistent with The Jepson Manual, 2nd Edition (Baldwin et al. 2012).

Botanical Name	Common Name	Plant Form	Height (feet)	Spread (feet)	Habitat*	Elevation Range (MLLW)
<i>Artemisia californica</i>	coast sagebrush	Shrub	2-4	4	UPT	10.0-12.0
<i>Atriplex californica</i>	California saltbush	Perennial	0.5	1.5	HM-UTP	5.8+
<i>Atriplex canescens</i>	fourwing saltbush	Shrub	3-6	6	UPT	10.0-12.0
<i>Atriplex lentiformis</i>	big saltbush	Shrub	6-10	6-10	UPT	10.0-12.0
<i>Atriplex prostrata</i>	fat-hen	Annual	1.5	1.5	FWT	5.5+
<i>Atriplex watsonii</i>	matscale	Perennial	0.4	3-6	HM	6.2-9.5
<i>Arthrocnemum subterminale</i>	Parish's pickleweed	Perennial	0.5-1.5	0.5-1.5	HM	5.8-10.3
<i>Baccharis pilularis subsp. consanguinea</i>	coyote brush	Shrub	4-8	4-8	UPT	10.0-12.0
<i>Baccharis sarothroides</i>	broom baccharis	Shrub	3-6	3-6	UPT	10.0-12.0
<i>Batis maritima</i>	saltwort	Perennial	0.5-1	0.5-1	MP	4.2-7.8
<i>Chloropyron maritimum subsp. maritimum</i>	salt marsh bird's-beak	Annual	0.5	1.0-1.5	MP-HM	5.0-9.7
<i>Cressa truxillensis</i>	alkali weed	Perennial	.75	3+	HM	5.8-9.9
<i>Distichlis spicata</i>	salt grass	Perennial grass	0.5-1.5	3+	MP-UTP	4.9+
<i>Elymus tritichoides</i>	beardless wild-rye	Perennial grass	1.5-4	3+	UPT	7.8+
<i>Eriogonum fasciculatum var. fasciculatum</i>	coast California buckwheat	Shrub	2-4	4	UPT	7.8+
<i>Frankenia palmeri</i>	Palmer's alkali heath	Shrub	1-1.5	3+	UPT	7.0+
<i>Frankenia salina</i>	alkali heath	Shrub	1-1.5	3+	MP-HM	5.2-7.5
<i>Heliotropium curassavicum var. oculatum</i>	seaside heliotrope	Perennial	.25	2.5+	UPT	1.3+
<i>Hornungia procumbens</i>	prostrate hutchinsia	Annual	.33	.33	HM-UTP	7.2-8.1
<i>Isocoma menziesii</i>	coast goldenbush	Perennial	2.5-4	1-1.5	UPT	8.0+
<i>Jaumea carnosa</i>	saltmarsh daisy	Perennial	.25-.65	3+	MP	4.5-7.0
<i>Juncus acutus</i>	southwestern spiny rush	Perennial	5	5	FWT	7.5+

Habitats: ST = subtidal; MP = marsh plain; HM = high marsh; FWT = freshwater transition; UPT = upland transition

Table F-1. Plant Species for salt marsh-upland transition zones (Sullivan and Noe 2001). Taxonomy is consistent with The Jepson Manual, 2nd Edition (Baldwin et al. 2012).

Botanical Name	Common Name	Plant Form	Height (feet)	Spread (feet)	Habitat*	Elevation Range (MLLW)
<i>Juncus bufonius</i>	toad rush	Annual	.25	.25	FWT	7.2+
<i>Lasthenia glabrata</i> subsp. <i>coulteri</i>	Coulter's goldfields	Annual	0.1-0.5	0.1-0.5	HM	6.8-10.0
<i>Limonium californicum</i>	sea lavender	Perennial	1-2.5	2+	MP-HM	4.5-7.6
<i>Lycium californicum</i>	coast desert-thorn	Shrub	3-5	5-8	HM-UPT	7.0+
<i>Malosma laurina</i>	laurel leafed sumac	Shrub	10-20	10-20	UPT	7.8+
<i>Monanthochloe littoralis</i>	shoregrass	Perennial grass	0.5-1	3+	MP-HM	5.0-10.2
<i>Ruppia maritima</i>	ditch-grass	Perennial grass	.5	3+	ST-FWT	0.0
<i>Salicornia bigelovii</i>	annual pickleweed	Annual	0.5-1.5	0.5-1.5	MP	4.5-7.2
<i>Salicornia depressa</i>	glasswort	Annual	0.5-1.0	0.5-1.0	HM	5.1-9.5
<i>Salicornia pacifica</i>	pickleweed	Perennial	1-3	1-2	MP-HM	4.2-9.2
<i>Spartina foliosa</i>	California cordgrass	Perennial	3-4.5	1.5-4.5	MP	4.1-6.3
<i>Spergularia macrotheca</i>	large-flowered sand-spurry	Perennial	0.25-1	0.5-1.5	HM-UPT	6.7+
<i>Spergularia marina</i>	salt marsh sand spurry	Perennial	0.25-1	0.5-1.5	HM-UPT	6.4+
<i>Suaeda calceoiformis</i>	horned sea-blite	Annual	1.5	1.5	MP-HM	7.2+
<i>Suaeda esteroa</i>	sea-blight	Perennial	3	3	MP-HM	4.6-7.0
<i>Suaeda nigra</i>	bush seepweed	Perennial	3-4	3-4	UPT	7.8+
<i>Suaeda taxifolia</i>	woolly sea-blight	Perennial	3-4	3-4	UPT	6.8+
<i>Triglochin concinna</i>	arrow-grass	Perennial	0.5-1	1+	MP	5.2-6.8
<i>Zostera marina</i>	eelgrass	Perennial marine grass	3-9	3+	ST	-8.0-0.0

Habitats: ST = subtidal; MP = marsh plain; HM = high marsh; FWT = freshwater transition; UPT = upland transition

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Appendix G: Energy Efficiency Requirements

This appendix contains a copy of Exhibit 3 to the MMRP focusing on Energy Efficiency requirements for the CVBMP.

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EXHIBIT 3 to the Mitigation Monitoring and Reporting Program for the Chula Vista Bayfront Master Plan

Exhibit 3 outlines the methodologies for determining that the goals of the Energy Section are met. The Sample Worksheets are for illustration purposes, to provide a format which may be used both by Developments and by the City of Chula Vista's Building Department. Note that the Energy Section outlines requirements and approaches for projects which will be subject to future codes, regulations, tariffs, and technologies, all of which are subject to change. When clarifications are needed, they will be provided by the City of Chula Vista.

Baseline. The term "Baseline" refers to the amount of energy against which the energy reduction will be measured.

SAMPLE Worksheets. Sample worksheets are provided as suggested approaches. Actual worksheets for calculating the energy requirements should be coordinated with the City of Chula Vista Building Department.

Title 24 Path. Title 24 language refers to the "Standard Budget" and "Proposed Budget." The Whole Building Performance Method, which generates the Standard and Proposed Energy Budgets, is specifically for energy uses within a conditioned building, and does not include lighting which is in Interior Unconditioned Spaces or lighting which is outside. However, for the purposes of the Energy Section, this lighting energy will be added to the energy budgets for the conditioned building, and the combined energy uses will become the Baseline for the "Title 24 Path." Each of the various energy uses will be converted into Site kBtu, except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

LEED Path. LEED language refers to the "Baseline Design" and "Proposed Design." The LEED Path Baseline is likely to be different and higher than the Title 24 Path Baseline because LEED counts all of the energy uses within the site boundary, some of which are not counted by Title 24. However, LEED is also likely to be better and more comprehensive in calculating overall energy performance features, such as district thermal plants, combined heat and power, natural ventilation, efficiencies in process loads, aggregating multiple buildings, and the benefits of renewable energy. Each of the various energy uses will be converted into dollars (\$), except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

If the LEED Path is chosen, the Development may be subject to an additional fee to the City of Chula Vista for a 3rd party plan check by an experienced LEED reviewer acceptable to the City. Recognizing that LEED Templates may not be complete at the time of the initial Building Department submittals, draft Templates may be used, at the discretion of the reviewer.

Natural Ventilation. When using Natural Ventilation (NV) to qualify as an energy reduction feature, the Development may qualify for a waiver of up to 10% if at least 75% of the area that would normally be cooled relies solely on natural ventilation strategies to help maintain comfortable temperatures. Pro-rations are possible.

City of Chula Vista Sponsored Energy Efficiency Program. Refer to the appropriate City ordinances for details on this program.

Measurement and Verification. Each Development shall develop and implement an ongoing Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D. If the LEED Path is chosen, the M&V Plan should be consistent with Credit EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

Demand Response Tariffs. Developments which enroll in SDG&E Demand Response rate tariff(s) which are designed to reduce the load on the electric grid during critical times may be awarded up to a 5% waiver.

EXHIBIT 3

SAMPLE Worksheet A: Title 24 Path

Name: Example Development

Description ¹	Source of Info (Attachments)	Input Standard	Input Proposed	Typical Units of Measure	Convert to Site kbtu	Standard = Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduction
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Uses										
T24 Electricity	T24 UTIL-1, Part 2			Site KWH/year	3.413	-	-	kBtu		
T24 Gas	T24 UTIL-1, Part 2			Site Therms/year	100.000	-	-	kBtu		
T24 Lighting Outside and Uncond	Worksheet A-LTG	-	-	Site KWH/year	3.413	-	-	kBtu		
A. Summary of Efficiency of End Uses						-	-	kBtu		
B. Renewable Energy Contributions										
PV: within Development	CSI calculation or	n/a		Site KWH output/year	3.413	n/a	-	kBtu		
PV: Credited from Project	PV-Watts ²	n/a		Site KWH output/year	3.413	n/a	-	kBtu		
Solar Thermal: within Development	F-Chart or equal	n/a		Site kbtu offset/year	1.000	n/a	-	kBtu		
Other	as appropriate	n/a		as appropriate		n/a				
B. Combined Renewable Reductions										
C. Natural Ventilation	Worksheet C						0% to 10%			
D. Chula Vista Program Savings										
Verified Electricity Savings	Confirm with Program Administrator	n/a		Site KWH	3.413		-	kBtu		
Verified Gas Savings		n/a		Site Therms	100.000		-	kBtu		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify	Worksheet E						Required			
F. Demand Response Tariff	Worksheet F						0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET A

Note 1: If the Development includes more than one building, then use multiple Worksheets, or, add backup calculations or line items to this spreadsheet, as most appropriate.

Note 2: Final photovoltaic design and output informatio shall use industry standard software, including at least site location, array orientation, array tilt, and system efficiency. California Solar Initiative (CSI) rebate calculations and PV-Watts are examples of acceptable software.

EXHIBIT 3

Worksheet A-LTG: Lighting Outside and in Interior Unconditioned Spaces

Name: Example Development

Category ¹	Source of Info (Attachments)	T24 Allowed Watts	Proposed Watts	Occupancy	Average hours	Days /year	Hours /year	Standard KWH/yr	Proposed KWH/yr
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Signs (Non-Tradable)	T24 OLTG Forms						-	-	-
Signs (Non-Tradable)	T24 OLTG Forms						-	-	-
Totals (Subtotals are inputs to Worksheet A)								-	-

NOTES TO WORKSHEET A-LTG

Note 1: If more lines are needed, create a spreadsheet in similar format, and enter above, as appropriate.

Note 2: For average runtimes, use the hours in this chart, unless proposer demonstrates to the Bldg Department's satisfaction that a different value should be used.

EXHIBIT 3

SAMPLE Worksheet B: LEED Path

Name: Example Development

Description	Source of Info (Attachments)	Standard or Baseline	Proposed	Typical Units of Measure	Virtual Rate	Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduciton
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Costs: LEED Performance Rating Method (PRM) EAp2/c1 Letter Template										
Conditioned Building(s)	LEED EAp2/c1 Letter Template	Included	Included							
Other energy uses on site		Included	Included							
Lighting: Outside and Uncond		Included	Included							
Onsite Renew Energy: Development		Included	Included							
Campus Renew Energy: Project		Included	Included							
Other		Included	Included							
Natural Ventilation		May be included in LEED EAp2/c1, OR, use Worksheet C								
Electricity (Summary)	LEED EAp2/c1 Section 1.8 Summary ¹			kWh	#DIV/0!			Site \$		
Natural Gas (Summary)				therms	#DIV/0!			Site \$		
A. Summary of Efficiency of Energy Costs							\$ -	\$ -	Site \$	
B. Combined Renewable Reductions	Included in EAp2/c1 above									
C. Natural Ventilation	May be included in LEED EAp2/c1 above, OR, use Worksheet C									
Alternate:	Worksheet C						0% to 10%			
D. Chula Vista Program Savings	Confirm with Program Administrator									
Verified Electricity Savings				Site KWH	#DIV/0!		#DIV/0!	Site \$		
Verified Gas Savings				Site Therms	#DIV/0!		#DIV/0!	Site \$		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify	LEED EAc5. See Worksheet E.						Required			
F. Demand Response Tariff	Worksheet F						0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET B

Note 1: LEED EAp2/c1 Letter Template: Section 1.8, "Energy Cost and Consumption by Energy Type - Performance Rating Method Compliance Table"

EXHIBIT 3

SAMPLE Worksheet C: Natural Ventilation

Name: Example Development

When using Natural Ventilation (NV) to qualify as an energy reduction feature for this Agreement, the Development may qualify for a waiver if at least 75% of the area that would normally cooled includes effective natural ventilation strategies to help maintain comfortable temperatures. A 5% waiver is granted if the area is also served by an energy or cooling system drawing energy from the grid. A 10% waiver is granted if the area is not served by an energy or cooling system drawing from the grid. The waiver may be prorated if the area is less than 75%. Final determination of normally cooled areas are at the discretion of the Building Department. For example, in CA Climate Zone 7, spaces such as warehouses and kitchens do not normally have electric cooling.

Two approaches are possible:

1. A Development may use a performance approach, such as macro-flow or Computational Fluid Dynamics (CFD) modeling, to design and confirm the maintenance of comfort using natural ventilation techniques.

2. As an alternate, the prescriptive calculations outlined in the Collaborative for High Performance Schools (CHPS) may be used. CHPS identifies an approach to achieving ventilation strategies which are likely to be effective in helping to maintain interior comfort when outside conditions are moderate. Even though the CHPS program targets school campuses, the approach is useful for
 The designer should follow the CHPS guidelines. To satisfy the prescriptive approach, the following table may be used. Inlets and Outlets should each be at least 4% of the floor area of the spa

Space Name	Source of Cooling	Conditioned Floor Area (CFA)	Qualifying CFA	Performance or Prescriptive Calculation	Prescriptive: Inlet (Windward)			Prescriptive: Outlet (Leeward)					
					Area	Orientation	% CFA	Area	Orientation	% CFA	higher than inlet	opposite or corner wall	
Space A	NV with grid cooling												
Space B	NV with grid cooling												
Space C	NV with grid cooling												
Subtotal:			0										
Space D	NV only												
Space E	NV only												
Space F	NV only												
Subtotal:			0										
Other spaces	no NV												
Total Normally Conditioned Floor Area		-											

CFA which is Naturally Ventilated, with Grid Cooling	0
Energy Reduction Allowed	
CFA Which is Naturally Ventilated Only	0
Energy Reduction Allowed	
Combined Energy Reduction Allowed	

CFA: NV + grid	Reduction
0%	0%
15%	1%
30%	2%
45%	3%
60%	4%
75%	5%

CFA: NV Only	Reduction
0%	0%
15%	2%
30%	4%
45%	6%
60%	8%
75%	10%

EXHIBIT 3

SAMPLE Worksheet D: Chula Vista Energy Efficiency Program

Name: Example Development

Refer to the appropriate City ordinances for details on this program, including, but not limited to:

City of Chula Vista Municipal Code Section 15.12 "Green Building Standards Ordinance"

City of Chula Vista Municipal Code Section 15.26.030 "Increase Energy Efficiency Ordinance"

EXHIBIT 3

SAMPLE Worksheet E: Ongoing Measurement & Verification (M&V)

Name: Example Development

Develop and implement a Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D.

M&V shall be on-going for the length of the lease.

Tenants shall have sub-meters for electricity. Sub-meters for gas and water should also be considered, but are not required.

The plan shall include a process for corrective action if energy performance goals are not achieved as planned. Refer to ASHRAE Guideline 14 for suggested ranges of discrepancy, appropriate to the meter, magnitude of energy uses, and overall plan.

If the LEED Path is chosen, the M&V Plan should be consistent with EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

EXHIBIT 3

Links for References used in EXHIBIT 3

Title 24 Building Energy Efficiency Standards	www.energy.ca.gov/title24/
Collaborative for High Performance Schools (CHPS) CHPS 2006 Volume II Best Practices Manual - Design	www.chps.net/dev/Drupal/node/31
IPMVP, Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003.	www.evo-world.org Products & Services / IPMVP / Applications Volume III
Leadership in Energy and Environmental Design (LEED™)	www.usgbc.org
City of Chula Vista sponsored energy efficiency program	
Living Building Challenge	www.ilbi.org



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Appendix I: NRMP Controlling Documents

This appendix contains copies of the following NRMP controlling documents:

- the MMRP as described in the CVBMP Final EIR (May 2010);
- the CVBMP Settlement Agreement (May 2010); and
- the CVBMP CCDP (July 2012).

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**MITIGATION MONITORING AND
REPORTING PROGRAM**

for the

CHULA VISTA BAYFRONT MASTER PLAN

UPD #83356-EIR-658

SCH #2005081077

Prepared for:

SAN DIEGO UNIFIED PORT DISTRICT

3165 Pacific Highway
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Prepared by:

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MAY 2010

1.0 INTRODUCTION

This Mitigation Monitoring and Reporting Program ("MMRP") was prepared for the San Diego Unified Port District ("Port") for the Chula Vista Bayfront Master Plan ("Proposed Project") pursuant to Public Resources Code section 21081.6, which requires public agencies to adopt such programs to ensure effective implementation of mitigation measures. The MMRP will serve the purpose of verifying completion of the mitigation measures for the Proposed Project.

Project Overview

The Proposed Project (Sweetwater Park Plan) comprises the following components:

- Amendments to the Port Master Plan (PMP); the City of Chula Vista General Plan; and the City's Local Coastal Program (LCP), which includes the Land Use Plan and Bayfront Specific Plan; and Multiple Species Conservation Program (MSCP) Chula Vista Subarea Plan
- A land exchange between the Port and Pacifica
- Redevelopment of the Sweetwater, Harbor, and Otay Districts with a variety of uses: park, open space, ecological buffers, cultural, recreational, residential, hotel and conference space, mixed-use office/commercial recreation, and retail. Redevelopment is expected to include a resort and conference center and proposed water uses such as a reconfigured marina basin and boat slips, a new commercial harbor, and realignment of the existing navigation channel.
- Redevelopment of the roadway system and infrastructure serving the Proposed Project area both on site and off site
- Demolition and/or relocation of existing uses to allow for the above redevelopment to occur subject to lease agreements.

Prominent characteristics of the Proposed Project include the establishment of three districts (Sweetwater, Harbor, and Otay), development of an RCC and other hotels, a signature park and other park and open space areas, a large ecological buffer, up to 1,500 residential units, mixed-use office/commercial recreation, retail, cultural uses, and reconfiguration of the existing Chula Vista Harbor. Several actions, including undergrounding of existing transmission lines, remediation of the L-Ditch and the former Goodrich South Campus land area, and demolition/relocation of the SDG&E switchyard (subject to the California Energy Commission (CEC) and California Public Utilities Commission (CPUC) actions), are being and/or would be separately addressed by the regulatory agencies responsible for their review and approval.

The project site (also referred to as the planning area) encompasses approximately 556 acres that includes 497 acres of land area and 59 acres of water area. This planning area has been divided into three districts—the Sweetwater District, the Harbor District, and the Otay District. The Sweetwater District (approximately 130 acres) proposes the lowest intensity development of the three districts and focuses on lower scale, environmentally sensitive and environmentally themed uses, including a large ecological buffer, a signature park, bike path, pedestrian trails, other open space areas, uses such as office/retail, hotel, parking for the Chula Vista Nature Center, and roadway and infrastructure improvements.

The Harbor District is most directly accessible to downtown Chula Vista and would be redeveloped to provide a significant link from the City to the Bayfront. It is composed of approximately 223 acres of land and approximately 59 acres of water. The Harbor District proposes the highest intensity development of the Proposed Project and encourages an active, vibrant mix of uses: hotels and conference space; bike path; park and other open space areas; a continuous waterfront promenade; residential uses; mixed-use retail, office, and cultural space; piers; and new roadways and infrastructure. Also proposed is a reconfiguration of the existing harbor to create a new commercial harbor, and realignment of the navigation channel.

The Otay District is composed of approximately 144 acres, and proposes medium intensity development that consists of industrial business park use (relocation of the existing switchyard), low cost visitor-serving recreational uses (such as a recreational vehicle park and a new South Park), other open space areas, an ecological buffer, stormwater retention basins, bike path, pedestrian trails, and new roadways and infrastructure.

The plan proposes to extend Chula Vista's traditional grid of streets to ensure pedestrian, vehicle, bicycle, transit, and water links. The Proposed Project also proposes a continuous open space system, fully accessible to the public, which would seamlessly connect the Sweetwater, Harbor, and Otay Districts through components such as a continuous shoreline promenade or baywalk and a continuous bicycle path linking the parks and ultimately creating greenbelt linkages. Significant park and other open space areas in each of the three districts are proposed along with a defined signature park and the creation of an active commercial harbor with public space at the water's edge. The plan would also enhance existing physical and visual corridors while adding new ones. Approximately 258 acres, or 46%, of the project site is proposed to be developed with hotel, retail, office, and other uses, including public street systems. Approximately 238 acres, or 43%, of the Project site is proposed to be open space, either in the form of natural habitat or public passive or active use parks. The remaining 59 acres, or 11%, of the Project site is proposed to be water area for the marina basins and new commercial harbor.

The illustrative map for the Proposed Project is shown in *Figure 3-8b* of the Final EIR. Proposed development is planned to occur in four phases over an approximate 24-year period

(approximately five years for Phases I and II; approximately five years for Phase III; and approximately 14 years for Phase IV). Phases I and II will consist of high-quality development and public improvements concentrated in the Sweetwater and Harbor Districts that will be the catalyst for surrounding public and private development in the Proposed Project. This phasing schedule, however, represents a best-case scenario and will be contingent upon and subject to many factors, such as availability and timing of public financing and construction of public improvements; terms of existing long-term leases; actual market demand for, and private financing of, proposed development; lease negotiations; approvals for, and demolition and/or relocation of, existing uses; approvals for new uses; and other approvals. The Port and City will enter into an agreement for the purpose of financing and development of the Proposed Project.

Phase I components, consisting of development on Parcels H-13, H-14, HP-5, and H-17, are analyzed in this report at a project-specific level and are identified in *Table 3-4* of the Final EIR. All other proposed Phase I components are analyzed at a programmatic level and are identified in *Table 3-5* in the Final EIR. Phases II, III, and IV components are also analyzed at a programmatic level and are identified in *Table 3-6* of the Final EIR. The nature and extent of additional environmental review, which may be required for Phases I, II, III, and IV projects analyzed at a programmatic level, will be determined pursuant to State CEQA Guidelines Section 15168.

Implementation of the Proposed Project will require discretionary approvals by State and local agencies as shown in *Table 3-1* of the Final EIR. Discretionary approvals include but are not limited to amendments to the PMP (adopted in 1981 and last amended in 2004), the Chula Vista LCP (which includes the LUP and Specific Plan), the City of Chula Vista General Plan, and the City of Chula Vista's MSCP, coastal development permits, a land exchange, and tentative maps.

The Final Environmental Impact Report (Final EIR)

The Final Environmental Impact Report (Final EIR) evaluated the Proposed Project's potential to adversely affect a wide range of resources and impact categories, including land/water use compatibility; traffic and circulation; parking; aesthetics/visual quality; hydrology/water quality; air quality; noise; terrestrial biological resources; marine biological resources; cultural resources; paleontological resources; hazards and hazardous materials/public safety; public services; public utilities; seismic/geologic hazards; and energy. The Final EIR recommends feasible mitigation measures to avoid or substantially reduce these significant impacts. Pursuant to Public Resources Code Section 21011.6, the mitigation measures are included in this MMRP.

In response to public and agency comments on the Revised DEIR, the Port and the City engaged in extensive public outreach with many interested persons, organizations and agencies in a good faith attempt to address their concerns. As a result of these efforts, the Port and the City agreed

to implement a number of project design features and mitigation measures above and beyond those which are required to avoid or reduce the Proposed Project's significant impacts below a level of significance. Although these additional project design features and mitigation measures are not required by CEQA or any other applicable law or regulation, the Port and the City agreed to include them in this MMRP to facilitate their implementation and monitoring.

2.0 MITIGATION MONITORING AND REPORTING PROGRAM

Program Procedural Guidelines

Prior to the commencement of a development activity subject to a project design feature or mitigation measure contained in this MMRP, the parties responsible for implementing, monitoring and reporting the project design feature or mitigation measure shall meet to establish their respective responsibility and authority for each of the project design features or mitigation measures applicable to the proposed activity. The Port and/or the City shall provide the participants with a complete list of all project design features and mitigation measures in this MMRP which apply to the proposed activity. The participants shall review and confirm the performance, monitoring and reporting responsibilities for each applicable design feature and mitigation measure.

Actions in Case of Noncompliance

There are generally three separate categories of noncompliance associated with the project design features and mitigation measures contained in this MMRP:

- Noncompliance that requires an immediate halt to a specific task or piece of equipment;
- Noncompliance that warrants an immediate corrective action but does not result in work or task delay; and
- Noncompliance that does not warrant immediate corrective action and results in no work or task delay.

There are a number of options the Port and/or the City may use to enforce this MMRP should noncompliance continue. These options include, but are not limited to, "stop work" orders, fines and penalties (civil), restitution, permit revocations, citations, and injunctions. Decisions regarding actions in case of noncompliance are the responsibility of the Port and/or the City.

3.0 MITIGATION MONITORING PROGRAM TABLE

Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.1-1	<p>Prior to the issuance of the first grading permit for activities that could impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall consult with the CCC to determine whether the proposed impact is allowed under the California Coastal Act. If the impact is not allowed, then a design shall be developed that avoids impacts to CCC jurisdictional wetlands. In the event that the CCC concurs that the impact to CCC jurisdictional wetlands is allowed, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands to provide 2:1 mitigation for the impact to CCC wetlands on Parcels HP-13B and HP-7. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, shall detail the target functions and values, and shall address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process and propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation, to ensure each area is successful. The restoration plan shall address monitoring requirements and shall specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report, and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impact 4.1-1.</p>	Port or Port Tenants – Prior to First Grading Permit	Port		
MM 4.1-2	<p>The Port or Port tenants, as appropriate, will need to mitigate impacts to the areas identified as seasonal pond, mapped as a CCC wetland at a 2:1 ratio.</p> <p>The Port or Port tenants, as appropriate, shall confer with the CCC in order to determine whether drainages mapped as a potential CCC wetland fall under CCC jurisdiction. If this area is not subject to CCC jurisdiction, no additional mitigation would be required. If CCC does assert jurisdiction over these areas, the final development design must mitigate</p>	Port or Port Tenants – Prior to First Clearing or Grubbing Permit	Port in Consultation with the California Coastal Commission		

**CHULA VISTA BAYFRONT MASTER PLAN PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>impacts at a 2:1 ratio.</p> <p>Prior to the issuance of the first grading permit for projects that could impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall consult with the CCC to determine whether the proposed impact is allowed under the California Coastal Act. If the impact is not allowed, then a design shall be developed that avoids impacts to CCC jurisdictional wetlands. In the event that the CCC concurs that the impact to CCC jurisdictional wetlands is allowed, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, shall detail the target functions and values, and shall address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process and propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation, to ensure each area is successful. The restoration plan shall address monitoring requirements and shall specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impacts 4.1-2 and 4.1-3.</p>				
MM 4.1-4	<p>Prior to issuance of any permit for clearing, grubbing, or grading, the project applicant shall be required to obtain an HLIT Permit pursuant to Section 17.35 of the Chula Vista Municipal Code for impacts to Covered Species and Vegetation Communities protection under the City's MSCP Subarea Plan.</p> <p>*Applies to Significant Impact 4.1-6.</p>	Project Applicant - Prior to First Clearing or Grubbing Permit	City of Chula Vista, USFWS, and CDFG		

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MM 4.2-3	<p>Prior to the issuance of any certificates of occupancy for any development on H-3 in Phase I, Port or Port tenants, as appropriate, shall widen H Street west of Marina Parkway from a two-lane Class III Collector to a three-lane Class II Collector. This mitigation would reduce Significant Impact 4.2-3 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-3.</p>	<p>Port or Port Tenants -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-4	<p>Prior to the issuance of certificates of occupancy for development on H-3 and building permits for any development on H-13 or H-14 in Phase I, the Port, Port tenant, or applicant, as appropriate, shall widen Bay Boulevard between E Street and F Street from a two-lane Class III Collector to a two-lane Class II Collector, or secure such widening to the satisfaction of the City Engineer. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 4.2-5 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-5.</p>	<p>Port, Port Tenants, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-5	<p>Prior to the issuance of building permits for any development on H-13 or H-14 in Phase I, the applicant shall construct a traffic signal at the intersection of J Street and Bay Boulevard, or secure such construction to the satisfaction of the City Engineer. The traffic signal shall be constructed and operate to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-8 and 4.2-14 to below a level of significance.</p> <p>*Applies to Significant Impacts 4.2-8 and 4.2-14.</p>	<p>Applicant -Prior to First Building Permit</p>	City Engineer		
MM 4.2-6	<p>Prior to the issuance of certificates of occupancy for development on H-3 or building permits on H-13 or H-14 for any development in Phase I, the Port, Port tenants, or applicants, as appropriate, shall construct a traffic signal at the intersection of L Street and Bay Boulevard, or secure such construction to the satisfaction of the City Engineer. The traffic signal shall be constructed and operate to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-9 and 4.2-15 to below a level of significance.</p> <p>*Applies to Significant Impacts 4.2-9 and 4.2-15.</p>	<p>Port, Port Tenants, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.2-7	<p>Prior to the issuance of certificates of occupancy for development on H-3 or building permits on H-13 or H-14 for any development in Phase I, the Port, Port tenants, or applicants, as appropriate, shall construct a traffic signal at the intersection of I-5 southbound ramps and Bay Boulevard, or secure such construction to the satisfaction of the City Engineer. The traffic signal shall be constructed and operate to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-10 and 4.2-16 to below a level of significance</p> <p>*Applies to Significant Impacts 4.2-10 and 4.2-16.</p>	Port, Port Tenants, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-9	<p>Prior to the issuance of certificates of occupancy for any development on H-3 in Phase I, the Port or Port tenant, as appropriate, shall construct a westbound lane along H Street/RCC Driveway, which would result in widening H Street west of Marina Parkway to a three-lane Class II Collector. This mitigation would reduce Significant Impact 4.2-13 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-13.</p>	Port or Port Tenant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-11	<p>Prior to the issuance of certificates of occupancy for development on H-23 in Phase I, the Port or Port tenant, as appropriate, shall construct Street A between H Street to Street C as a two-lane Class III Collector, and shall construct Street C between Marina Parkway and Street A as a two-lane Class II Collector. Implementation of this mitigation measure would reduce Significant Impact 4.2-20 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-20.</p>	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-12	<p>Prior to the issuance of certificates of occupancy for any development in Phase II, the Port, Port tenant, or applicant, as appropriate, shall widen H Street between Street A and I-5 Ramps to a five-lane Major Street, or secure such construction to the satisfaction of the City Engineer. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 4.2-21 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-21.</p>	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-13	<p>Prior to the issuance of certificates of occupancy for any development in Phase II, the Port, Port tenant, or applicant, as appropriate, shall widen J Street between Street A to I-</p>	Port, Port Tenant, or Applicant	City Engineer		

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	5 Ramps to a six-lane Major Street, or secure such construction to the satisfaction of the City Engineer. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 4.2-22 to below a level of significance. *Applies to Significant Impact 4.2-22.	-Prior to First Certificate of Occupancy			
MM 4.2-14	Prior to the issuance of certificates of occupancy for any development in Phase II, the Port, Port tenant, or applicant, as appropriate, shall widen Street A between Street C and J Street to a four-lane Class I Collector or secure such construction to the satisfaction of the City Engineer. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 4.2-23 to below a level of significance. *Applies to Significant Impact 4.2-23.	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-15	Prior to the issuance of certificates of occupancy for any development in Phase II, the Port, Port tenant, or applicant, as appropriate, shall construct a traffic signal and add an exclusive left-turn lane at each approach at the intersection of H Street and RCC Driveway, or secure such construction to the satisfaction of the City Engineer. The traffic signal and left-turn lanes shall be built to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-24 to below a level of significance. *Applies to Significant Impact 4.2-24.	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-16	Prior to the issuance of certificates of occupancy for any development in Phase II, the Port, Port tenant, or applicant, as appropriate, shall construct a westbound and eastbound through lane along J Street at the intersection of J Street and Bay Boulevard, or secure such construction to the satisfaction of the City Engineer. The lanes shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-25 to below a level of significance. *Applies to Significant Impact 4.2-25.	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-17	Prior to the issuance of certificates of occupancy for any development in Phase II, the Port, Port tenant, or applicant, as appropriate, shall construct a traffic signal at the intersection of H Street and Street A, or secure such construction to the satisfaction of the City Engineer. The traffic signal shall be constructed and operate to the satisfaction of	Port, Port Tenant, or Applicant -Prior to First Certificate of	City Engineer		

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	<p>the City Engineer. This mitigation would reduce Significant Impact 4.2-26 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-26.</p>	Occupancy			
MM 4.2-18	<p>Prior to the issuance of certificates of occupancy for any development in Phase II of the development, the developer shall construct a traffic signal at the intersection of J Street and Marina Parkway. The traffic signal shall be constructed and operate to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-27 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-27.</p>	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-19	<p>Prior to the issuance of certificates of occupancy for any development in Phase II, the Port, Port tenant, or applicant, as appropriate, shall construct a traffic signal at the intersection of J Street and Street A and add an exclusive westbound right-turn lane along J Street and an exclusive southbound right-turn lane along Street A, or secure such construction to the satisfaction of the City Engineer. The traffic signal and turning lanes shall operate and be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-28 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-28.</p>	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-20	<p>Prior to the issuance of certificates of occupancy for any development in Phase III, the Port, Port tenants, or applicant, as appropriate shall construct the segment of Street A that would continue south from J Street, connecting to the proposed Street B in the Otay District, as a two-lane Class III Collector. In addition, prior to the issuance of certificates of occupancy for any development in Phase III, the Port, Port tenants, as appropriate shall construct the segment of Street B that would connect to the proposed Street A, bridge over the Telegraph Canyon Creek Channel, and continue south to Bay Boulevard, as a 2-lane Class III Collector. This mitigation would reduce Significant Impact 4.2-31 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-31.</p>	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.2-21	<p>Prior to the issuance of certificates of occupancy for any development in Phase III, the Port, Port tenants, or applicant, as appropriate, shall widen Street A between H Street and Street C to a four-lane Class I Collector, or secure such construction to the satisfaction of the City Engineer. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 4.2-32 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-32.</p>	<p>Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-22	<p>Prior to the issuance of certificates of occupancy for any development in Phase III, the Port, Port tenants, or applicant, as appropriate, shall construct an exclusive eastbound right-turn lane along J Street at the intersection of J Street and Bay Boulevard, or secure such construction to the satisfaction of the City Engineer. The turning lane shall be built to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-33 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-33.</p>	<p>Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-23	<p>Prior to the issuance of certificates of occupancy for any development in Phase III of the development, the Port, Port tenants, or applicant, as appropriate, shall construct an exclusive westbound right-turn lane along J Street at the intersection of J Street and I-5 NB Ramps, or secure such construction to the satisfaction of the City Engineer. The turning lane shall be built to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-34 to below a level of significance</p> <p>*Applies to Significant Impact 4.2-34.</p>	<p>Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-24	<p>Prior to the issuance of certificates of occupancy for any development in Phase III, the Port, Port tenants, or applicant, as appropriate, shall construct E Street from the RCC Driveway to Bay Boulevard as a two-lane Class III Collector. This mitigation would reduce Significant Impact 4.2-38 to below a level of significance</p> <p>*Applies to Significant Impact 4.2-38.</p>	<p>Port, Port Tenants, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-25	<p>Prior to the issuance of certificates of occupancy for any development in Phase IV, the Port, Port tenant, or applicant, as appropriate, shall construct a new F Street segment between the proposed terminus of the existing F Street and the proposed E Street</p>	<p>Port, Port Tenant, or Applicant -Prior to First</p>	City Engineer		

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	<p>extension, ending at the SP-3 Chula Vista Nature Center parking lot, as a two-lane Class III collector street, which shall also contain a Class II bike lane on both sides of the street. This mitigation would reduce Significant Impact 4.2-39 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-39.</p>	Certificate of Occupancy			
MM 4.2-26	<p>Prior to the issuance of certificates of occupancy for any development in Phase IV, the Port, Port tenant, or applicant, as appropriate, shall widen E Street between F Street and Bay Boulevard to a four-lane Class I Collector, or secure such construction to the satisfaction of the City Engineer. The additional roadway capacity would facilitate the flow of project traffic. Also, the widening of this segment of E Street would facilitate the flow of project traffic on Bay Boulevard between E Street to F Street. This mitigation would reduce Significant Impacts 4.2-40 and 4.2-41 to below a level of significance.</p> <p>*Applies to Significant Impacts 4.2-40 and 4.2-41.</p>	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		
MM 4.2-27	<p>Prior to the issuance of certificates of occupancy for any development in Phase IV, the Port, Port tenant, or applicant, as appropriate, shall widen H Street between I-5 Ramps and Broadway to a 6-lane Gateway Street. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 4.2-42 to below a level of significance. The off-site traffic improvements described in this mitigation measure for direct traffic impacts would create secondary traffic impacts. Improvements associated with these secondary impacts would be required as a result of cumulative and growth-related traffic overall, of which the Proposed Project would be a component. The Western Chula Vista TDIF identifies these improvements in a cumulative context and attributes fair share contributions according to the impact. Therefore, the Proposed Project would be responsible for a fair share contribution and would not be solely responsible for implementation of necessary secondary impact improvements.</p> <p>*Applies to Significant Impact 4.2-42.</p>	Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy	City Engineer		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.2-28	<p>Prior to the issuance of certificates of occupancy for any development in Phase IV, the Port, Port tenant, or applicant, as appropriate, shall construct an eastbound through lane and an exclusive eastbound right-turn lane along E Street at the intersection of E Street and Bay Boulevard, or secure such construction to the satisfaction of the City Engineer. The lanes shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-43 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-43.</p>	<p>Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-29	<p>Prior to the issuance of certificates of occupancy for any development in Phase IV, the Port, Port tenant, or applicant, as appropriate, shall construct an exclusive southbound right-turn lane along Bay Boulevard at the intersection of J Street and Bay Boulevard, or secure such construction to the satisfaction of the City Engineer. The lane shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-44 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-44.</p>	<p>Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.2-30	<p>Prior to the issuance of certificates of occupancy for any development in Phase IV, the Port, Port tenant, or applicant, as appropriate, shall construct a dual southbound left-turn lane along Street A, or secure such construction to the satisfaction of the City Engineer. The lane shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 4.2-45 to below a level of significance.</p> <p>*Applies to Significant Impact 4.2-45.</p>	<p>Port, Port Tenant, or Applicant -Prior to First Certificate of Occupancy</p>	City Engineer		
MM 4.4-1	<p>A. View Protection: As a condition for issuance of Coastal Development Permits, buildings fronting on H Street shall be designed to step away from the street. More specifically, design plans shall protect open views down the H Street Corridor by ensuring that an approximate 100-foot ROW width (curb–curb, building setbacks, and pedestrian plaza/walkway zone) remains clear of buildings, structures, or major landscaping. Visual elements above 6 feet in height shall be prohibited in this zone if the feature would reduce visibility by more than 10 percent. Placement of trees should take into account potential view blockage. This mitigation should not be interpreted to not allow tree masses; however, trees should be spaced in order to ensure "windows" through the landscaping. Trees should also be considered to help frame the views and they should</p>	<p>Project Developer -Prior to First Coastal Development Permit</p>	Port		

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	<p>be pruned to increase the views from pedestrians and vehicles, underneath the tree canopy. In order to reduce the potential for buildings to encroach upon view corridors, and to address the scale and massing impact, buildings shall step back at appropriate intervals or be angled to open up a broader view corridor at the ground plane to the extent feasible. All plans shall be subject to review and approval by the Port. All future development proposals shall conform to Port design guidelines and standards to the satisfaction of the Port.</p> <p>B. Height and Bulk: Prior to issuance of Coastal Development Permits for projects within the Port's jurisdiction, the project developer shall ensure that design plans for any large scale projects (greater than two stories in height) shall incorporate standard design techniques such as articulated facades, distributed building massing, horizontal banding, stepping back of buildings, and varied color schemes to separate the building base from its upper elevation and color changes such that vertical elements are interrupted and smaller scale massing implemented. These plans shall be implemented for large project components to diminish imposing building edges, monotonous facades, and straight-edge building rooflines and profiles. This shall be done to the satisfaction of the Port.</p> <p>C. Height and Bulk: Prior to design review approval for properties within the City's jurisdiction, the project developer shall ensure that design plans for any large scale projects (greater than two stories in height) shall incorporate standard design techniques such as articulated facades, distributed building massing, horizontal banding, and varied color schemes to separate the building base from its upper elevation and color changes such that vertical elements are interrupted and smaller scale massing implemented. These plans shall be implemented for the large project components to diminish imposing building edges, monotonous facades, and straight-edge building rooflines and profiles. This shall be done to the satisfaction of the City of Chula Vista Planning Director.</p> <p>D. Landscaping: Prior to final approval of Phase I infrastructure design plans, the Port and City shall collectively develop a master landscaping plan for the project's public components and improvements. The plan shall provide sufficient detail to ensure conformance to streetscape design guidelines and that future developers/tenants, as applicable, provide screening of parking areas.</p>	<p>Project Developer -Prior to First Coastal Development Permit</p> <p>Project Developer -Prior to Design Review Approval</p> <p>Port and City -Prior to Final Approval of Phase I Design</p>	<p>Port</p> <p>City</p> <p>Port in Coordination with qualified Biologist or Landscape Architect</p>		

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	<p>Streetscape landscaping shall be designed to enhance the visitor experience for both pedestrians and those in vehicles. Specifically, detailed landscaping plans shall be developed to enhance Marina Parkway, a designated scenic roadway and shall provide, where appropriate, screening of existing industrial uses and parking areas until such time as these facilities are redeveloped.</p> <p>Street landscaping design shall be coordinated with a qualified biologist or landscape architect to ensure that proposed trees and other landscaping are appropriate for the given location. For instance, vegetation planted adjacent to open water/shoreline areas must not provide raptor perches. Landscaping shall be drought tolerant or low-water use, and invasive plant species shall be prohibited.</p> <p>E. Landscaping: Prior to approval of a tentative map or site development plan for future residential development, the project developer shall submit a landscaping design plan for on-site landscaping improvements that is in conformance to design guidelines and standards established by the City of Chula Vista. The plan shall be implemented as a condition of project approval.</p> <p>F. Gateway Plan: Concurrent with the preparation of Phase I infrastructure design plans for E and H Streets, a Gateway plan shall be prepared for E and H Streets. Prior to issuance of occupancy for any projects within the Port's jurisdiction in Phase I, the E and H Street Gateway plan shall be approved by the Port and City's Directors of Planning and Building. The E and H Street Gateway plan shall be coordinated with the Gateway plan for J Street.</p> <p>G. Gateway Plan: Concurrent with development of Parcels H-13 and H-14, the applicant shall submit a Gateway plan for J Street for City Design Review consideration. Prior to issuance of any building permits, the J Street Gateway plan shall be approved by the Director of Planning and Building in coordination with the Port's Director of Planning. The J Street Gateway plan shall be coordinated with the Gateway plan for E and H Streets.</p> <p>*Applies to Significant Impacts 4.4-3, 4.4-4, 4.4-5, 4.4-7, and 4.4-8.</p>	<p>Project Developer -Prior to TM/SDP Approval</p> <p>Applicant -Prior to Occupancy</p> <p>Applicant -Prior to First Building Permit</p>	<p>City</p> <p>Port and City</p> <p>Port and City</p>		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.4-2	<p>Prior to design review approval, lighting design plans with specifications for outdoor lighting locations and other intensely lighted areas shall be submitted to the Port and City for review and approval. The specifications shall identify the lighting intensity needs and design light fixtures to direct light toward intended uses. Outdoor and parking lot lighting shall be shielded and directed away from adjacent properties, wherever feasible and consistent with public safety. Consideration shall be given to the use of low-pressure sodium lighting or the equivalent. The lighting plan shall illustrate the location of the proposed lighting standards and type of shielding measures. The lighting plan shall incorporate specific design features including, but not limited to, the following:</p> <ul style="list-style-type: none"> • Where lighting must be used for safety reasons (FAA 2000 Advisory Circular), minimum intensity, maximum off-phased (3 second between flashes) white strobes shall be used. • All event lighting shall be directed downward and shielded, unless directed downward or shielded to minimize light spill beyond the area for which illumination is required. • Exterior lighting shall be limited to that which is necessary and appropriate to ensure general public safety and navigation, including signage for building identification and orientation. • Exterior lighting shall be directed downward and shielded to prevent upward lighting and to minimize light spill beyond the area for which illumination is required. • Office space, residential units, and hotel rooms shall be equipped with motion sensors, timers, or other lighting control systems to ensure that lighting is extinguished when the space is unoccupied. • Office space, residential unit and hotel rooms shall be equipped with blinds, drapes or other window coverings that may be closed to minimize the effects of interior night lighting. • Reflective glass or the application of reflective coatings shall not be used on any glass surface. 	Applicant -Prior to Design Review Approval	Port and City		

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MM 4.5-1	<p>As a condition of approval of a Tenant Design Plan for projects within the Port's jurisdiction and a condition of the approval of a Final Map for projects within the City's jurisdiction, the project applicant shall include trash control measures that include animal-proof, covered, and self-closing trash containers and trash control enclosures, with frequent servicing, to prevent litter from being wind blown off-site to the satisfaction of the Port/City as appropriate pursuant to their water quality technical reports.</p> <p>*Applies to Significant Impact 4.5-1.</p>	<p>Applicant -Condition of Approval for Tentative Design Plan/Condition of Approval of Final Map</p>	Port/City		
MM 4.5-2	<p>A. Prior to the issuance of a grading permit, the applicant shall notify the RWQCB of dewatering of contaminated groundwater during construction. If contaminated groundwater is encountered, the project developer shall treat and/or dispose of the contaminated groundwater (at the developer's expense) in accordance with NPDES permitting requirements, which includes obtaining a permit from the Industrial Wastewater Control Program to the satisfaction of the RWQCB.</p> <p>B. Prior to the discharge of contaminated groundwater for all construction activities, should flammables, corrosives, hazardous wastes, poisonous substances, greases and oils, and other pollutants exist on site, a pretreatment system shall be installed to pre-treat the water to the satisfaction of the RWQCB before it can be discharged into the sewer system.</p> <p>*Applies to Significant Impact 4.5-2.</p>	<p>Project Applicant/ Developer -Prior to First Grading Permit</p> <p>Project Developer -Prior to Construction groundwater discharge</p>	<p>RWQCB</p> <p>RWQCB</p>		
MM 4.5-3	<p>Prior to the issuance of a grading, excavation, dredge/fill, or building permit for any Parcel, the applicant shall submit a Spill Prevention/Contingency Plan for approval by the Port or City as appropriate. The plan shall:</p> <ul style="list-style-type: none"> • Ensure that hazardous or potentially hazardous materials (e.g., cement, lubricants, solvents, fuels, other refined petroleum hydrocarbon products, wash water, raw sewage) that are used or generated during the construction and operation of any project as part of the Proposed Project shall be handled, stored, used, and disposed of in accordance with NPDES permitting requirements and applicable federal, state, and local policies • Include material safety data sheets • Require 40 hours of worker training and education as required by the Occupational Safety and Health Administration 	<p>Applicant -Prior to First Grading Permit</p>	Port or City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.5-5	<p>Prior to the commencement of in-water construction for all phases of development, the Port or Port tenants shall adhere to regulatory requirements including the use of BMPs, which shall include use of silt curtains during all sediment suspension activities.</p> <p>*Applies to Significant Impact 4.5-5</p>	<p>Port or Port Tenants -Prior to In-Water Construction</p>	RWQCB		
MM 4.6-6	<p>Development of Program-level components of the Chula Vista Bayfront Master Plan (Phases I through IV) shall implement measures to reduce GHG emissions. Specific measures may include, but are not limited to the following:</p> <p>Energy Efficiency</p> <ul style="list-style-type: none"> • Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping, and sun screens to reduce energy use. • Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings. • Install light colored "cool" roofs, cool pavements, and strategically placed shade trees. • Provide information on energy management services for large energy users. • Install energy-efficient heating and cooling systems, appliances and equipment, and control systems. • Install light emitting diodes (LEDs) for traffic, street, and other outdoor lighting. • Limit the hours of operation for outdoor lighting. • Use solar heating, automatic covers, and efficient pumps and motors for pools and spas. • Provide education on energy efficiency. <p>Renewable Energy</p> <ul style="list-style-type: none"> • Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives. • Install solar panels on carports and over parking areas. • Use combined heat and power in appropriate applications. 	<p>Project Developer -Conditions of Approval for Program Master Plan Developments</p>	Port		

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	<p style="text-align: center;"><u>Water Conservation and Efficiency</u></p> <ul style="list-style-type: none"> • Create water-efficient landscapes. • Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls. • Use reclaimed water for landscape irrigation in new developments and on public property where appropriate. Install the infrastructure to deliver and use reclaimed water. • Design buildings to be water efficient. Install water-efficient fixtures and appliances. • Use gray water. (Gray water is untreated household wastewater from bathtubs, showers, bathroom wash basins, and water from clothes washing machines.) For example, install dual plumbing in all new development allowing gray water to be used for landscape irrigation. • Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff. • Restrict the use of water for cleaning outdoor surfaces and vehicles. • Implement low-impact development practices that maintain the existing hydrologic character of the site to manage stormwater and protect the environment. (Retaining stormwater runoff on site can drastically reduce the need for energy-intensive imported water at the site.) • Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project. • Provide education about water conservation and available programs and incentives. <p style="text-align: center;"><u>Solid Waste Measures</u></p> <ul style="list-style-type: none"> • Reuse and recycle construction and demolition waste (including but not limited to soil, vegetation, concrete, lumber, metal, and cardboard). • Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas. • Recover byproduct methane to generate electricity. • Provide education and publicity about reducing waste and available recycling services. 				

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	<p style="text-align: center;"><u>Transportation and Motor Vehicles</u></p> <ul style="list-style-type: none"> • Limit idling time for commercial, non-refrigerated vehicles, including delivery and construction vehicles. Refrigerated delivery trucks may remain idling while at loading docks. • Use low or zero-emission vehicles, including construction vehicles. • Promote ride sharing programs; e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides. • Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations). • Provide public transit incentives, such as free or low-cost monthly transit passes. • For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking. • Institute a telecommuter work program. Provide information, training, and incentives to encourage participation. Provide incentives for equipment purchases to allow high-quality teleconferences. • Provide information on all options for individuals and businesses to reduce transportation-related emissions. Provide education and information about public transportation. <p>The increased efficiency demands associated with completion years beyond 2020 are not specified in terms of business as usual reductions, but would demand substantially greater reductions than 20 percent below business as usual. While the measures listed above would substantially reduce projects GHG emissions, the level to which they would achieve these reductions cannot be ascertained as they may be modified by any applicable standards that are adopted in the future. Furthermore, because of the increased demand for greater reductions for developments beyond the 2020 horizon year and the rapid development of better technology, the mechanism and technological applications that may be available and necessary to avoid conflict with the goals or</p>				

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification																								
	<table border="1"> <tr> <td>HD-1B: East Façade</td> <td>6</td> <td>243</td> </tr> <tr> <td>HD-2A: East/South Façades</td> <td>5</td> <td>313</td> </tr> <tr> <td>HD-2B: North Façade</td> <td>5</td> <td>128</td> </tr> <tr> <td>HD-2B: East Façade</td> <td>6</td> <td>188</td> </tr> <tr> <td>HD-3A: East Façade</td> <td>5</td> <td>215</td> </tr> <tr> <td>HD-3A: South Façade</td> <td>5</td> <td>350</td> </tr> <tr> <td>HD-4A: East Façade</td> <td>5</td> <td>264</td> </tr> <tr> <td>HD-4A: South Façade</td> <td>5</td> <td>336</td> </tr> </table>	HD-1B: East Façade	6	243	HD-2A: East/South Façades	5	313	HD-2B: North Façade	5	128	HD-2B: East Façade	6	188	HD-3A: East Façade	5	215	HD-3A: South Façade	5	350	HD-4A: East Façade	5	264	HD-4A: South Façade	5	336				
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	*Applies to Significant Impact 4.7-2.																												
MM 4.7-3	<p>Prior to the issuance of building permits for residential units adjacent to circulation element roadways in the Harbor District, the applicant shall perform and submit an acoustical analysis to the City, demonstrating that the proposed building plans provide interior noise levels due to exterior sources are 45 dB(A) CNEL or less in any habitable room. The analysis must also identify Sound Transmission Loss (STL) rates of each window.</p> <p>*Applies to Significant Impacts 4.7-3 and 4.7-7.</p>	Applicant -Prior to First Building Permit	City																										
MM 4.7-4	<p>Prior to the approval of Design Review for the Pacifica project, the applicant shall submit a design plan for the project demonstrating to the satisfaction of the City's Director of Planning and Building that the noise level from operation of mechanical equipment will not exceed 50 dB(A) Leq. at any property line. Noise control measures may include, but are not limited to, the selection of quiet equipment, equipment setbacks, silencers, and/or acoustical louvers. Such measures must be designed and installed so as to achieve a cumulative sound level from mechanical equipment that does not exceed 40 dB(A) at 50 feet from the building façades adjacent to Marina Parkway, Street C, and J Street or 54 dB(A) at 50 feet from the building façades facing Street A.</p> <p>Prior to the approval of Design Review for the Pacific project, the applicant shall prepare and submit to the City for review and approval an acoustical analysis and nesting bird survey to demonstrate that operation of mechanical equipment will not exceed the 60 dB(A) Leq. noise level at the location of any active nest within the J Street Marsh. If the</p>	Applicant -Prior to Design Review Approval Applicant -Prior to Design Review Approval	City City																										

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	<p>other construction materials.</p> <p>*Applies to Significant Impact 4.7-6.</p>				
MM 4.7-7	<p>To avoid significant impacts to the F & G Street Marsh and reduce the noise level at habitat to 60 dB(A) or below, the developer shall install a 3-foot-high noise barrier along the east right-of-way of E Street for the extent of the habitat, as shown on <i>Figure 4.7-12</i>. The barrier must be of solid construction, with no gaps or cracks through or below the wall, and have a minimum density of 3.5 pounds per square foot. The barrier must block line-of-sight between the source and receiver and be long enough to prevent flanking around the ends.</p> <p>*Applies to Significant Impact 4.7-8.</p>	<p>Developer - Prior to start of construction</p>	City		
MM 4.7-8	<p>To avoid significant construction-related noise impacts, the following measures shall be followed:</p> <ul style="list-style-type: none"> • Construction activity shall be prohibited Monday through Friday from 10:00 P.M. to 7:00 A.M., and Saturday and Sunday from 10:00 P.M. to 8:00 A.M., pursuant to the Chula Vista Municipal Code Section 17.24.050 (Paragraph J). • All stationary noise generating equipment, such as pumps and generators, shall be located as far as possible from noise sensitive receptors, as practicable. Where practicable, noise-generating equipment shall be shielded from noise sensitive receptors by attenuating barriers or structures. Stationary noise sources located less than 200 feet from sensitive receptors shall be equipped with noise reducing engine housings. Water tanks, equipment storage, staging, and warm-up areas shall be located as far from noise sensitive receptors as possible. • All construction equipment powered by gasoline or diesel engines shall have sound control devices at least as effective as those originally provided by the manufacturer; no equipment shall be permitted to have an unmuffled exhaust. • Any impact tools used during demolition of existing infrastructure shall be shrouded or shielded, and mobile noise generating equipment and machinery shall be shut off when not in use. • Construction vehicles accessing the site shall be required to use the shortest possible route to and from I-5, provided the route does not expose additional receptors to noise. 	<p>Developer -During construction</p>	City		

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	<ul style="list-style-type: none"> • Construction equipment shall be selected as those capable of performing the necessary tasks with the lowest sound level and the lowest acoustic height possible to perform the required construction operation. • Construction equipment shall be operated and maintained to minimize noise generation. Equipment shall be kept in good repair and fitted with "manufacturer-recommended" mufflers. <p>*Applies to Significant Impacts 4.7-9 and 4.7-10.</p>				
MM 4.7-9	<p>Construction-related noise shall be limited during the typical breeding season of January 15 to August 31 adjacent to the Sweetwater Marsh NWR and F&G Street Marsh. The current accepted noise threshold is 60 dB(A) Leq.; thus construction activity shall not exceed this level, or ambient noise levels if higher than 60 dB(A) during the breeding season. If construction does occur within the breeding season or adjacent to the marshes, the project developer shall prepare and submit an acoustical analysis to the Port and/or City that shall determine whether noise barriers would be required to reduce the expected noise levels below the threshold. If noise barriers, construction activities, or other methods are unable to result in a level of noise below the threshold, construction in these areas shall be delayed until the end of the breeding season.</p> <p>*Applies to Significant Impact 4.7-11.</p>	Developer -Prior to start of construction	Port and/or City		
MM 4.8-1	<p>Prior to construction in any areas with suitable nesting locations for raptors (such as trees, utility poles, or other suitable structures) and, if grading or construction occurs during the breeding season for nesting raptors (January 15 through July 31), the project developer(s) within the Port's or City's jurisdiction shall retain a qualified, Port- or City-approved biologist, as appropriate, who shall conduct a pre-construction survey for active raptor nests. The pre-construction survey must be conducted no more than 10 calendar days prior to the start of construction, the results of which must be submitted to the Port or City, as appropriate, for review and approval. If an active nest is found, an appropriate setback distance will be determined in consultation with the applicant, Port or City, USFWS, and CDFG. The construction setback shall be implemented until the young are completely independent of the nest or the nest is relocated with the approval of the USFWS and CDFG. A bio-monitor shall be present on site during initial grubbing and clearing of vegetation to ensure that perimeter construction fencing is being maintained. A bio-monitor shall also perform periodic inspections of the construction site during all</p>	Developer(s) -Prior to start of construction	Port or City in Consultation with USFWS and CDFG		

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	<p>major grading to ensure that impacts to sensitive plants and wildlife are minimized. Depending on the sensitivity of the resources, the City and/or Port shall define the frequency of field inspections. The bio-monitor shall send a monthly monitoring letter report to the City and/or Port detailing observations made during field inspections. The bio-monitor shall also notify the City and/or Port immediately if clearing is done outside of the permitted project footprint.</p> <p>*Applies to Significant Impact 4.8-1.</p>				
MM 4.8-2	<p>Prior to construction in any areas with suitable nesting habitat for burrowing owl and, if grading or construction occurs during the breeding season for the burrowing owl (January 15 through July 31), the project developer(s) within the Port's or City's jurisdiction, as appropriate, shall retain a qualified biologist, who shall be approved by the Port or City, respectively, to conduct a pre-construction survey within all suitable habitat prior to any grading activities. The pre-construction survey must be conducted no more than 10 calendar days prior to the start of construction, the results of which must be submitted to the Port or City, as appropriate, for review and approval. If an active burrow is detected during the breeding season of January 15 to July 31, construction setbacks of 300 feet from occupied burrows shall be implemented until the young are completely independent of the nest. If an active burrow is found outside of the breeding season, or after an active nest is determined to no longer be active by a qualified biologist, the burrowing owl would be passively relocated according to the guidelines provided by CDFG (1995) and in coordination with CDFG. A bio-monitor shall be present on site during initial grubbing and clearing of vegetation to ensure that perimeter construction fencing is being maintained. A bio-monitor shall also perform periodic inspections of the construction site during all major grading to ensure that impacts to sensitive plants and wildlife are minimized. Depending on the sensitivity of the resources, the City and/or Port shall define the frequency of field inspections. The bio-monitor shall send a monthly monitoring letter report to the City and/or Port detailing observations made during field inspections. The bio-monitor shall also notify the City and/or Port immediately if clearing is done outside of the permitted project footprint.</p> <p>*Applies to Significant Impact 4.8-2.</p>	<p>Developer(s) -Prior to start of construction</p>	<p>Port or City in Consultation with CDFG</p>		
MM 4.8-3	<p>If grading or construction occurs during the breeding season for migratory birds (January 15 through August 31), the project developer(s) shall retain a qualified biologist, approved</p>	<p>Developer -Prior to start of</p>	<p>Port or City in</p>		

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	<p>by the Port/City (depending on the jurisdiction), to conduct a pre-construction survey for nesting migratory birds. The pre-construction survey must be conducted no more than 10 calendar days prior to the start of construction, the results of which must be submitted to the Port or City, as appropriate, for review and approval. If active nests are present, the Port will consult with USFWS and CDFG to determine the appropriate construction setback distance. Construction setbacks shall be implemented until the young are completely independent of the nest or relocated with the approval of the USFWS and CDFG. A bio-monitor shall be present on site during initial grubbing and clearing of vegetation to ensure that perimeter construction fencing is being maintained. A bio-monitor shall also perform periodic inspections of the construction site during all major grading to ensure that impacts to sensitive plants and wildlife are minimized. Depending on the sensitivity of the resources, the City and/or Port shall define the frequency of field inspections. The bio-monitor shall send a monthly monitoring letter report to the City and/or Port detailing observations made during field inspections. The bio-monitor shall also notify the City and/or Port immediately if clearing is done outside of the permitted project footprint.</p> <p>*Applies to Significant Impact 4.8-3.</p>	construction	Consultation with USFWS and CDFG		
MM 4.8-4	<p>Prior to construction or grading in any areas of suitable nesting or foraging habitat for light-footed clapper rail, and, regardless of the time of year, the project developer(s) shall retain a qualified biologist who shall be approved by the Port or City, as appropriate, and shall be present during removal of southern coastal salt marsh vegetation within the inlet to the F & G Street Marsh to ensure that there are no direct impacts to foraging light-footed clapper rails. If a light-footed clapper rail is encountered, construction will be temporarily halted until the bird leaves the area of construction. A bio-monitor shall be present on site during initial grubbing and clearing of vegetation to ensure that perimeter construction fencing is being maintained. A bio-monitor shall also perform periodic inspections of the construction site during all major grading to ensure that impacts to sensitive plants and wildlife are minimized. Depending on the sensitivity of the resources, the City and/or Port shall define the frequency of field inspections. The bio-monitor shall send a monthly monitoring letter report to the City and/or Port detailing observations made during field inspections. The bio-monitor shall also notify the City and/or Port immediately if clearing is done outside of the permitted project footprint. The project developer(s) shall consult with the U.S. Fish and Wildlife Service prior to impacting any</p>	Developer -Prior to start of construction	Port or City in coordination with qualified biological monitor		

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	<p>Areas, habitats, or open water shall provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the habitat buffers, Preserve Areas, habitats, or open water and sensitive species from night lighting. The light structure themselves shall have shielding (and incorporate anti-raptor perching criteria); but the placement of the light structures shall also provide shielding from wildlife habitats and shall be placed in such a way as to minimize the amount of light reaching adjacent habitat buffers, Preserve Areas, habitats, or open water. This includes street lights, pedestrian and bicycle path lighting, and any recreational lighting.</p> <ul style="list-style-type: none"> • All exterior lighting immediately adjacent to habitat buffers, Preserve Areas, habitats, or open water shall be low-pressure sodium lighting or other approved equivalent. • No sports field lights shall be planned on the recreation fields near the J Street Marsh or the Sweetwater Marsh. • All roadways will be designed, and where necessary edges bermed, to ensure automobile light penetration in the Wildlife Habitat Areas, as defined in Mitigation Measure 4.8-7, will be minimized, subject to applicable City and Port roadway design standards. • Explicit lighting requirements to minimize impacts to Wildlife Habitat Areas will be devised and implemented for all Bayfront uses including commercial, residential, municipal, streets, recreational, and parking lots. Beacon and exterior flood lights are prohibited where they would impact a Wildlife Habitat Area and use of this lighting should be minimized throughout the project. All street and walkway lighting should be shielded to minimize sky glow. • To the maximum extent feasible, all external lighting will be designed to minimize any impact to Wildlife Habitat Areas, and operations and maintenance conditions and procedures will be devised to ensure appropriate long-term education and control. To the maximum extent feasible, ambient light impacts to the Sweetwater or J Street Marshes will be minimized. • In Sweetwater and Otay District parks, lighting will be limited to that which is necessary for security purposes. Security lighting will be strictly limited to that required by applicable law enforcement requirements. All lighting proposed for the Sweetwater and Otay District parks and the shoreline promenade will be placed only where needed for human safety. Lights will be placed on low-standing bollards, shielded, and flat bottomed, so the illumination is directed downward onto the 				

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	<p>Invasive Plan Council (Cal-IPC) List of Exotic Pest Plants of Greatest Ecological Concern in California (<i>Appendix 4.8-7</i> of this Final EIR), the California Invasive Plant Inventory Database, Appendix N of the City's MSCP Subarea Plan, or any related updates shall be used in the Proposed Project area. Any such invasive plant species that establishes itself within the Proposed Project area will be removed immediately to the maximum extent feasible and in a manner adequate to prevent further distribution into Wildlife Habitat Areas.</p> <p>The following landscape guidelines will apply to the Proposed Project area:</p> <ul style="list-style-type: none"> • Only designated native plants will be used in No Touch Buffer Areas, habitat restoration areas, or in the limited and transitional zones of Parcel SP-1 adjacent to Wildlife Habitat Areas. • Non-native plants will be prohibited adjacent to Wildlife Habitat Areas and will be strongly discouraged and minimized elsewhere where they will provide breeding of undesired scavengers. • Landscaping plans for development projects adjacent to ecological buffers and/or the MSCP Preserve shall include native plants that are compatible with native vegetation located within the ecological buffers and/or MSCP Preserve. • No trees will be planted in the No Touch Buffer Areas or directly adjacent to a National Wildlife Refuge, J Street Marsh, or SP-2 areas where there is no Buffer Area. <p>G. Toxic Substances and Drainage. Implementation of general water quality measures outlined in Mitigation Measures 4.5-2 through 4.5-4, identified in <i>Section 4.5, Hydrology/Water Quality</i>, would reduce impacts associated with the release of toxins, chemicals, petroleum products, and other elements that might degrade or harm the natural environment to below a level that is significant, and would provide benefits to wetland habitats. As a reference, these mitigation measures are repeated below and apply to the Port and City:</p> <ul style="list-style-type: none"> • If contaminated groundwater is encountered, the project developer shall treat and/or dispose of the contaminated groundwater (at the developer's expense) in accordance 	Port/City	Port/City in Consultation with USFWS and CDFG		

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	<p>with NPDES permitting requirements, which includes obtaining a permit from the Industrial Wastewater Control Program to the satisfaction of the RWQCB. The project developer(s) shall demonstrate satisfaction of all permit requirements prior to issuance of a grading permit.</p> <ul style="list-style-type: none"> • Prior to the discharge of contaminated groundwater for all construction activities, should flammables, corrosives, hazardous wastes, poisonous substances, greases and oils, and other pollutants exist on site, a pre-treatment system shall be installed to pre-treat the water to the satisfaction of the RWQCB before it can be discharged into the sewer system. • Prior to the issuance of a grading, excavation, dredge/fill, or building permit for any parcel, the applicant shall submit a Spill Prevention/Contingency Plan for approval by the Port or City as appropriate. The plan shall: <ul style="list-style-type: none"> ○ Ensure that hazardous or potentially hazardous materials (e.g., cement, lubricants, solvents, fuels, other refined petroleum hydrocarbon products, wash water, raw sewage) that are used or generated during the construction and operation of any project as part of the Proposed Project shall be handled, stored, used, and disposed of in accordance with NPDES permitting requirements and applicable federal, state, and local policies ○ Include material safety data sheets ○ Require 40 hours of worker training and education as required by the Occupational Safety and Health Administration ○ Minimize the volume of hazardous or potentially hazardous materials stored at the site at any one time ○ Provide secured storage areas for compatible materials, with adequate spill contaminant ○ Maintain all required records, manifest and other tracking information in an up-to-date and accessible form or location for review by the Port or City ○ Demonstrate compliance with all local, state, and federal regulations regarding hazardous materials and emergency response. • Prior to issuance of a permit by USACE for dredge and/or fill operations in the Bay or Chula Vista Harbor, the applicant shall conduct a focused sediment investigation and submit it to USACE, EPA, and RWQCB for review and approval. The applicant shall then determine the amount of bay sediment that requires remediation and develop a specific work plan to remediate bay sediments in accordance with permitting 				

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	<p>requirements of the RWQCB. The work plan shall include but not be limited to: dredging the sediment, analyzing the nature and extent of any contamination, and allowing it to drain. Pending the outcome of the analytical results, the RWQCB and the Port shall prescribe the appropriate method for disposition of any contaminated sediment.</p> <ul style="list-style-type: none"> • Prior to issuance of a grading permit for marina redevelopment on Parcels HW-1 and HW-4, the developer shall submit a work plan for approval by the RWQCB and Port/City that requires the implementation of BMPs, including the use of silt curtains during in-water construction to minimize sediment disturbances and confine potentially contaminated sediment if contaminated sediment exists. If a silt curtain should be necessary, the silt curtain shall be anchored along the ocean floor with weights (i.e., a chain) and anchored to the top with a floating chain of buoys. The curtain shall wrap around the area of disturbance to prevent turbidity from traveling outside the immediate project area. Once the impacted region resettles, the curtains shall be removed. If the sediment would be suitable for ocean disposal, no silt curtain shall be required. However, if contaminants are actually present, the applicant would be required to provide to the RWQCB and Port/City an evaluation showing that the sediment would be suitable for ocean disposal. • In addition, the following measures will apply: <ul style="list-style-type: none"> ○ Vegetation-based storm water treatment facilities, such as natural berms, swales, and detention areas are appropriate uses for Buffer Areas so long as they are designed using native plant species and serve dual functions as habitat areas. Provisions for access for non-destructive maintenance and removal of litter and excess sediment will be integrated into these facilities. In areas that provide for the natural treatment of runoff, cattails, bulrush, mulefat, willow, and the like are permissible. ○ Storm water and non-point source urban runoff into Wildlife Habitat Areas must be monitored and managed so as to prevent unwanted ecotype conversion or weed invasion. A plan to address the occurrence of any erosion or type conversion will be developed and implemented, if necessary. Monitoring will include an assessment of stream bed scouring and habitat degradation, sediment accumulation, shoreline erosion and stream bed widening, loss of aquatic species, and decreased base flow. ○ The use of persistent pesticides or fertilizers in landscaping that drains into 				

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	<p>Wildlife Habitat Areas is prohibited. Integrated Pest Management must be used in all outdoor, public, buffer, habitat, and park areas.</p> <ul style="list-style-type: none"> ○ Fine trash filters (as approved by the agency having jurisdiction over the storm drain) are required for all storm drain pipes that discharge toward Wildlife Habitat Areas. <p>H. Public Access. In addition to site-specific measures designed to prevent or minimize the impact to adjacent open space preserve areas from humans and domestic animals, the following would prevent or minimize the impact to adjacent open space preserve areas from humans and domestic animals.</p> <p><i>Buffers:</i> All buffers shall be established and maintained by the Port/City. Appropriate signage will be provided at the boundary and within the buffer area to restrict public access. Within the western 200-foot width of Parcel SP-1, a portion of the buffer areas would be re-contoured and restored to provide habitat consistent with the native vegetation communities in the adjacent open space preserve areas and to provide mitigation opportunities for project impacts. <i>Appendix 4.8-8</i> provides more specific detail of the mitigation opportunities available within the buffer area included within the Proposed Project. <i>Table 4.8-5</i> provides a breakdown of the available maximum mitigation acreage that is available within the buffer. <i>Figure 4.8-23</i> depicts the conceptual mitigation opportunities within the Sweetwater District. <i>Figures 4.8-24</i> and <i>4.8-25</i> display the cross section of the buffer zones in the Sweetwater District indicated on the conceptual illustration. <i>Figure 4.8-26</i> depicts the conceptual mitigation opportunities within the Otay District. The proposed restoration includes creating and restoring coastal salt marsh and creating riparian scrub vegetation communities. In addition, the coastal brackish marsh, disturbed riparian habitat, and wetland would be enhanced.</p> <p>The first 200 feet of buffer areas adjacent to sensitive habitats, or full width in the case of reduced buffer areas, will be maintained as a "no touch" buffer and will not contain any trails or overlooks. Fencing, consisting of a 6-foot-high vinyl-coated chain link fence will be installed within the buffer area to prevent unauthorized access. Fencing in Parcel SP-1 will be installed prior to occupancy of the first buildings constructed in Phase I. District enforcement personnel will patrol these areas and be trained in the importance of preventing human and domestic animal encroachment in these areas. In addition, signs will be installed adjacent to these sensitive areas that provide contact information for the</p>				

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	<p>Harbor Police to report trespassing within the sensitive areas.</p> <p align="center">TABLE 4.8-5</p> <p align="center">Potential Mitigation Acreage Available for Proposed Impacts to Vegetation Communities and Land Cover Types for Chula Vista Bayfront (acres)</p> <table border="1" data-bbox="346 548 1205 961"> <thead> <tr> <th>Habitat</th> <th>District/Area</th> <th>Created</th> <th>Restored</th> <th>Enhanced</th> <th>Total Credits</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Coastal salt marsh</td> <td>Sweetwater</td> <td>4.87</td> <td></td> <td></td> <td>5.97</td> </tr> <tr> <td>Otay</td> <td>4.54</td> <td></td> <td></td> <td>4.54</td> </tr> <tr> <td rowspan="2">Coastal brackish marsh</td> <td>Sweetwater</td> <td></td> <td></td> <td>3.40</td> <td>1.70</td> </tr> <tr> <td>Sweetwater</td> <td></td> <td></td> <td>3.03</td> <td>1.52</td> </tr> <tr> <td rowspan="2">Riparian</td> <td>Otay</td> <td>1.99</td> <td></td> <td></td> <td>1.99</td> </tr> <tr> <td>F & G Street Marsh</td> <td></td> <td>5.02</td> <td></td> <td>5.02</td> </tr> <tr> <td>Wetland</td> <td>Sweetwater</td> <td></td> <td></td> <td>2.14</td> <td>1.07</td> </tr> <tr> <td colspan="2">TOTAL WETLAND ACREAGE</td> <td>11.40</td> <td>5.02</td> <td>8.57</td> <td>25.00</td> </tr> <tr> <td colspan="2">TOTAL WETLAND CREDITS¹</td> <td>11.40</td> <td>5.02</td> <td>4.29</td> <td>20.71</td> </tr> <tr> <td rowspan="3">CSS/Native Grassland Restoration</td> <td>Sweetwater</td> <td></td> <td>17.73</td> <td></td> <td>17.73</td> </tr> <tr> <td>Otay</td> <td></td> <td>1.99</td> <td></td> <td>1.99</td> </tr> <tr> <td>F & G Street Marsh</td> <td></td> <td>2.49</td> <td></td> <td>2.49</td> </tr> <tr> <td colspan="2">TOTAL UPLAND ACREAGE</td> <td>0</td> <td>22.21</td> <td>0</td> <td>22.21</td> </tr> <tr> <td colspan="2">TOTAL UPLAND CREDITS¹</td> <td>0</td> <td>22.21</td> <td>0</td> <td>22.21</td> </tr> </tbody> </table> <p>¹Credits are based on an assumption that habitat creation and restoration will receive a 1:1 mitigation credit and enhancement will receive a 0.5:1 mitigation credit.</p> <p>Impacts to disturbed coastal sage scrub would be mitigated by the restoration of a coastal sage scrub/native grassland habitat also within this buffer. There is the potential to provide a maximum of 20.71 acres of mitigation credit for impacts to wetland habitats and 22.21 acres for impacts to upland habitats. This would exceed the required mitigation needed for impacts within the Port's and City's jurisdiction.</p> <p>A detailed coastal sage scrub (CSS) and maritime succulent scrub (MSS) restoration plan that describes the vegetation to be planted shall be prepared by a Port- or City-approved biologist and approved by the Port or City, as appropriate. The City or Port shall develop guidelines for restoration in consultation with USFWS and CDFG.</p>	Habitat	District/Area	Created	Restored	Enhanced	Total Credits	Coastal salt marsh	Sweetwater	4.87			5.97	Otay	4.54			4.54	Coastal brackish marsh	Sweetwater			3.40	1.70	Sweetwater			3.03	1.52	Riparian	Otay	1.99			1.99	F & G Street Marsh		5.02		5.02	Wetland	Sweetwater			2.14	1.07	TOTAL WETLAND ACREAGE		11.40	5.02	8.57	25.00	TOTAL WETLAND CREDITS¹		11.40	5.02	4.29	20.71	CSS/Native Grassland Restoration	Sweetwater		17.73		17.73	Otay		1.99		1.99	F & G Street Marsh		2.49		2.49	TOTAL UPLAND ACREAGE		0	22.21	0	22.21	TOTAL UPLAND CREDITS¹		0	22.21	0	22.21				
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	<p>The restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish success criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions are expected. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months from the date the report is submitted.</p> <p>The project developer(s) shall be responsible for implementing the proposed mitigation measures and ensuring that the success criteria are met and approved by the City or Port, as appropriate, and other regulatory agencies, as may be required.</p> <p><i>Strategic Fencing.</i> <u>Temporary Fencing.</u> Prior to issuance of any clearing and grubbing or grading permits, temporary orange fencing shall be installed around sensitive biological resources on the project site that will not be impacted by the Proposed Project. Silt fencing shall also be installed along the edge of the SDBNWR during grading within the western portion of the ecological buffer. In addition, the applicant must retain a qualified biologist to monitor the installation and ongoing maintenance of this temporary fencing adjacent to all sensitive habitat. This fencing shall be shown on both grading and landscape plans, and installation and maintenance of the fencing shall be verified by the Port's or City's Mitigation Monitor, as appropriate.</p> <p><u>Permanent Fencing.</u> Prior to approval of landscape plans, a conceptual site plan or fencing plan shall be submitted to the Port or City, as appropriate, for review and approval to ensure areas designated as sensitive habitat are not impacted. Fencing shall be provided within the buffer area only, and not in sensitive habitat areas.</p>				

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	<p><i>Domestic Animals.</i> In all areas of the Chula Vista Bayfront, especially on the foot path adjacent to the marsh on the Sweetwater District property, mandatory leash laws shall be enforced. Appropriate signage shall be posted indicating human and domestic animal access is prohibited within the designated Preserve areas.</p> <p><i>Trash.</i> Illegal dumping and littering shall be prohibited within the Preserve areas. Throughout the Proposed Project site, easily accessible trash cans and recycling bins shall be placed along all walking and bike paths, and shop walkways. These trash cans shall be "animal-proof" and have self-closing lids, to discourage scavenger animals from foraging in the cans. The trash cans shall be emptied daily or more often if required during high use periods. Buildings and stores shall have large dumpsters in a courtyard or carport that is bermed and enclosed. This ensures that, if stray trash falls to the ground during collection, it does not blow into the Bay or marshes.</p> <p><i>Training.</i> Pursuant to permitting requirements of the Resource Agencies, pre-construction meetings will take place with all personnel involved with the project, to include training about the sensitive resources in the area.</p> <p>I. Boating Impacts. All boating, human and pet intrusion must be kept away from F & G Street channel mouth and marsh.</p> <ul style="list-style-type: none"> • Water areas must be managed with enforceable boating restrictions. The Port will exercise diligent and good faith efforts to enter into a cooperative agreement with the Resource Agencies and Coast Guard to ensure monitoring and enforcement of no-boating zones and speed limit restrictions to prevent wildlife disturbances. • No boating will be allowed in vicinity of the J Street Marsh or east of the navigation channel in the Sweetwater District during the fall and spring migration and during the winter season when flocks of bird are present. • All rentals of jet-skis and other motorized personal watercraft (PWCs), as defined in Harbors and Navigations Code Section 651(s) will be prohibited in the Proposed Project area. • Use of PWCs will be prohibited in Wildlife Habitat Areas, subject to applicable law. • A five (5) mile-per-hour speed limit will be enforced in areas other than the 				

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	<p>navigation channels.</p> <ul style="list-style-type: none"> • Nothing in this mitigation measure shall preclude bona fide research, law enforcement, or emergency activities. <p>*Applies to Significant Impacts 4.8-6 and 4.8-7.</p>				
MM 4.8-7	<p>Mitigation Measure 4.8-7 is intended to provide additional measures to reduce further the indirect impacts to biological resources already addressed in and reduced to below a level of significance by Mitigation Measure 4.8-6. This additional measure provides for the creation, implementation, funding, and enforcement of a Natural Resources Management Plan ("NRMP"), good faith efforts to enter into a cooperative management agreement with the USFWS or other appropriate agency or organization, restoration priorities, the creation of a South Bay Wildlife Advisory Group, and education, as follows:</p> <p>A. Natural Resources Management Plan: In recognition of the sensitivity of the natural resources and the importance of protection, restoration, management and enforcement in protecting those resources, the Port, City and RDA will cause to be prepared an NRMP to be prepared in accordance with the mitigation measure. The NRMP will be designed to achieve the Management Objectives (defined below) for the Wildlife Habitat Areas (defined below). The NRMP will be an adaptive management plan, reviewed and amended as necessary by the Port and City in compliance with the process described in Section 4.8-7D of this measure.</p> <p>a. "Wildlife Habitat Areas" are defined as:</p> <ul style="list-style-type: none"> i. All National Wildlife refuge lands, currently designated and designated in the future, in the South San Diego Bay and Sweetwater Marsh National Wildlife Refuge Units. National Wildlife Refuge lands are included in the definition of Wildlife Habitat Areas for the sole purpose of addressing adjacency impacts and not for the purpose of imposing affirmative resource management obligations with respect to the areas within the National Wildlife Refuge lands. ii. All Port designated lands and open water areas in the Conservation Land Use Designations of Wetlands, Estuary, and Habitat Replacement as depicted in the Draft Precise Plan for Planning District 7. iii. Parcels 1g and 2a from the City's Bayfront Specific Plan. 	<p>Port</p> <p>-Prior to start of construction</p>	Port		

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	<ul style="list-style-type: none"> iv. The Wildlife Habitat Areas are depicted on Exhibit 1 to the MMRP. v. No Touch Buffer areas as depicted on Exhibit 2 to the MMRP. b. NRMP Management Objectives for Wildlife Habitat Areas: Taking into consideration the potential changes in functionality of Wildlife Habitat Areas due to rising sea levels, the NRMP will promote, at a minimum, the following objectives (“Management Objectives”) for the Wildlife Habitat Areas: <ul style="list-style-type: none"> i. Long term protection, conservation, monitoring, and enhancement of: <ul style="list-style-type: none"> 1. Wetland habitat, with regard to gross acreage as well as ecosystem structure, function and value. 2. Coastal sage and coastal strand vegetation. 3. Upland natural resources for their inherent ecological values, as well as their roles as buffers to more sensitive adjacent wetlands. Upland areas in the Sweetwater and Otay Districts will be adaptively managed to provide additional habitat or protection to create appropriate transitional habitat during periods of high tide, taking into account future sea level rise. ii. Preservation of the biological function of all Bayfront habitats serving as avifauna for breeding, wintering, and migratory rest stop uses. iii. Protection of nesting, foraging, and rafting wildlife from disturbance. iv. Avoidance of actions within the Proposed Project area that would adversely impact or degrade water quality in San Diego Bay or watershed areas or impair efforts of other entities for protection of the watershed. v. Maintenance and improvement of water quality where possible and coordination with other entities charged with watershed protection activities. c. Implementation of NRMP Management Objectives: NRMP will include a plan for achieving Management Objectives as they related to the Buffer Areas and Wildlife Habitat Areas (“WHA’s”) and the Proposed Project area, which will: <ul style="list-style-type: none"> i. Ensure the Port, City and RDA are not required to expend funds for NRMP implementation until project-related revenues are identified and impacts initiated. ii. Require coordination with the Resource Agencies of the Port’s City’s and Resource Agencies’ respective obligations with respect to the Buffer Areas and Wildlife Habitat Areas. iii. Designate “No Touch” Buffer Areas as that term is defined and described in this 				

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	<p>Final EIR. Such areas will contain contiguous fencing designed specifically to limit the movement of domesticated, feral, and nuisance predators (e.g. dogs, cats, skunks, opossums and other small terrestrial animals [collectively, "Predators"]) and humans between developed park and No Touch Buffer Areas and Wildlife Habitat Areas. The fence will be at a minimum 6-foot high, black vinyl chain link fence or other suitable barrier (built to the specifications described in this Final EIR). Fence design may include appropriate locked access points for maintenance and other necessary functions. Installation of the fence will include land contouring to minimize visual impacts of the fence. The installation of such fencing in the Sweetwater and Harbor Districts must be completed prior to the issuance of Certificates of Occupancy for development projects on either Parcel H-3 or H-23 and in conjunction with the development or road improvements in the Sweetwater District., with the exception of Parcel S-4 which will retain the existing fencing until that parcel is redeveloped and the fencing of the No Touch Buffer installed.</p> <p>iv. Prohibit active recreation, construction of any road (whether paved or not), within No Touch Buffer Areas, Limited Use Buffer Areas, and Transition Buffer Areas as that term is defined and described in this Final EIR, with the exception of existing or necessary access points for required maintenance.</p> <p>v. Result in the fencing of No Touch Buffer Areas including, without limitation, fencing necessary to protect the Sweetwater Marsh and the Sweetwater parcel tidal flats, the J Street Marsh next to the San Diego Bay Refuge and the north side of Parcel H-3.</p> <p>vi. Include additional controls and strategies restricting movement of humans and Predators into sensitive areas beyond the boundaries of the designated Buffer Areas.</p> <p>vii. Require the Recreational Vehicle Park to install fencing or other barriers sufficient to prevent passage of Predators and humans into sensitive adjacent habitat.</p> <p>viii. Require all dogs to be leashed in all areas of the Proposed Project at all times except in any designated and controlled off-leash areas.</p> <p>ix. Impose and enforce restrictions on all residential development to keep cats and dogs indoors or on leashes at all times. Residential developments will be required to provide education to owners and/or renters regarding the rules and restrictions regarding the keeping of pets.</p>				

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	<p>d. Walkway and Path Design: Detail conditions and controls applicable to the walkways, paths, and overlooks near Wildlife Habitat Areas and outside of the No Touch Buffer Areas in accordance with the following:</p> <ul style="list-style-type: none"> i. Alignment, design, and general construction plans of walkways and overlooks will be developed to minimize potential impacts to Wildlife Habitat Areas. ii. Path routes will be sited with appropriate setbacks from Wildlife Habitat Areas. iii. Paths running parallel to shore or marsh areas that will cause or contribute to bird flushing will be minimized throughout the Proposed Project. iv. Walkways and overlooks will be designed to minimize and eliminate, where possible, perching opportunities for raptors and shelter for skunks, opossums or other Predators. v. Walkways and overlooks that approach sensitive areas must be blinded, raised, or otherwise screened so that birds are not flushed or frightened. In general, walkway and overlook designs will minimize visual impacts on the Wildlife Habitat Areas of people on the walkways. <p>e. Predator Management: The NRMP will include provisions designed to manage Predator impacts on Wildlife Habitat Areas which will include and comply with the following:</p> <ul style="list-style-type: none"> i. Year-round Predator management will be implemented for the life of the Proposed Project with clearly delineated roles and responsibilities for the Port, City and Resources Agencies. The primary objective of such provisions will be to adequately protect terns, rails, plovers, shorebirds, over-wintering species, and other species of high management priority as determined by the Resource Agencies. ii. Predator management will include regular foot patrols and utilize tracking techniques to find and remove domestic or feral animals. iii. Address Predator attraction and trash management for all areas of the Proposed Project by identifying clear management measures and restrictions. Examples of the foregoing include design of trash containers, including those in park areas and commercial dumpsters, to be covered and self-closing at all times, design of containment systems to prevent access by sea gulls, rats, crows, pigeons, skunks, opossums, raccoons, and similar animals and adequate and frequent servicing of trash receptacles. iv. All buildings, signage, walkways, overlooks, light standards, roofs, balconies, 				

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	<p>ledges, and other structures that could provide line of sight views of Wildlife Habitat Areas will be designed in a manner to discourage their use as raptor perches or nests.</p> <p>f. Miscellaneous Additional Requirements of the NRMP: In addition to the standards described above, the NRMP will include:</p> <ul style="list-style-type: none"> i. All elements which address natural resource protection in the MMRP including but not limited to those which assign responsibility and timing for implementing mitigation measures consistent with the City's MSCP Subarea Plan; ii. Pertinent sections of the MSCP Subarea Plan; iii. References to existing Port policies and practices, such as Predator management programs and daily trash collections with public areas and increase service during special events. iv. Establishment of design guidelines to address adjacency impacts, such as storm water, landscape design, light and noise and objectives ad discussed below; v. Establishment of baseline conditions and management objectives; and vi. Habitat enhancement objectives and priorities. <p>g. Creation, Periodic Review, and Amendment of the NRMP: The NRMP will be a natural resource adaptive management and monitoring plan initially prepared in consultation with the Wildlife Advisory Group, and reviewed and amended in further consultation with the Wildlife Advisory Group one year following adoption of the NRMP and annually thereafter for the first five (5) years after adoption, after which it will be reviewed and amended as necessary every other year for the first 6 years, then once every 5 years thereafter. If the RCC is not pursued in the first five (5) years after certification of the FEIR, this schedule will be amended to ensure that NRMP is evaluated every year for five years after the development of the RCC. The periodic review of the NRMP described in the preceding sentences is hereinafter called "Periodic Review." A material revision of the NRMP is hereinafter called an "NRMP Amendment". However, nothing in this schedule will be interpreted to preclude a speedy response or revision to the NRMP if necessary to abate an emergency condition or to accommodate relevant new information or necessary management practices consistent with the NRMP management objectives. Preparation of the</p>				

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	<p>NRMP will begin within six months of the filing of the Notice of Determination for the Final EIR by the Port and will be completed prior to the earlier of: (a) Development Commencement; (b) issuance of a Certificate of Occupancy for the residential development; or (c) three years. The adaptive management components of the NRMP Periodic Review will address, among other things, monitoring of impacts of development as it occurs and monitoring the efficacy of water quality improvement projects (if applicable)_and management and restoration actions needed for resource protection, resource threats, management (i.e., sea-level rise, trash, window bird strikes, lighting impacts, bird flushing, water quality, fireworks, human-wildlife interface, education and interpretation programs, public access, involvement, and use plan, management of the human-wildlife interface, wildlife issues related to facilities, trails, roads, overlooks planning, and watershed coordination), and other issues affecting achievement of NRMP Management Objectives.</p> <p>i. The Port and City will cause the preparation, consideration negotiation and approval of the NRMP including, staff and administrative oversight and engagement of such consultants as are reasonable and necessary for their completion, approval and amendment in accordance with this mitigation measure.</p> <p>ii. The Port and City will each provide a written notice of adoption to the Wildlife Advisory Group upon their respective approval of the NRMP.</p> <p>h. DISPUTE RESOLUTION FOR PLAN CREATION AND AMENDMENT. The NRMP and any material amendments to the NRMP will require submission, review, and approval by the CCC after final adoption by the Port and City. Nonetheless, the participants would benefit if the NRMP is developed through a meaningful stakeholder process providing for the resolution of as many disagreements as possible prior to NRMP submission to the CCC. This section provides a process by which the Coalition can participate in the creation and amendment of the NRMP.</p> <p>i. PLAN CREATION AND AMENDMENT. Where this mitigation measure contemplates the creation of the NRMP following the Effective Date or an NRMP Amendment, this section will provide a non-exclusive mechanism for resolution of disputes concerning the content of the NRMP and such NRMP Amendments. The standard of review and burden of proof for any disputes arising hereunder shall be the same as those under the California Environmental Quality Act.</p> <p>1. PLAN CREATION AND AMENDMENT INFORMAL NEGOTIATIONS. Any dispute that arises with respect to the creation or amendment of the NRMP will in</p>				

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	<p>the first instance be the subject of informal negotiations between the parties to the dispute. A dispute will be considered to have arisen when one (1) party (the "Disputing Party") sends the other party a written Notice of Dispute. During the informal negotiations, the Disputing Party will identify in writing and with specificity the issue, standard, or proposed requirement which is the subject of the dispute (the "Notice of Dispute"). The period for informal negotiations will not exceed thirty (30) days from the date the Notice of Dispute is received.</p> <p>2. PLAN CREATION AND AMENDMENT FORMAL DISPUTE RESOLUTION, PHASE I. In the event the Parties cannot resolve a dispute by informal negotiations, the Disputing Party may invoke formal dispute resolution procedures by providing the other parties a written statement of position on the matter in dispute, including, but not limited to, any facts, data, analysis or opinion supporting that position and any supporting documentation relied upon by the Disputing Party (the "Position Statement"). The Position Statement must be transmitted (via electronic mail or verifiable post) within thirty (30) days of the end of informal negotiations, and will be provided to the other parties and to each member of the Wildlife Advisory Group. If informal negotiations are unsuccessful, and the Disputing Party does not invoke formal dispute resolution within thirty (30) days, the position held by the Port, City or Agency (the respective public agency involved in such dispute is hereinafter called "Managing Agency") will be binding on the Disputing Party, subject to submission, review, and approval by the CCC.</p> <p>a. The other parties will submit their position statements ("Opposition Statements"), including facts, data, analysis or opinion in support thereof, to the Disputing Party and the Wildlife Advisory Group members within thirty (30) days of transmission of the Position Statement.</p> <p>b. Within twenty-one (21) days after transmission of the Opposition Statement(s), the Wildlife Advisory Group will convene, consider and, within a reasonable period of time thereafter, render its proposed resolution of the dispute. The Wildlife Advisory Group's decision will not be binding upon the Disputing Party, but rather, will be considered purely advisory in nature. The proposed resolution of the Wildlife Advisory Group will be that comprehensive recommendation supported by a majority of Wildlife Advisory Group members after vote, with each member entitled to one vote.</p>				

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	<p>The Wildlife Advisory Group's proposal will be transmitted to all parties by an appointed Wildlife Advisory Group member via electronic mail.</p> <p>3. PLAN CREATION AND AMENDMENT FORMAL DISPUTE RESOLUTION, PHASE II. If any party does not accept the advisory decision of the Wildlife Advisory Group, it must invoke the second phase of formal dispute resolution by presenting the dispute to the governing board ("Governing Board") of the Managing Agency (i.e., Board of Port Commissioners or City Council). This phase of the dispute resolution process is initiated by such party providing written notice to the other parties within thirty (30) days of receipt of the Wildlife Advisory Group proposal ("MA Notice"). The MA Notice will include the Position Statement, Opposition Statement, the Wildlife Advisory Group proposal, and any other information such party desires to include. Any supplement to the Opposition Statement will be filed with the Managing Agency within fourteen (14) days. The Governing Board of the Managing Agency will review the transmitted information and within sixty (60) days from receipt of the MA Notice will schedule a public hearing to consider the dispute and within ten (10) days of such public hearing, render a decision. The decision of the Governing Board of the Managing Agency will be final and binding on the Managing Agency but will not bind the members of the Coalition. If the members of the Coalition accept the decision of the Governing Board of the Managing Agency, the decision will dictate the manner in which the dispute is resolved in the NRMP or amendment to the NRMP. Nothing herein will preclude such party from publicly opposing or supporting the Governing Board's decision before the CCC.</p> <p>i. DISPUTE RESOLUTION REGARDING NRMP IMPLEMENTATION AND ENFORCEMENT. Once the CCC approves the NRMP or any NRMP Amendment, the Governing Board will issue a Notice of Adoption with respect to the NRMP or NRMP amendment. Once a Notice of Adoption is issued with respect to the NRMP or NRMP Amendment, this section will be the exclusive mechanism for the parties to resolve disputes arising under, or with respect to implementation or enforcement of, the NRMP including when the NRMP is reviewed during an Adaptive Management Review or Periodic Review and such review does not require an NRMP Amendment. This provision will not be used to challenge the adequacy of the NRMP or an NRMP Amendment after the issuance of a Notice of Adoption with respect thereto. The standard of review and burden of proof for any disputes arising hereunder shall be the</p>				

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	<p>same as those under CEQA.</p> <p>i. PLAN ENFORCEMENT INFORMAL NEGOTIATIONS. Any dispute that arises with respect to implementation or enforcement of the NRMP will in the first instance be the subject of informal negotiations between the parties to the dispute. A dispute will be considered to have arisen when one Disputing Party sends the other party a written Notice of Dispute. During the informal negotiations, the Disputing Party will send a written Notice of Dispute to the other parties specifying the aspect of the NRMP it believes is not being implemented properly and the way in which the Disputing Party believes the NRMP should be implemented according to its terms (the "Notice of Dispute"). The period for informal negotiations will not exceed forty-five (45) days from the date such Notice of Dispute is received.</p> <p>ii. PLAN ENFORCEMENT FORMAL DISPUTE RESOLUTION, PHASE I. In the event the Parties cannot resolve a dispute by informal negotiations under the preceding section, the Disputing Party may invoke a formal dispute resolution procedure by presenting the dispute to the Governing Board of the Managing Agency by providing the other parties a written statement of position on the matter in dispute, including, but not limited to, any facts, data, analysis or opinion supporting that position and any supporting documentation relied upon by the Disputing Party (the "Position Statement"). The Position Statement must be transmitted (via electronic mail or verifiable post) within thirty (30) days of the end of informal negotiations, and will be provided to the other parties, to each member of the Wildlife Advisory Group. If informal negotiations are unsuccessful, and the Disputing Party does not invoke formal dispute resolution within thirty (30) days, the Managing Agency's position will be binding on the Disputing Party subject to any periodic review and/or approval by the CCC, if required by law.</p> <p>1. The other parties will submit their position statements ("Opposition Statements"), including facts, data, analysis, or opinion in support thereof, to the Disputing Party, the Wildlife Advisory Group members, and the Governing Board within thirty (30) days of transmission of the Position Statement.</p> <p>2. Within forty-five (45) days after transmission of the Opposition Statement(s), the Disputing Party will provide a written notice ("MA II Notice") to the other parties, the Wildlife Advisory Group and the Governing Board. The MA II Notice will include the Position Statement, Opposition Statement, the Wildlife Advisory Group proposal, and any other information the Disputing Party desires to</p>				

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	<p>include. Any supplement to the Opposition Statement will be filed with the Managing Agency within fourteen (14) days following receipt of the MA II Notice. The Governing Board will review the transmitted information and within sixty (60) days from receipt of the MA II Notice will schedule a public hearing to consider the dispute and within ten (10) days of such public hearing, render a decision. The decision of the Governing Board will be final and binding on the Managing Agency but will not bind the members of Coalition. If the members of the Coalition accept the decision of the Governing Board of the Managing Agency, the decision will dictate the manner in which the dispute is resolved in the NRMP. If any member of the Coalition disagrees with the decision of the Governing Board, it shall have the right to seek a petition for writ of mandate from the Superior Court of California, San Diego Division.</p> <p>iii. WAIVER OF DEFENSE. To the extent permitted by law, the Port, City and RDA agree that lack of funds shall not be a defense to any claim of failure to adequately fund implementation and enforcement of the adopted NRMP.</p> <p>B. Additional Habitat Management and Protection:</p> <p>a. The Port will exercise diligent and good faith efforts to enter into the following cooperative agreements with the USFWS or other appropriate agency or organization:</p> <p>i. An agreement providing for the long-term protection and management of the sensitive biological habitat running north from the South Bay Boatyard to the Sweetwater River Channel (known as the Sweetwater Tidal Flats) and addressing educational signage, long-term maintenance, and additional protection measures such as increased monitoring and enforcement by Harbor Police, shared jurisdiction and enforcement by District personnel with legal authority to enforce applicable rules and regulations ("District Enforcement Personnel"), shared jurisdiction and enforcement by District Enforcement Personnel and other appropriate Resource Agencies of resource regulations, and placement of enforcement signage. Subject to the cooperation of the applicable Resource Agency, such cooperative agreement will be executed prior to the Development Commencement of any projects subject to Port's jurisdiction within the Sweetwater or Harbor Districts.</p> <p>ii. An agreement for the long-term protection and management of the J Street</p>				

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	<p>Marsh and addressing additional protective measures such as educational signage, long-term maintenance, and monitoring and enforcement by District Enforcement Personnel, shared jurisdiction and enforcement of resource regulations by District Enforcement Personnel and other Resource Agencies, and placement of enforcement signage. Subject to the cooperation of the applicable Resource Agency, such cooperative agreement will be executed prior to the Development Commencement within the Otay District.</p> <p>The Port will include an analysis of the appropriate level and method for wetland and marine life habitat restoration of the intake/discharge channels associated with the South Bay Power Plant in the environmental review document for the demolition of the South Bay Power Plant.</p> <p>iii. If either of the cooperative agreements contemplated above are not achievable within three (3) years after Final EIR certification, the Port will develop and pursue another mechanism that provides long-term additional protection and natural resource management for these areas.</p> <p>b. The Port will include an analysis of the appropriate level and method for wetland and marine life habitat restoration of the intake/discharge channels associated with the South Bay Power Plant in the environmental review document for the demolition of the South Bay Power Plant.</p> <p>c. As a future and separate project, the Port will investigate, in consultation with the USFWS, the feasibility of restoring an ecologically meaningful tidal connection between the F & G Street Marsh and the upland marsh on parcel SP-2 consistent with USFWS restoration concepts for the area. At a minimum, the investigation will assess the biological value of tidal influence, the presence of hazardous materials, necessary physical improvements to achieve desired results, permitting requirements, and funding opportunities for establishing the tidal connection. This investigation will be completed prior to the initiation of any physical alteration of SP-2, F Street, and/or the F & G Street Marsh. In addition, once emergency access to the Proposed Project area has been adequately established such that F Street is no longer needed for public right-of-way for vehicular use, but may reserve it for pedestrian and bicycle use if ecologically appropriate.</p>				

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	<p>C. Restoration Priorities: The following will supplement the description of the conceptual mitigation opportunities in the Final EIR (including Appendix 4.8-8 Mitigation Opportunities). The following restoration priorities will not be included in the NRMP but rather will be applicable (i) if and only to the extent that Port or City are required to restore degraded habitat in accordance with the terms of the MMRP or (ii) to establish priorities for Port's pursuit of grant funding.</p> <ul style="list-style-type: none"> a. Restoration priorities for the Proposed Project are those mitigation opportunities in the Final EIR as depicted in the conceptual mitigation opportunities (Figures 4.8-23 and 4.8-26) and the projects located in the South Bay in the Port's Adopted Restoration and Enhancement Plan. b. With the exception of the restoration described in Section (d) below, shoreline/marsh interface restorations in the Sweetwater and Otay Districts should be natural and gradually sloped and planted with salt marsh and upland transition plants in a manner that will stabilize the bank without the need for additional riprap areas. Upland slopes should be contoured to provide a very gentle grade so as to maximize tidal elevation of mudflats, salt marsh habitat and upland transition areas. This area should be wide enough to encourage or allow wildlife to move between the Sweetwater Marsh and the F & G Marsh and between the J Street and the South San Diego Bay Unit of the NWR. The shoreline should be improved and restored to facilitate a more effective upland refuge area for species during high tides and to accommodate the impacts from global sea rise. c. The Telegraph Creek should be improved to be a more natural channel as part of the redevelopment of the Otay District. Efforts to naturalize and revegetate the creek will be maximized as is consistent with its function as a storm water conveyance. d. The Port will perform an analysis of the appropriate level and method for environmental restoration of the intake/discharge channels associated with the South Bay Power Plan in the environmental review document for the demolition of the power plant. <p>D. South Bay Wildlife Advisory Group: A South Bay Wildlife Advisory Group ("Wildlife Advisory Group") will be formed to advise the Port and City in the creation of the NRMP, cooperative management agreements, Adaptive Management Review</p>				

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	<p>(defined below) and any related wildlife management and restoration plans or prioritizations. The Wildlife Advisory Group will also address management issues and options for resolution. The Wildlife Advisory Group will initiate and support funding requests to the Port and City, identify priorities for use of these funds and engage in partnering, education, and volunteerism to support the development of the Proposed Project in a manner that effectively protects and enhances the fish, wildlife, and habitats of the area and educates and engages the public.</p> <p>a. Port and City will provide such administrative and staff support to the Wildlife Advisory Group as is necessary to perform the functions and achieve the goals described herein.</p> <p>b. The Wildlife Advisory Group will be comprised of the following: one (1) representative from each the Environmental Health Coalition, San Diego Audubon Society, San Diego Coastkeeper, Coastal Environmental Rights Foundation, Southwest Wetlands Interpretative Association, Surfrider Foundation (San Diego Chapter), and Empower San Diego; two (2) representatives from the Chula Vista Natural Center (one from educational programs and one from programs/operations); up to three (3) representatives from major developers or tenants with projects in the CVBMP (including one from Pacifica Companies, which on completion, may be succeeded by a representative of its homeowner association); one (1) representative from the City's Resource Conservation Commission; one (1) from either Harborside or Mueller elementary school or the School District; Western and Eastern Chula Vista residents selected by the City (one from Northwest one from the Southwest and one from east of I-805); one (1) representative from eco-tourism based business; two (2) individuals appointed by Port; and 6 representatives from Resources Agencies (two from the USFWS, one from Refuges and one from Endangered Species and one (1) each from California Department of Fish and Game, National Marine Fisheries Service, Regional Water Quality Control Board and CCC).</p> <p>c. The Wildlife Advisory Group will meet as needed, but at a minimum of every six months for the first ten (10) years and annually thereafter. The Wildlife Advisory Group will be formed within six months of the filing of the Notice of Determination for the FEIR by the Port.</p> <p>d. The Wildlife Advisory Group will meet at the intervals described above to review</p>				

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	<p>the NRMP to: (i) determine the effectiveness of the NRMP in achieving the Management Objectives; (ii) identify any changes or adjustments to the NRMP required to better achieve the Management Objectives; (iii) identify any changes or adjustments to the NRMP required to respond to changes in the man-made and natural environments that are affecting or, with the passage of time may affect, the effectiveness of the NRMP in achieving the Management Objectives; and (iv) review priorities relative to available funding. At its periodic meetings, the Wildlife Advisory Group may also consider and make recommendations regarding (x) implementation of the NRMP as needed, (y) Adaptive Management Review and (z) NRMP Amendments.</p> <p>e. The Wildlife Advisory Group will advise the joint powers authority (JPA) on the expenditure of the Community Benefits Fund, subject to the applicable law.</p> <p>E. Education: An environmental education program will be developed and implemented and will include the following:</p> <p>a. The program will continue for the duration of the Proposed Project and will target both residential and commercial uses as well as park visitors.</p> <p>b. The program's primary objective will be to educate Bayfront residents, visitors, tenants and workers about the natural condition of the Bay, the ecological importance of the Proposed Project area and the public's role in the restoration and protection of wildlife resources of the Bay.</p> <p>c. The program will include educational signage, regular seminars and interpretive walks on the natural history and resources of the area, regular stewardship events for volunteers (shoreline and beach cleanups, exotic plant removal, etc.).</p> <p>d. Adequate annual funding for personnel or contractor/consultant and overhead to ensure implementation of the following functions and activities in collaboration with the Chula Vista Nature Center or USFWS:</p> <p>i. Coordination of Volunteer programs and events;</p> <p>ii. Coordination of Interpretive and educational programs;</p> <p>iii. Coordination of Tenant, resident and visitor educational programs;</p> <p>iv. Docent educational; and</p> <p>v. Enhancements and restoration.</p>				

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	<p>F. Personnel and Funding: Funding for the implementation of the NRMP will be provided by the Port, City and RDA. To meet these obligations, the Port, City and RDA will commit revenues or otherwise provide funding to a JPA formed pursuant to the California Marks-Roos Act, Articles 1, 2, 3 and 4 of Chapter 5 of Division 7 of Title 1 of the California Government Code. Port, City and RDA will ensure the JPA is specifically charged to treat the financial requirements of this Agreement as priority expenditures that must be assured as project-related revenues are identified and impacts initiated. The Port, City and RDA expressly acknowledge the funding commitments contemplated herein will include, but not be limited to, funding for personnel and overhead or contractor(s)/consultant(s) to implement and ensure the following functions and activities:</p> <ul style="list-style-type: none"> a. On-site management and enforcement for parks and Wildlife Habitat Areas as necessary to enforce restrictions on human and Predator access regarding Wildlife Habitat Areas; b. Enforcement of mitigation measures including, but not limited to, trash collection, noise restrictions, removal of invasive plants, habitat restoration, and park use restrictions; c. Coordination, development, implementation and evaluation of effectiveness of education and mitigation programs, including implementation of NRMP. d. Evaluation of effectiveness of bird strike mitigation and design measures; e. Water quality protections; and, f. Coordination of injured animal rehabilitation activities. <p>*Applies to Significant Impacts 4.8-6 and 4.8-7.</p>				
MM 4.8-8	<p>Prior to construction of the H Street Pier, the Port shall create 0.96 acre of eelgrass habitat to mitigate for the loss of surface water foraging habitat in accordance with the Southern California Eelgrass Mitigation Policy. The creation of eelgrass habitat shall be conducted in accordance with Mitigation Measures 4.9-1 and 4.9-2 in <i>Section 4.9, Marine Biological Resources</i>.</p> <p>*Applies to Significant Impact 4.8-8.</p>	Port -Prior to completion of construction	Port		
MM 4.8-9	A. Prior to completion of in-harbor work in Phase IV, the Port shall create 1.93 acres of	Port or Port	Port in		

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	<p>eelgrass habitat. The creation of eelgrass habitat shall be conducted in accordance with Mitigation Measure 4.9-2 in <i>Section 4.9, Marine Biological Resources</i>.</p> <p>B. When project-specific designs are proposed for the remaining project components affecting 1.61 acres of surface water foraging habitat and intertidal mudflats, the mitigation of impacts shall be re-evaluated by the Port during subsequent environmental review pursuant to State CEQA Guidelines Section 15168 to determine accurate net loss and mitigation for the loss of foraging habitat.</p> <p>*Applies to Significant Impact 4.8-9.</p>	<p>Tenants -Prior to start of grading</p> <p>Port -Prior to start of grading</p>	<p>Consultation with wildlife agencies</p> <p>Port in Consultation with wildlife agencies</p>		

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MM 4.8-10	<p>A. Prior to the commencement of grading for development in each phase that impacts riparian habitat or sensitive vegetation communities, the Port or Port tenants, as appropriate, shall prepare and initiate implementation of a restoration plan for impacts to riparian habitat and sensitive vegetation communities in accordance with the mitigation requirements presented in <i>Table 4.8-6</i>.</p> <p>Prior to the commencement of Phase I grading that impacts riparian habitat or sensitive vegetation communities, the Port shall coordinate with the wildlife agencies for the preparation and approval of a detailed restoration plan within the Port's jurisdiction. The restoration plan shall be prepared by a qualified biologist, and the plan shall be approved by the Port. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies.</p> <p>B. Prior to initiating any construction activities in each phase that would affect riparian habitat or sensitive vegetation communities, including clearing and grubbing associated with program-level phases, an updated project-level assessment of potential impacts shall be made based on a specific project design. The Port or project developer(s), as appropriate, shall retain a qualified, Port-approved biologist to update appropriate surveys, identify the existing conditions, quantify impacts, and provide adequate</p>	Developer -Prior to First Clearing, Grubbing, or Grading Permit	City		

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	<p>B. Prior to issuance of any clearing and grubbing or grading permits within the City's jurisdiction that affect riparian habitat or sensitive vegetation communities associated with the program-level development phases, an updated assessment of potential impacts shall be made based on a specific project design. The project developer(s) shall retain a City-approved biologist to update appropriate surveys, identify the existing conditions, quantify impacts, and provide adequate mitigation consistent with the City's MSCP Subarea Plan. This updated assessment shall be submitted to the City for review and approval.</p> <p>C. Prior to issuance of any clearing and grubbing or grading permits within the City's jurisdiction that affect riparian habitat or sensitive vegetation communities, the project applicant shall be required to obtain an HLIT permit pursuant to Section 17.35 of the Chula Vista Municipal Code for impacts to Covered Species and Vegetation Communities protected under the City's MSCP Subarea Plan.</p> <p>*Applies to Significant Impacts 4.8-13 and 4.8-15.</p>	<p>Developer -Prior to First Clearing, Grubbing and Grading Permit</p> <p>Developer -Prior to First Clearing, Grubbing, and Grading Permit</p>	<p>City in Consultation with USACE</p> <p>City in Consultation with USACE</p>		
MM 4.8-12	<p>A. The Port or Port tenants, as appropriate, shall mitigate for permanent and temporary impacts to USACE jurisdictional waters at the following ratios: 1:1 for permanent impacts to non-wetland waters of the U.S.; 4:1 for impacts to wetlands; and 1:1 for all temporary impacts. A minimum of 1:1 mitigation must be created in order to achieve the no-net-loss requirement of the CWA. <i>Table 4.8-8</i> provides a breakdown of the required mitigation acreages for all USACE impacts within the Port's jurisdiction. Mitigation for impacts from the Bay and Marina components of the Proposed Project will be established through USACE regulations once final designs for this work in Phases II through IV are finalized.</p> <p>Prior to the commencement of grading activities for any projects that impact USACE jurisdictional waters, the Port or Port tenants, as appropriate, shall prepare and initiate implementation of a restoration plan detailing the measures needed to achieve the necessary mitigation. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>Port in Consultation with CDFG</p>		

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	<p>may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies.</p> <p>B. Prior to the issuance of the first clearing and grubbing or grading permit for activities that impact USACE jurisdictional waters, the project developer(s) within the City's jurisdiction shall prepare a restoration plan detailing the measures needed to create/restore impacts to USACE jurisdictional waters within the City's jurisdiction in accordance with the acreage identified in <i>Table 4.8-9</i>. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The project developer(s) shall be required to implement the restoration plan subject to the oversight and approval of the City.</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>CDFG</p>		

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	<p>C. Prior to issuance of the first clearing and grubbing or grading permit, for activities that impact USACE jurisdictional waters, the Port or Port tenants, as appropriate, and project developer(s) within the City's jurisdiction shall obtain a Section 404 permit from USACE. The permit application process would also entail approval of the restoration plan from the USACE as described above, with regard to areas that fall under the jurisdiction of USACE.</p> <p>*Applies to Significant Impacts 4.8-16 through 4.8-19.</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>CDFG</p>		
<p>MM 4.8-13</p>	<p>The Port or Port tenants, as appropriate, shall mitigate for permanent and temporary impacts to CDFG jurisdictional areas at a 2:1 ratio. <i>Table 4.8-8</i> provides a breakdown of the required mitigation acreages for all CDFG impacts within the Port's jurisdiction.</p> <p>Prior to the issuance of the first grading permit that may impact CDFG jurisdictional areas, the Port or Port tenants, as appropriate, shall prepare and initiate implementation of a restoration plan detailing the measures needed to achieve the necessary mitigation. The plan shall outline the timeline and procedures for restoring/enhancing the potential enhancement/mitigation sites, which include the native buffer areas and the F & G Street Marsh. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including CDFG.</p>	<p>Port or Port Tenants -Prior to start of grading</p>	<p>Port in Consultation with California Coastal Commission</p>		

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	<p>Prior to issuance of the first grading permit that may impact CDFG jurisdictional areas, the Port or Port tenants, as appropriate, shall obtain permits from CDFG. The permit application process would also entail approval of the restoration plan as described above, with regard to areas that fall under the jurisdiction of CDFG. Pursuant to Fish and Game Code 1602, the Port and other applicants are required to obtain a Streambed Alteration Agreement for impacts to streambeds and associated riparian habitat that fall within CDFG's jurisdiction.</p> <p>*Applies to Significant Impact 4.8-21.</p>				
MM 4.8-14	<p>A. Mitigation for permanent direct and indirect (from bridge shading) impacts would be at a 2:1 ratio as detailed in <i>Table 4.8-8</i>.</p> <p>Prior to the commencement of grading activities for projects that impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p>	<p>Port or Port Tenants -Prior to start of grading</p>	<p>Port in Consultation with California Coastal Commission</p>		

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	<p>B. Mitigation for permanent direct and indirect (from bridge shading) impacts would be at a 2:1 ratio as detailed in <i>Table 4.8-9</i>.</p> <p>Prior to the issuance of the first grading permit for projects that impact CCC jurisdictional areas, the project applicants within the City's jurisdiction shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The City shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the City in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impacts 4.8-22, 4.8-23, 4.8-32.</p>	<p>Port or Port Tenants -Prior to Approval of Grading Permits</p>	<p>California Coastal Commission</p>		
MM 4.8-15	<p>Mitigation for permanent direct and indirect (from bridge shading) impacts from circulation road construction/improvements and the riprap removal and bulkhead replacement totaling 0.51 acre would be at a 2:1 ratio as detailed in <i>Table 4.8-8</i>. This would require a total mitigation of 1.02 acres. Mitigation for temporary impacts within Parcel OP-2B from the re-channelization of the Telegraph Canyon Channel would require mitigation at a ratio of 1:1 as detailed on <i>Table 4.8-8</i> for a total of 0.16 acre.</p> <p>Prior to the commencement of grading activities, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>Port in Consultation with California Coastal Commission</p>		

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	<p>wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>Prior to approval of grading permits for projects impacting CCC wetlands, the Port or Port tenants, as appropriate, shall obtain permits and/or approvals from CCC.</p> <p>*Applies to Significant Impacts 4.8-24 through 4.8-26.</p>				
MM 4.8-16	<p>Mitigation for temporary impacts from the restoration of the ecological buffer would require mitigation at a ratio of 1:1 as detailed on <i>Table 4.8-8</i>. The ecological buffer area supports 0.05 acre that has been mapped as a CCC wetland and will require 0.05 acre of mitigation. There is an additional 0.04 acre that is mapped as a potential CCC wetland and 1.50 acres that are former industrial areas in the process of remediation. The Port or Port tenants, as appropriate, will need to confer with CCC in order to determine whether the areas of potential jurisdiction, totaling 1.54 acres, actually fall under CCC jurisdiction. If these areas are not subject to CCC jurisdiction, no additional mitigation would be required. If CCC does assert jurisdiction over these areas, the restoration will need to include the creation/enhancement of an additional 1.54 acres of CCC wetlands.</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>Port in Consultation with California Coastal Commission</p>		

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	<p>Prior to the issuance of the first grading permit for activities that impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impact 4.8-27.</p>				
MM 4.8-17	<p>The Port or Port tenants, as appropriate, shall confer with CCC in order to determine whether the 0.58 acre of areas fall under CCC jurisdiction. If these areas are not subject to CCC jurisdiction, no additional mitigation would be required. If CCC does assert jurisdiction over these areas, the Port will need to mitigate the impacts at a ratio of 2:1 as detailed in <i>Table 4.8-8</i> for a total mitigation of 1.16 acres.</p> <p>Prior to the issuance of the first grading permit for projects that impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>Port in Consultation with California Coastal Commission</p>		

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	<p>process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impact 4.8-28.</p>				
MM 4.8-18	<p>Prior to the issuance of the first grading permit for activities that impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands to provide 0.32 acre of mitigation for the 0.16 acre impact to CCC wetlands on Parcels HP-13B and HP-7. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>Port in Consultation with California Coastal Commission</p>		

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	<p>criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impact 4.8-29.</p>				
MM 4.8-19	<p>The Port or Port tenants, as appropriate, shall confer with CCC in order to determine whether the 0.16 acre of areas identified as potentially CCC jurisdictional actually fall under CCC jurisdiction. If these areas are not subject to CCC jurisdiction, no additional mitigation would be required. If CCC does assert jurisdiction over these areas, the Port will need to mitigate the impacts at a ratio of 2:1 as detailed in <i>Table 4.8-8</i> for a total mitigation of 0.32 acre.</p> <p>Prior to the issuance of the first grading permit for projects that impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impact 4.8-30.</p>	<p>Port or Port Tenants -Prior to First Grading Permit</p>	<p>Port in Consultation with California Coastal Commission</p>		
MM 4.8-20	<p>The Port or Port tenants, as appropriate, will need to mitigate impacts to the 0.10-acre seasonal pond, mapped as a CCC wetland, at a 2:1 ratio.</p>	<p>Port or Port Tenants</p>	<p>Port in Consultation</p>		

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	<p>The Port or Port tenants, as appropriate, shall confer with CCC in order to determine whether the 2.37-acre depressed area that exists where the LNG plant was formerly located, mapped as a potential CCC wetland, falls under CCC jurisdiction. If this area is not subject to CCC jurisdiction, no additional mitigation would be required. If CCC does assert jurisdiction over these areas, the final Phase II design of this parcel must mitigate impacts the 2.37-acre depressed area at a 2:1 ratio.</p> <p>Prior to the issuance of the first grading permit for projects that impact CCC jurisdictional areas, the Port or Port tenants, as appropriate, shall prepare a restoration plan detailing the measures needed to create/restore CCC wetlands. The guidelines for this plan will be developed in consultation with the regulatory agencies. The plan shall summarize the approach taken to avoid and minimize impacts to sensitive habitats, detail the target functions and values, and address the approach to restoring those functions and values. Typically, the restoration plan shall detail the site selection process; shall propose site preparation techniques, planting palettes, implementation procedures, and monitoring and maintenance practices; and shall establish performance criteria for each mitigation site. Typical success criteria may include percent canopy cover, percent of plant survival, and percent of native/non-native canopy cover. A minimum 5-year maintenance and monitoring period would be implemented following installation to ensure each area is successful. The restoration plan shall address monitoring requirements and specify when annual reports are to be prepared and what they shall entail. Qualitative and quantitative assessments of the site conditions shall be included. If the mitigation standards have not been met in a particular year, contingency measures shall be identified in the annual report and remediation will occur within 3 months or the start of the growing season. The Port shall be responsible for ensuring that all of the success criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.</p> <p>*Applies to Significant Impact 4.8-31.</p>	-Prior to First Grading Permit	with California Coastal Commission		
MM 4.8-21	A. Prior to the commencement of grading activities for project components impacting RWQCB jurisdictional waters, the Port or Port tenants, as appropriate, shall prepare and implement a restoration plan detailing the measures needed to create/restore RWQCB jurisdictional waters in accordance with the acreage identified in <i>Table 4.8-8</i> .	Port or Port Tenants -Prior to start of grading	RWQCB		

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	<p>B. Prior to the issuance of the first grading permit for project components impacting RWQCB jurisdictional waters, the project developer(s) within the City's jurisdiction shall prepare and implement a restoration plan detailing the measures needed to create/restore RWQCB jurisdictional waters in accordance with the acreage identified in <i>Table 4.8-8</i> to the satisfaction of the City. The guidelines for this plan will be developed in consultation with the regulatory agencies.</p> <p>C. Prior to the commencement of grading activities for project components impacting RWQCB jurisdictional waters, the Port or Port tenants, as appropriate, and applicants within the City's jurisdiction shall obtain permits from RWQCB. The permit application process would also entail approval of the restoration plan as described above. Pursuant to the CWA, the Port and other applicants are required to obtain a Section 401 Water Quality Certification permit from RWQCB.</p> <p>D. Prior to the commencement of grading activities for project components impacting RWQCB jurisdictional waters, including clearing and grubbing, the Port or Port tenants, as appropriate, and the project developer(s) within the City's jurisdiction shall consult with the RWQCB to determine whether Waste Discharge Requirements from the RWQCB shall be required for impacts to isolated waters of the State of California.</p> <p>*Applies to Significant Impact 4.8-34.</p>	<p>Developer -Prior to First Grading Permit</p> <p>Port or Port Tenants -Prior to start of grading</p> <p>Port or Port Tenants -Prior to start of grading</p>	<p>City in Consultation with RWQCB</p> <p>City in Consultation with RWQCB</p> <p>City in Consultation with RWQCB</p>		
MM 4.8-22	<p>A. Prior to issuance of any clearing and grubbing or grading permits for projects that impact City of Chula Vista designated wetlands, the project developer(s) shall acquire mitigation credits or prepare and initiate implementation of a restoration plan for Phase I impacts to mulefat scrub/riparian scrub at a ratio of 2:1 and southern coastal salt marsh at a ratio of 4:1. Mitigation credits shall be secured in a City-approved mitigation bank or other approved location. Verification of mitigation credits or an approved restoration plan shall be provided to the City prior to issuance of any clearing and grubbing or grading permits. Alternatively, completion of Mitigation Measure 4.8-11 will satisfy this mitigation measure as well.</p> <p>The project developer(s) shall prepare and implement a detailed restoration and enhancement plan to the satisfaction of the City for impacts to wetland resources protected under the City's MSCP Subarea Plan. The guidelines for this plan will be</p>	<p>Developer -Prior to First Clearing, Grubbing, or Grading Permit</p> <p>Developer -Prior to First</p>	<p>City in Consultation with CDFG</p> <p>City</p>		

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	<p>shall be used.</p> <ul style="list-style-type: none"> • No solid spot lights or intense bright lights shall be used during bird migration periods in the spring (from March to May) and Fall (from August to October). All event lighting shall be directed downward and shielded, unless such directed and shielded minimized light spills beyond the area for which illumination is required. • Exterior lighting shall be limited to that which is necessary and appropriate to ensure general public safety and way finding, including signage for building identification and way finding. • Exterior lighting shall be directed downward and shielded to prevent upward lighting and to minimize light spill beyond the area for which illumination is required. • Office space, residential units, and hotel rooms shall be equipped with motion sensors, timers, or other lighting control systems to ensure that lighting is extinguished when the space is unoccupied. • Office space, residential units, and hotel rooms shall be equipped with blinds, drapes, or other window coverings that may be closed to minimize the effects of interior night lighting. <p>Glass and Reflection</p> <ul style="list-style-type: none"> • Use of reflective coatings on any glass surface is prohibited. • Buildings shall incorporate measures to the satisfaction of the Port or the City to indicate to birds that the glass surface is solid by creating visual markers and muting reflection. • Project design standards will encourage window stenciling and angling. <p>These measures may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Glass surfaces which are non-reflective • Glass surfaces which are tilted at a downward angle • Glass surfaces which use fritted or patterned glass • Glass surfaces which use vertical or horizontal mullions or other fenestration patterns • Glass surfaces which are fitted with screening, decorative grills, or louvers • Glass surfaces which use awnings, overhangs, bris sole, or other exterior sun-shading devices 				

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	<ul style="list-style-type: none"> • Glass surfaces which use external films or coatings perceivable by birds • Artwork, drapery, banners, and wall coverings that counter the reflection of glass surfaces or block "see through" pathways. <p>Building Articulation</p> <ul style="list-style-type: none"> • Structure design features that reduce or avoid the potential for bird strikes, such as secondary and tertiary setbacks, stepped back building design, protruding balconies, recessed windows, and mullioned glazing systems, shall be incorporated to the extent feasible. Balconies and other elements will step back from the water's edge. • Design features that increase the potential for bird strikes, such as walkways constructed of clear glass and "see through" pathways through lobbies, rooms and corridors, shall be avoided to the extent feasible. • Buildings will be sited and designed to minimize glass and windows facing Wildlife Habitat Areas to the maximum extent possible. Design for towers on Parcel H-3 should avoid east-west monolith massing and should include architectural articulation. • The tallest buildings on Parcel H-3 will be located generally on the southern portion of the parcel with building heights decreasing towards the north and west. The foregoing will not be interpreted to preclude incorporating secondary and tertiary setbacks along public streets. • Parcels containing surface parking, such as those depicted for the Sweetwater District, will be designed with parking lots nearer Wildlife Habitat Areas. Site plans on parcels adjacent to Wildlife Habitat Areas will maximum distance between structures and such areas. <p>Landscaping</p> <ul style="list-style-type: none"> • Exterior trees and landscaping shall be located and glass surfaces shall incorporate measures so that exterior trees and landscaping are not reflected on building surfaces. • In small exterior courtyards and recessed areas, the building's edge shall be clearly defined with opaque materials and non-reflective glass. • Interior plants shall be located a minimum of 10 feet away from glass surfaces to avoid or reduce the potential for attracting birds. 				

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	<p>Public Education</p> <ul style="list-style-type: none"> • The owner or operator of each building shall implement an ongoing procedure to the satisfaction of the Port or the City to encourage tenants, residents, and guests to close their blinds, drapes, or other window coverings to reduce or avoid the potential for bird strikes. • The owner or operator of each building shall enroll in the Fatal Light Awareness Program's "Bird-Friendly Building Program" and shall implement ongoing tenant, resident, and guest education strategies, to the satisfaction of the Port or the City, to reduce or avoid the potential for bird strikes, such as elevator and lobby signage and educational displays, e-mail alerts and other bulletins during spring and fall migratory seasons, and other activities designed to enlist cooperation in reducing bird collisions with the building. <p>Monitoring</p> <ul style="list-style-type: none"> • For Phase I projects, the project applicant shall retain a qualified biologist to design a protocol and schedule, in consultation with the U.S. Department of Fish and Wildlife and subject to the approval of the Port or City, as appropriate depending on jurisdiction, to monitor bird strikes which may occur during the first 12 months after the completion of construction. Within 60 days after completion of the monitoring period, the qualified biologist shall submit a written report to the Port or the City, which shall state the biologist's findings and recommendations regarding any bird strikes that occurred. Based on the findings of those reports, the Port or the City, as appropriate depending on jurisdiction, in coordination with the U.S. Department of Fish and Wildlife, will evaluate whether further action is required, which may include further monitoring. • Bird strikes must be monitored in accordance with the NRMP and measures developed to address persistent problem areas. Nighttime lighting in tower buildings must be addressed and evaluated through adaptive management. Minimization of impacts of buildings on birds and the Wildlife Habitat Areas will be a priority in the selection of window coverings, glass color, other exterior materials, and design of exterior lighting and lighting of signs. <p>*Applies to Significant Impacts 4.8-36 and 4.8-37.</p>				

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.9-1	<p>A. Prior to construction of the H Street Pier during Phases II and IV or work within Parcel HW-4, a pre-construction eelgrass survey shall be conducted by a qualified marine biologist to confirm the exact amount of eelgrass to be affected at the time of pile driving operations. The pre-construction survey must be conducted during the period of March through October and would be valid for a period of no more than 60 days, with the exception that surveys conducted in August through October would be valid until the following March 1.</p> <p>B. Prior to construction of the H Street Pier during Phases II and IV or work within Parcel HW-4, the Port shall establish and implement a plan to create new eelgrass habitat. The loss of eelgrass habitat must be mitigated at a 1.2:1 ratio as described in the SCEMP (NMFS 1991, Revision 11). Impacts to approximately 0.4 acre of eelgrass shall require the creation of approximately 0.48 acre of eelgrass to mitigate losses caused by construction of the H Street Pier.</p> <p>C. Prior to or concurrent with the completion of the H Street Pier or work within Parcel HW-4, the Port shall create new eelgrass habitat at a ratio of 1.2:1 for the actual amount of impacts. This shall be done by removing the existing eelgrass currently located at the proposed H Street Pier site and transplanting it at an appropriate location within the filled area of the existing navigation channel, to the satisfaction of a qualified marine biologist.</p> <p>D. Subsequent to construction of the H Street Pier during Phases II and IV or work within Parcel HW-4, a post-construction eelgrass survey shall be conducted by a qualified biologist. The post-construction survey shall be conducted within 30 days of the cessation of construction activities to confirm the exact amount of eelgrass affected. The difference between the pre-construction and post-construction eelgrass surveys shall determine the amount of required mitigation. In addition, the Port shall:</p> <ul style="list-style-type: none"> • Conduct transplant reports following construction (Initial Report). • Conduct monitoring reports at 6, 12, 24, 36, 48, and 60 months post-transplant. Specific milestones and criteria for success are directed in the SCEMP along with guidelines for remedial actions if the success criteria are not met (including presence of green sea turtles based on soundings from the existing tagging program), which would require (based on the absence of other mitigating environmental considerations) a Supplementary Transplant Area to be constructed and monitored 	<p>Developer -Prior to construction</p> <p>Port - Prior to construction</p> <p>Developer -Prior to or concurrent with completion of construction</p> <p>Port in coordination with qualified biologist</p>	<p>Port in coordination with qualified biologist</p> <p>Port in coordination with qualified biologist</p> <p>Port in coordination with qualified biologist</p> <p>Port</p>		

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	<p>guidelines for remedial actions if the success criteria are not met (including presence of green sea turtles based on soundings from the existing tagging program), which would require (based on the absence of other mitigating environmental considerations) a Supplementary Transplant Area to be constructed and monitored for an additional 5 years.</p> <ul style="list-style-type: none"> • Initiate mitigation within 135 days of project inception; projects requiring more than 135 days to complete would result in additional mitigation. • Coordinate with Sweetwater Authority to share monitoring reports, as necessary. <p>*Applies to Significant Impact 4.9-3.</p>				
MM 4.9-3	<p>A. Prior to the commencement of harbor improvements on Parcel HW-3, which includes the placement of bulkheads, the Port or Port tenants, as appropriate, shall prepare and initiate implementation of a plan to create new habitat at a ratio of 2:1 for intertidal mudflat and 4:1 for pickleweed. Impacts to approximately 0.03 acre of intertidal mudflat shall require the in-kind creation of approximately 0.06 acre, and less than 0.001 acre of pickleweed shall require creation of approximately 0.004 acre of comparable habitat.</p> <p>B. Restoration shall occur in accordance with <i>Appendix 4.8-12</i>. At the time project specific designs are proposed for the Phase IV harbor reconfiguration, the mitigation for impacts to intertidal mudflat and pickleweed shall be re-evaluated by the Port during subsequent environmental review pursuant to State CEQA Guidelines Section 15168 to identify the total impact area and required mitigation for the loss of intertidal mudflat and pickleweed.</p> <p>C. Restoration shall occur in accordance with Mitigation Opportunities, <i>Appendix 4.8-12</i> to this report, which includes the creation of additional mudflat through the removal of riprap on the Bay shore in the Sweetwater District. As detailed in Mitigation Opportunities, this created habitat would be dominated by pickleweed (<i>Salicornia virginica</i>) with subdominants including saltwort (<i>Batis maritime</i>), fleshy Jaumea (<i>Jaumea carnosa</i>), alkali heath (<i>Frankenia salina</i>), and others as listed in Table 4 of <i>Appendix 4.8-12</i>. Currently, the mitigation opportunities detailed in <i>Appendix 4.8-12</i> are anticipated to be implemented during Phase I. The Port shall verify that the creation of intertidal mudflat satisfies the required mitigation once the final impacts are verified.</p>	<p>Port or Port Tenants -Prior to start of harbor improvements</p> <p>Port or Port Tenants -Prior to start of harbor improvements</p> <p>Port or Port Tenants -Prior to start of harbor improvements</p>	<p>Port</p> <p>Port</p> <p>Port</p>		

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	*Applies to Significant Impact 4.9-7.				
MM 4.9-6	<p>Prior to issuance of Coastal Development Permits, applicants shall submit a lighting plan and photometric analysis to the Port for review and approval. Lighting of all developed areas adjacent to open water shall be directed away from the water, wherever feasible and consistent with public safety. Lighting fixtures shall provide adequate shielding to protect the aquatic habitat and marine life from night lighting. The lighting plan shall illustrate the location of the proposed lighting standards and type of shielding measures. Low-pressure sodium lighting or the equivalent shall be used if feasible and shall be subject to the approval of the Port.</p> <p>*Applies to Significant Impact 4.9-8.</p>	Applicants -Prior to First Coastal Development Permit	Port		
4.10	<p>The Port shall implement a grading, monitoring, and data recovery program to reduce potential impacts to undiscovered buried archaeological resources on the Proposed Project to the satisfaction of the Director of Land Use Planning. Elements of the program will include that only certified archaeologists and Native American monitors are accepted. The project archaeologist shall monitor all areas identified for excavation, including off-site improvements. The monitors shall be present during the original cutting of previously undisturbed deposits. In the event that a previously unidentified potentially significant cultural resource is discovered, the archaeological monitor shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant resource. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared and approved by the County, then carried out using professional archaeological methods.</p> <p>In the event that human bones are discovered, the County coroner shall be contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant (MLD) as identified by the Native American Heritage Commission shall be contacted by the project archaeologist to determine proper treatment and disposition of the remains. In the event that previously unidentified cultural resources are discovered, a report documenting the field and analysis results and interpreting the artifact and research data within the context shall be completed and submitted to the satisfaction of the Director of Land Use Planning.</p>				

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	* This measure is not associated with a significant impact related to cultural resources; however, it has been incorporated to ensure appropriate implementation and enforcement.				
MM 4.11-1	<p>Prior to the issuance of any grading permit in the Sweetwater District, the applicant shall retain a qualified paleontologist (defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques) who shall carry out the following mitigation program. Fieldwork may be conducted by a qualified paleontological monitor (defined as an individual who has experience in the collection and salvage of fossil materials) who at all times shall work under the direction of the qualified paleontologist.</p> <ul style="list-style-type: none"> • The paleontologist shall attend all pre-grading meetings to inform the grading and excavation contractors of this paleontological resource mitigation program and shall consult with them with respect to its implementation. • The paleontological monitor shall be on site at all times during the original cutting of previously undisturbed sediments of highly sensitive geologic formations to inspect cuts for contained fossils in the low coastal mesa adjacent to Bay Boulevard in the northeastern portion of the Sweetwater District. The paleontological monitor shall be on site during the original cuts in deposits with a moderate resource sensitivity. • If fossils are discovered, the paleontologist or monitor shall recover them. In instances where recovery requires an extended salvage time, the paleontologist or monitor shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Where deemed appropriate by the paleontologist or monitor, a screen-washing operation for small fossil remains shall be set up. • Recovered fossils, along with copies of all pertinent field notes, photographs, and maps, shall be deposited (with the applicant's permission) in a scientific institution with paleontological collections. A final summary report that outlines the results of the mitigation program shall be completed. This report shall include discussion of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils. <p>All work shall be completed to the satisfaction of the Port or the City of Chula Vista, as appropriate.</p>	Applicant on coordination with qualified paleontologist -Prior to issuance of any grading permit	Port or City		

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	*Applies to Significant Impact 4.11-1				
MM 4.12-1	<p>Prior to the issuance of any permit for excavation, demolition, grading, or construction activities in the area described in the relevant permit based on the planned future use, the following shall occur:</p> <p>A. The applicant shall contact the lead regulatory agency (RWQCB/DEH/DTSC) to discuss the appropriate course of action for the area of concern described in the permit based on the planned future site use. Remediation of contaminated soil and/or groundwater in these areas shall meet cleanup requirements established by the local regulatory agency based on the planned future use of the area and shall be protective of human health with regard to future occupants of these areas. The applicant shall submit documentation showing that contaminated soil and/or groundwater in the area covered by the permit shall have been avoided or remediated to meet cleanup requirements established by the local regulatory agencies (RWQCB/DEH/DTSC).</p> <p>B. The applicant shall obtain written authorization from the regulatory agency (RWQCB/DEH/DTSC) confirming the completion of any remediation required for development of the site, exclusive of any on-going monitoring obligations. A copy of the authorization shall be submitted to the Port and City to confirm meeting all requirements acceptable to the governing agency and that the proposed development parcel has been cleaned up or is in process to the satisfaction of the regulatory agency. In the situation where previous contamination has occurred on a site that has a previously closed case or on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, the DEH shall be notified of the proposed land use.</p> <p>C. A Soil and Water Management Plan (SWMP) for Phase I activities shall be developed to provide procedures for addressing unknown contamination and subsurface equipment (i.e., pipes, tanks) or debris encountered during construction and excavation. A SWMP for subsequent phases shall be prepared prior to construction and excavation or such development. The plan shall be developed by a qualified environmental consultant and shall identify notification, monitoring, sampling, testing, handling, storage, and disposal of contaminated media or substances (soil, groundwater) measures to avoid or reduce impacts associated with hazardous materials contamination to a less than significant impact. The SWMP shall be approved by the Port and/or City prior to commencement of</p>	<p>Applicant -Prior to First Permit for Excavation, Demolition, Grading, or Construction</p> <p>Applicant -Prior to First Permit for Excavation, Demolition, Grading, or Construction</p> <p>Applicant in coordination with a qualified environmental consultant -Prior to Construction and Excavation</p>	<p>RWQCB /DEH/ DTSC</p> <p>RWQCB /DEH/ DTSC</p> <p>Port and/or City</p>		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>excavation, grading, demolition or construction. A qualified environmental consultant shall monitor excavations, grading, and construction activities in accordance with the plan. Any excess soil generated by construction shall be characterized to determine disposal options.</p> <p>If indications of contamination are encountered during construction, a qualified environmental consultant shall be retained to observe the contamination, consult with the regulatory oversight agency, perform environmental media (soil, soil gas, and groundwater) sampling and analysis as necessary, report the result, and provide recommendations or further action.</p> <p>In areas that have been identified as being contaminated, appropriate observation by a qualified environmental professional and sampling is required to characterize soil prior to off-site disposal. Contaminated soil shall be properly disposed of at an off-site facility. Fill soils shall be sampled to ensure that imported soil is free of contamination.</p> <p>Within one month of completion of cleanup activities, a report summarizing the results of monitoring shall be submitted by the applicant to the satisfaction of the Port and City.</p> <p>D. In the event that grading or construction activities result in the discovery of hazardous waste, the Port and/or City shall ensure compliance with State of California CCR Title 23 Health and Safety Regulation. Excavated soils impacted by hazardous materials or waste shall be characterized and disposed of in accordance with CCR Title 14 and 22. The San Diego RWQCB shall be contacted regarding provisions for possible reuse as backfill of soils impacted by hydrocarbons. Excavated soils shall be lined and covered with an impermeable material to prevent spread of contaminated material.</p> <p>The applicant must have an Industrial Hygienist registered in the State of California on site while working in areas where contamination is encountered. The responsibility of this professional would be to monitor the work site for contamination and to implement mitigation measures as needed to prevent exposure to the workers or public. These measures may include signage and dust control.</p> <p>Dewatering activities during construction shall be limited to the extent practicable and</p>	<p>Port and/or City</p> <p>Applicant</p>	<p>RWQCB /DEH/ DTSC</p> <p>RWQCB /DEH/ DTSC</p> <p>RWQCB</p> <p>Port and/or City</p>		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>water generated by dewatering shall be tested to determine treatment and disposal options in accordance with all applicable laws and regulations.</p> <p>*Applies to Significant Impacts 4.12-1, 4.12-3, 4.12-7, 4.12-12, 4.12-13, 4.12-17, and 4.12-18.</p>	Developer	RWQCB		
MM 4.12-2	<p>Prior to construction, all contractor and subcontractor project personnel shall receive training regarding the appropriate work practices necessary to effectively comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures.</p> <p>Hazardous materials shall not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment shall be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.</p> <p>The Port of San Diego shall require that a Business Emergency Plan (BEPP) is prepared for the construction of the Proposed Project, if not covered under their approved SWPPP. The plan shall identify all hazardous materials (e.g., fuels, solvents) that would be present on any portion of the construction area and project site. Contingency analysis and planning shall be presented to identify potential spill or accident situations, how to minimize their occurrence, and how to respond should they occur. The plan shall also identify spill response materials (e.g., absorbent pads, shovels) to be kept at the construction site and their locations.</p> <p>Hazardous materials spill kits shall be maintained on site for small spills.</p> <p>*Applies to Significant Impact 4.12-2.</p>	<p style="text-align: center;">Developer -Prior to start of construction</p> <p style="text-align: center;">Applicant in coordination with a qualified consultant -Prior to Construction and Excavation</p> <p style="text-align: center;">Developer</p>	<p>Port</p> <p>Port</p> <p>Port</p>		
MM 4.12-3	<p>In-water construction activities shall be conducted in accordance with Mitigation Measure 4.5-4 in <i>Section 4.5, Hydrology/Water Quality</i>.</p> <p>*Applies to Significant Impact 4.12-4</p>				

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.12-4	<p>In event of removal of USTs, the soil and groundwater within the vicinity of the USTs shall be adequately characterized and remediated, if necessary, to a standard that would be protective of water quality and human health, based on future site use. In areas to be redeveloped, a geophysical survey shall be conducted by the applicant to evaluate if there are any previously unidentified USTs or piping still existing in areas to be redeveloped.</p> <p>In the event that USTs are not identified in the HMTS or undocumented areas of contamination are encountered during grading activities (as indicated by odors, discolored soil, etc.), all work shall cease until appropriate health and safety procedures are implemented pursuant to the applicant's contingency plan. The applicant shall prepare a contingency plan to address contractor procedures for such an event, to minimize the potential for construction delays. In addition, the lead regulatory agency (DEH or RWQCB, depending on the nature of the contamination) shall be notified regarding the contamination. Each agency and program within the respective agency has its own mechanism for initiating an investigation. The applicant shall conduct contamination remediation and removal activities in accordance with pertinent local, state, and federal regulatory guidelines, under the oversight of the appropriate regulatory agency. Parcels contaminated with hazardous materials will be remediated to levels adequate to protect human health and the environment.</p> <p>*Applies to Significant Impact 4.12-5.</p>	<p>Applicant -During grading activities</p> <p>Applicant -During grading activities</p>	<p>Lead Regulatory Agency (DEH or RWQCB)</p> <p>Lead Regulatory Agency (DEH or RWQCB)</p>		
MM 4.12-5	<p>Prior to the issuance of a demolition permit for buildings scheduled for demolition that have not been surveyed to date for ACMs and LBPs, the applicant shall conduct a survey to determine the locations and amounts of ACMs and LBPs present, as well as other miscellaneous hazardous materials, such as potential mercury-containing thermostats and switches, light ballasts and switches that might contain PCBs, fluorescent light tubes that might contain mercury vapor, exit signs that might contain a radioactive source, air conditioning systems, lead-acid batteries and batteries associated with emergency lighting systems, and Freon™-containing refrigeration systems. Should ACMs, LBPs, or other miscellaneous hazardous building materials be encountered in the site structures, the applicant shall obtain a licensed abatement contractor to remove the hazardous materials in accordance with all applicable federal, state, and local laws, regulations, and permitting requirements prior to initiation of demolition activities.</p>	<p>Applicant -Prior to First Demolition Permit</p>	<p>Port in coordination with lead regulatory agency</p>		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>Prior to any proposed demolition activities, the applicant shall conduct a thorough inspection of the facilities that have permits to store hazardous materials to confirm whether a release of hazardous materials at these facilities has impacted the underlying soil and/or groundwater. The facilities that currently store hazardous materials are located at 596 Sandpiper Way, 997 G Street, and 979 G Street. If indications of contamination are encountered during demolition, a qualified environmental consultant shall be retained to observe the contamination, consult with the regulatory oversight agency, perform environmental media (soil, soil gas, and groundwater) sampling and analysis as necessary, report the result and provide recommendations for further action.</p> <p>*Applies to Significant Impact 4.12-6.</p>	<p>Applicant in coordination with qualified environmental consultant -Prior to First Demolition Permit</p>	<p>Lead Regulatory Agency (DEH or RWQCB)</p>		
MM 4.12-6	<p>Prior to construction, remediation activities for known contamination shall be performed to be protective of construction workers on the project site, as required by Mitigation Measure 4.12-1.</p> <p>*Applies to Significant Impact 4.12-7.</p>	<p>Port and City - Prior to construction</p>	<p>Port and City</p>		
MM 4.12-7	<p>Management of the parks throughout the project site must be required to comply with the Port and City's Integrated Pest Management Policies (IPM). IPM shall be used on all landscaped areas. In addition, fertilizers must be minimized and only non-toxic products used. Runoff from irrigation sprinklers into surface waters must be minimized and use of mulching and drip irrigation, where needed, maximized. Measures shall be employed to ensure that landscape chemicals and wastes do not get into surface waters or habitat areas.</p> <p>*Applies to Significant Impact 4.12-8.</p>	<p>Port and City -Ongoing management of parks</p>	<p>Port and City</p>		
MM 4.12-8	<p>For development in the Sweetwater District that would result in exposure of any soil containing pesticides/herbicides, excavation and disposal of the contaminated soils at an appropriately licensed facility shall be conducted as required by applicable law, to reduce potential for future site occupants' exposure. Otherwise, soil capping shall be implemented. Capping could be performed by placement of a clean soil fill layer over the impacted soil, which in turn could be overlain by other surface covers (i.e., turf and other vegetative cover and pavement).</p> <p>*Applies to Significant Impact 4.12-9.</p>	<p>Developer -When grading activities result in exposure of any soil containing pesticides/herbicides</p>	<p>DEH and/or RWQCB</p>		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.12-9	<p>At the time project specific designs are proposed for any development in Phases II through IV, a site assessment must be conducted by a qualified expert satisfactory to the City and/or Port to determine concentrations of contaminants in soil, soil gas, and groundwater on the parcel proposed for development. Further site assessment may be required as part of subsequent environmental review pursuant to State CEQA Guidelines.</p> <p>A HHRA, or other means of evaluation, must be prepared for any new development in Phases II through IV, analyzing each parcel proposed for development within the Proposed Project area. If the calculated risk from the HHRA (or other means of evaluation) is considered to be significant for a receptor in a parcel, mitigation measures shall be implemented to reduce the risk to below a level of significance. These measures may include one or both of the following:</p> <ul style="list-style-type: none"> • Remediating the contaminant sources and impacts in the respective media (i.e., soil, soil gas, groundwater) to levels below the health-based remediation criteria. Parcels contaminated with hazardous materials will be remediated to levels adequate to protect human health and the environment. • Implementing institutional and/or engineering controls to eliminate the pathway of concern or attenuate the contaminant exposure to levels below the health-based remediation criteria. <p>*Applies to Significant Impact 4.12-10</p>	<p>Applicant in coordination with qualified expert -When Project specific designs are proposed</p> <p>Applicant in coordination with qualified expert</p>	<p>City and/or Port</p> <p>City and/or Port</p>		
MM 4.12-10	<p>Prior to the approval of Design Review for development on Parcels H-3, H-13, H-14, H-15, and HP-5, the applicant shall submit a design plan for the project demonstrating to the satisfaction of the City and/or Port that proposed buildings shall be designed so as to prevent a risk to human health associated with intrusion of CVOC vapors into future buildings on these parcels. Such design measures may include vapor barriers or passive vent systems.</p> <p>*Applies to Significant Impacts 4.12-11, 4.12-16, 4.12-19, and 4.12-20.</p>	<p>Applicant -Prior to Design Review Approval</p>	<p>Port and/or City</p>		
MM 4.12-11	<p>A. Remediation in soil locations identified as exceeding health-based remediation criteria shall be performed prior to redevelopment as targeted "hotspot" removal with confirmation sampling to demonstrate that the COPCs have been removed and concentrations in remaining soil are less than the remediation criteria.</p>	<p>Developer -Prior to redevelopment /construction</p>	<p>Port and/or City</p>		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>B. Remediation of the areas of HP-5 that contain COPCs at concentrations exceeding remediation criteria shall be completed prior to construction activities depending on the design of proposed development and the potential for workers to be exposed to contamination in these areas.</p> <p>C. Remediation of the areas of HP-5 that contain concentrations of CVOCs may be performed by various methods, including soil vapor extraction and treatment. Any required remediation shall be performed prior to construction activities in order to protect construction workers in these areas. This parcel shall be remediated to levels adequate to protect human health and the environment.</p> <p>*Applies to Significant Impacts 4.12-14 and 4.12-15.</p>	<p>Developer -Prior to redevelopment /construction</p> <p>Developer -Prior to redevelopment /construction</p>	<p>Port and/or City</p> <p>Port and/or City</p>		
MM 4.13.3-1	<p>Prior to reconstruction and/or reconfiguration of existing parks within the Project, the Port shall post a public notice at each affected park site at least 30 days prior to commencement of construction activity and maintain the posting throughout reconstruction of each affected park. Said public notice shall identify the duration of park closure and information related to optional locations for public park and recreational facilities.</p> <p>*Applies to Significant Impact 4.13.3-1.</p>	<p>Port -Prior to reconstruction/reconfiguration of parks</p>	Port		
MM 4.13.3-2	<p>Prior to approval of a building permit for any project within the City's jurisdiction, the applicant shall pay all applicable recreation and park fees, including those set forth in Chapters 3.50 and 17.10 in the City's Municipal Code.</p> <p>*Applies to Significant Impact 4.13.3-2.</p>	<p>Applicant -Prior to Building Permit Approval</p>	City		
MM 4.13.4-1	<p>Prior to the issuance of building permits for any residential project, the applicant shall pay required school mitigation fees. As indicated above, the fees set forth in Government Code Section 65996 constitute the exclusive means of both "considering" and "mitigating" school facilities impacts of projects (Government Code Section 65996(a)). They are "deemed to provide full and complete school facilities mitigation" (Government Code Section 65996(b)). Once the statutory school mitigation fee (sometimes referred to as a "developer fee") is paid, the impact would be deemed mitigated as a matter of law.</p>	<p>Applicant -Prior to First Building Permit</p>	City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	*Applies to Significant Impacts 4.13.4-1 and 4.13.4-2				
MM 4.14.1-1	<p>To avoid significant construction-related noise impacts, the following measures shall be followed:</p> <ul style="list-style-type: none"> • Construction activity shall be prohibited Monday through Friday from 10:00 p.m. to 7:00 a.m., and Saturday and Sunday from 10:00 p.m. to 8:00 a.m., pursuant to the Chula Vista Municipal Code Section 17.24.050 (Paragraph J). It should be noted, however, that construction may require connections to existing water facilities, both on- and off-site, and may need to occur between the hours of 10:00 p.m. and 6:00 a.m. in order to minimize impacts to existing customers who cannot experience flow restrictions during daytime hours. • All stationary noise generating equipment, such as pumps and generators, shall be located as far as possible from noise sensitive receptors. Where practicable, noise-generating equipment shall be shielded from noise sensitive receptors by attenuating barriers or structures. Stationary noise sources located less than 200 feet from sensitive receptors shall be equipped with noise reducing engine housings. Water tanks, equipment storage, staging, and warm-up areas shall be located as far from noise sensitive receptors as possible. • All construction equipment powered by gasoline or diesel engines shall have sound control devices at least as effective as those originally provided by the manufacturer; no equipment shall be permitted to have an unmuffled exhaust. • Any impact tools used during demolition of existing infrastructure shall be shrouded or shielded, and mobile noise generating equipment and machinery shall be shut off when not in use. • Construction vehicles accessing the site shall be required to use the shortest possible route to and from I-5, provided the route does not expose additional receptors to noise. • Construction equipment shall be selected as those capable of performing the necessary tasks with the lowest sound level and the lowest acoustic height possible to perform the required construction operation. <p>*Applies to Significant Impacts 4.14.1-1 and 4.14.1-2.</p>	Developer -During construction	City		
MM 4.14.1-2	Construction-related noise from off-site water improvements shall be limited during the typical breeding season of January 15 to August 31 adjacent to the Sweetwater Marsh	Developer -During	Port and/or City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	NWR, F & G Street Marsh, and the J Street Marsh. The current accepted noise threshold is 60 dB(A) Leq; thus construction activity shall not exceed this level, or ambient noise levels if higher than 60 dB(A) during the breeding season. If construction does occur within the breeding season or adjacent to the marshes, the project developer shall prepare and submit an acoustical analysis to the Port and/or City, which shall determine whether noise barriers would be required to reduce the expected noise levels below the threshold. If noise barriers or construction activities are unable to result in a level of noise below the threshold, construction in these areas shall be delayed until the end of the breeding season. *Applies to Significant Impact 4.14.1-3.	construction or if during breeding season prior to construction			
MM 4.14.1-3	A. Prior to commencement of grading activities for all Phase I projects, the applicant(s) shall submit a traffic control plan for review and approval by the Port (for development on Port properties) and City Engineer and the Director of Public Works (for development on property and ROWs within the City's jurisdiction). B. Prior to commencement of grading activities for all subsequent phases, the applicant(s) shall submit a traffic control plan for review and approval by the Port (for development on Port properties) and City Engineer and the Director of Public Works (for development on property and ROWs within the City's jurisdiction). *Applies to Significant Impact 4.14.1-4.	Applicant(s) -Prior to start of grading	Port or City		
MM 4.14.2-1	Prior to the approval of a building permit for any development in Phases III and IV, the City shall verify that it has adequate sewer capacity to serve the proposed development. In the event the City does not have adequate sewer capacity to serve the proposed development, no building permit shall be approved for the proposed development until the City has acquired adequate sewer capacity to serve the proposed development. *Applies to Significant Impact 4.14.2-1.	City -Prior to Building Permit Approval	City		
MM 4.14.2-2	To avoid significant construction-related noise impacts, the following measures shall be followed: <ul style="list-style-type: none">Construction activity shall be prohibited Monday through Friday from 10:00 p.m. to 7:00 a.m., and Saturday and Sunday from 10:00 p.m. to 8:00 a.m., pursuant to the Chula Vista Municipal Code Section 17.24.050 (Paragraph J).	Developer -During construction	Port or City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<ul style="list-style-type: none"> • All stationary noise-generating equipment, such as pumps and generators, shall be located as far as possible from noise sensitive receptors. Where practicable, noise-generating equipment shall be shielded from noise sensitive receptors by attenuating barriers or structures. Stationary noise sources located less than 200 feet from sensitive receptors shall be equipped with noise reducing engine housings. Water tanks, and equipment storage, staging, and warm-up areas shall be located as far from noise sensitive receptors as possible. • All construction equipment powered by gasoline or diesel engines shall have sound control devices at least as effective as those originally provided by the manufacturer; no equipment shall be permitted to have an unmuffled exhaust. • Any impact tools used during demolition of existing infrastructure shall be shrouded or shielded, and mobile noise generating equipment and machinery shall be shut off when not in use. • Construction vehicles accessing the site shall be required to use the shortest possible route to and from I-5, provided the route does not expose additional receptors to noise. • Construction equipment shall be selected as those capable of performing the necessary tasks with the lowest sound level and the lowest acoustic height possible to perform the required construction operation. <p>*Applies to Significant Impact 4.14.2-2.</p>				
MM 4.14.2-3	<p>Construction-related noise shall be limited during the typical breeding season of January 15 to August 31 adjacent to the Sweetwater Marsh NWR, F & G Street Marsh, and the J Street Marsh. The current accepted noise threshold is 60 dB(A) Leq; thus construction activity shall not exceed this level, or ambient noise levels if higher than 60 dB(A) during the breeding season. If construction does occur within the breeding season or adjacent to the marshes, the project developer shall prepare and submit an acoustical analysis to the Port and the City, which shall determine whether noise barriers would be required to reduce the expected noise levels below the threshold. If noise barriers or construction activities are unable to result in a level of noise below the threshold, construction in these areas shall be delayed until the end of the breeding season.</p> <p>*Applies to Significant Impact 4.14.2-3.</p>	Developer - During construction or if during breeding season prior to construction	Port or City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.14.2-4	<p>A. Prior to commencement of grading activities for all Phase I projects, the applicant(s) shall submit a traffic control plan for review and approval by the Port (for development on Port properties) and City Engineer and the Director of Public Works (for development on property and ROWs within the City's jurisdiction).</p> <p>B. Prior to commencement of grading activities for all Phase II–IV projects, the applicant(s) shall submit a traffic control plan for review and approval by the Port (for development on Port properties) and City Engineer and the Director of Public Works (for development on property and ROWs within the City's jurisdiction).</p> <p>*Applies to Significant Impact 4.14.2-4</p>	<p>Applicant -Prior to start of grading</p> <p>Applicant -Prior to start of grading</p>	<p>Port and City Engineer and Director of Public Works</p> <p>Port and City Engineer and Director of Public Works</p>		
MM 4.14.2-5	<p>A. Prior to the issuance of a Coastal Development Permit for Properties within the Port's jurisdiction and prior to the issuance of a grading permit for properties within the City's jurisdiction, the applicant shall notify the RWQCB of dewatering of contaminated groundwater during construction. If contaminated groundwater is encountered, the project developer shall treat and/or dispose of the contaminated groundwater (at the developer's expense) in accordance with NPDES permitting requirements, which includes obtaining a permit from the Industrial Wastewater Control Program to the satisfaction of the RWQCB.</p> <p>B. Prior to the discharge of contaminated groundwater for all construction activities, should flammables, corrosives, hazardous wastes, poisonous substances, greases and oils and other pollutants exist on site, a pretreatment system shall be installed to pre-treat the water to the satisfaction of the RWQCB before it can be discharged into the sewer system.</p> <p>*Applies to Significant Impact 4.14.2-5.</p>	<p>Applicant -Prior to First Coastal Development Permit (Port)/First Grading Permit (City)</p> <p>Applicant -During construction</p>	<p>Port, City and RWQCB</p> <p>RWQCB</p>		
MM 4.15-1	<p>Prior to the grading of parcels for specific developments, the applicant shall provide a comprehensive site-specific geotechnical evaluation, including subsurface exploration and laboratory testing showing that individual parcels are suitable for proposed development work and that on-site fill materials and soils can support proposed structures. The applicant shall submit a geotechnical design report to the Port or City, depending on jurisdiction, for approval showing site-specific measures to be employed. As applicable, these measures shall include:</p>	<p>Applicant -Prior to start of grading</p>	<p>Port or City</p>		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<ul style="list-style-type: none"> • Conformance to the California Building Code Seismic Zone 4 Design Parameters, as detailed in Table 1 of the geotechnical study (see Appendix 4.15-1) • Design capable of withstanding strong seismic accelerations • Earthwork procedures, including removal, moisture conditioning, and recompaction of existing fills on the site • Selective grading, densification of the subsurface soils, and/or deep foundations • Removal, moisture conditioning, and compaction of bay deposits/alluvial soils. Deep foundations shall be used for structural support in areas of relatively thick bay deposits/alluvium • Removal or deep burial of expansive soils during grading, moisture conditioning, or specially designed foundations and slabs • Removal, moisture conditioning, and compaction of the topsoil on site. <p>*Applies to Significant Impact 4.15-1 through 4.15-5.</p>				
MM 4.15-2	<p>For all phases, the project applicant shall prepare a site specific geotechnical study. Mitigation of potential hazards due to liquefaction may include the densification or removal of the potentially liquefiable soil and placement of surcharge fills within building areas, or the use of deep foundation systems and mat slabs which still provide acceptable structural support should liquefaction occur. Soil densification can be accomplished by surcharging, compaction grouting, vibrocompaction, soil mixing, and deep dynamic compaction. Deep foundation systems may be used to transmit structural loads to bearing depths below the liquefiable zones and may consist of driven piles or drilled piles.</p> <p>*Applies to Significant Impact 4.15-2.</p>	Applicant -Prior to First Building Permit	Port or City		
MM 4.15-3	<p>Prior to the grading of parcels for the Pacifica development, the applicant shall adhere to the site-specific geotechnical evaluation prepared for the project or any amendment as approved by the Port/City (<i>Appendix 4.15-5, Geocon Preliminary Geotechnical Investigation prepared for Pacifica Companies (February 2008), Sections 7 and 8 Conclusions and Preliminary Recommendations</i>) which outlines general requirements and specific recommendations regarding soil and excavation, seismic design criteria, grading, consolidation settlement, ground improvement methods, slope stability, temporary slopes and shoring, groundwater and dewatering, shallow and deep</p>	Applicant -Prior to start of grading	Port or City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	foundations, subterranean structures, concrete slabs-on-grade, concrete flatwork, retaining walls and lateral loads, pavement, and drainage and maintenance. *Applies to Significant Impacts 4.15-3 and 4.15-4.				
MM 4.15-4	Prior to the grading of parcels for the RCC development, the applicant shall adhere to the site-specific geotechnical evaluation prepared for the project or any amendment as approved by the Port/City (<i>Appendix 4.15-4</i> , Geocon Geotechnical Investigation prepared for Gaylord Hotels (January 2008), Section 6. Conclusions and Recommendations), which outlines general requirements and specific recommendations regarding soil and excavation, seismic design criteria, grading, temporary slopes and shoring, groundwater and dewatering, hotel/convention center/parking structure/flex space foundation, ancillary structure foundation, concrete slabs-on-grade, retaining walls and lateral loads, preliminary pavements, and drainage and maintenance. *Applies to Significant Impact 4.15-5.	Applicant -Prior to start of grading	Port or City		
MM 4.16-1	Prior to the issuance of certificates of occupancy or building permits, the project applicant shall demonstrate that the Proposed Project complies with Title 24 of the California Energy Efficient Standards for Residential and Nonresidential Buildings. These requirements, along with the following measures, shall be incorporated into the final project design to the satisfaction of the Port and the Director of Planning and Building for the City: <ul style="list-style-type: none"> • Use of low NO_x emission water heaters • Installation of energy-efficient and automated air conditioners when air conditioners are provided • Energy-efficient parking area lights • Exterior windows shall be double paned. Implementation of these measures along with the SDG&E efforts for long-term energy supply as outlined in their filing with the CPUC that proposes a mix of conservation, demand response, generation, and transmission (http://www.sdenergy.org/uploads/7-9-04SDG&E_LTRP.pdf) would reduce the potential significant impact to below a level of significance. *Applies to Significant Impact 4.16-1.	Applicant -Prior to First Certificate of Occupancy	Port and City Director of Planning or Building		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 4.16-2	<p>The following standards are intended to be interpreted broadly and with the flexibility to adapt to new energy technology and evolving building construction and design practices. They will apply to and govern development of all individual parcels within the Proposed Project area, except Parcels HP-5, H-13, H-14, and H-15. The term "Development" will mean the development of an individual parcel within the Proposed Project area.</p> <p>A. To help reduce the need for fossil-fueled power generation, reduce greenhouse gas emissions, and support the California Energy Commission's Loading Order for Electricity Resources, all developments will achieve a minimum of a fifty (50) percent reduction in annual energy use as described below:</p> <ol style="list-style-type: none"> 1. Each building in each Development will perform at least fifteen (15) percent better than Title 24, Part 6 of the California Building Energy Efficiency Standards ("Title 24") in effect as of the date of this FEIR. The minimum energy efficiency performance standard adopted by the City is hereinafter described as its "Energy Efficiency Requirement" or "EER." Should revised Title 24 standards be adopted by the State of California, the City's EER that is in effect at the time a building permit application is submitted for such Development shall apply. 2. The balance of the reduction in annual energy use required will be achieved through the use of any combination of the energy reduction measures described below. To achieve compliance, sponsors of Developments may select one of two paths. The first path is based on Title 24 ("Title 24 Path") and the second is described in Energy and Atmosphere, Credit 1 "Optimized Energy Performance" (Credit EA-/c1) in the US Green Building Council's Leadership in Energy and Environmental Design (LEED) Version 3 system ("LEED Path"). The definition of the term "Baseline" against which energy reduction will be measured will vary depending on the path selected and is further described in Exhibit 3 of the MMRP to this Agreement. Choosing the LEED Path does not require a Development to achieve LEED Certification, but simply uses the methodology of EA-/c1. <ol style="list-style-type: none"> a. Renewable Energy generated within the boundaries of the Development will be credited toward the energy reduction requirement of Section A 25.2. The term "Renewable Energy" will mean energy derived from the sources described in California Public Resources Code section 25741 (b)1. b. Renewable Energy generated on one or more sites ("Renewable Energy Sites") 	Applicant -Prior to Building Permit Approval	Port and City in Coordination with the District.		

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	<p>within the boundaries of the Proposed Project by the Port, City or other third party and fed to the electrical grid or to the Development will be credited toward the energy reduction requirement described above. Aggregate energy generated on Renewable Energy Sites may be allocated to an individual Development up to the amount necessary to achieve such Development's compliance with the energy reduction requirement described above. Once allocated to a Development, the amount of energy generated by Renewable Energy Sites so allocated may not be further allocated to another development.</p> <p>c. Participation in a City of Chula Vista sponsored energy efficiency program provided that the resulting energy reduction may be calculated and verified. The methodology for calculating the amount of the credit toward the energy reduction requirement described above under the Title 24 Path and the LEED Path as described in Exhibit 3 of the MMRP.</p> <p>d. Each Development will develop, implement, and for the life of each Development, maintain a measurement and verification plan ("M&V Plan"). Such participation has been shown to increase the persistence of energy efficiency ("EE") and also to provide a way of recognizing and encouraging the ongoing conservation efforts of occupants and facility managers and will be awarded a waiver for five (5) percent credit against the Baseline to determine compliance with the energy reduction requirement described above. The Port will include in all leases the requirement to perform an energy audit every three (3) years for the convention centers and hotel Developments over 300 rooms and five (5) years for all other Developments to ensure that all energy systems are performing as planned or corrective action will be taken if failing to meet EE commitments.</p> <p>e. Participation in one of SDG&E's Voluntary Demand Reduction (DR) utility rates will be awarded a waiver for three (3) percent credit against the Baseline to determine compliance with the energy reduction requirement described above.</p> <p>f. Participation in one of SDG&E's Mandatory Demand Reduction (DR) utility rates will be awarded a waiver for five (5) percent credit against the Baseline to determine compliance with the energy reduction requirement described above.</p> <p>g. Incorporation of natural ventilation into design such that at least 75% of the conditioned area is naturally ventilated according to the guidelines set forth in Exhibit 3 of the MMRP, and if this benefit was not included in the energy efficiency calculations, the project will be awarded either: a waiver for five (5) percent credit against the</p>				

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	<p>Baseline to determine compliance with the energy reduction requirement described above; or, a waiver for ten (10) percent credit will be awarded if the natural ventilation system is coupled with an energy or cooling system that does not draw from the grid if and when natural ventilation is not used. This may be prorated if less than 75% of the conditioned area is naturally ventilated.</p> <p>3. The parties understand and acknowledge that the energy reduction measures described above for a Development or component of a Development may be phased in over time to achieve compliance with the energy reduction provided such energy reduction measures are completed no later than thirty-six (36) months following issuance of a certificate of occupancy for such Development or such component thereof.</p> <p>4. To further incent responsible and sustainable development practices within the boundaries of the Proposed Project, the Port, the City and the Redevelopment Agency will consider voluntary commitments to levels of energy reduction in excess of the energy requirements described above commitment to achievement of a LEED Certification, and/or a "Living Building Challenge" in connection with the selection of respondents in RFP/RFQ processes for developments within the Proposed Project area.</p> <p>5. Within one year following the CCC's approval of a PMP amendment substantially consistent with the Proposed Project, the Port will in good faith consider adoption of an ordinance, in a public hearing process, that if approved by the Board of Port Commissioners, will require the following:</p> <p>a. Within six (6) months following adoption of the ordinance and every three (3) years thereafter, the Port will conduct an energy efficiency and renewable energy analysis that will:</p> <p>i. Assess the feasibility and cost-effectiveness of programs and options to reduce demand on the electric grid from all lands under Port's jurisdiction; and</p> <p>ii. Include, but not be limited to, an assessment of the potential for reduction in energy use on all land under Port's jurisdiction through increases in energy efficiency, demand response, clean renewable and distributed energy generation and other methods and technologies.</p> <p>b. Upon the completion of each analysis, the Port will consider good faith implementation of cost-effective programs and options as part of its commitment</p>				

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	<p>to greenhouse gas reductions and global climate change prevention activities consistent with Assembly Bill 32.</p> <p>c. The results of each analysis will be published on the Port's website and received by the Port's Board of Port Commissioners in a public forum.</p> <p>*Applies to Significant Impact 4.16-1.</p>				
MM 4.17-1	<p>The Redevelopment Agency will use all Low and Moderate Income Housing funds generated from within the Bayfront Redevelopment Project Area on the production of affordable housing units, inside and/or outside of redevelopment areas, for very low, low and moderate income individuals/families only in areas located west of I-805 in the City of Chula Vista.</p> <p>* This measure is not associated with a significant impact related to population; however, it has been incorporated to ensure appropriate implementation and enforcement.</p>	Redevelopment Agency			
<i>Significant and Unavoidable Impacts</i>					
---	<p>No feasible mitigation beyond redesign of the project as identified as a project alternative would reduce this impact to view quality. See <i>Chapter 5, Alternatives</i>, for a discussion of design options that would allow for an overall reduction in height and bulk of the proposed development.</p> <p>*Applies to Significant Impact 4.1-4.</p>	—	—		
MM 4.1-3	<p>Prior to the approval of a building permit for any residential project, the applicant shall pay a PFDIF or equivalent fee in an amount calculated according to the City's PFDIF program in effect at the time of permit issuance.</p> <p>*Applies to Significant Impact 4.1-5.</p>	Applicant -Prior to Building Permit Approval	City		
MM 4.2-8	<p>The Port and the City shall participate in a multi-jurisdictional effort conducted by Caltrans and SANDAG to assist in developing a detailed I-5 corridor level study that will identify transportation improvements along with funding, including federal, state, regional, and local funding sources and phasing that would reduce congestion with Caltrans standards on the I-5 south corridor from the SR-54 interchange to the Otay River (the "I-5 South Corridor") (hereinafter, the "Plan"). Local funding sources identified in the Plan shall include fair share contributions related to private and/or public development based on the</p>	City, other cities along I-5, the Port, SANDAG, and Caltrans	Port Board of Commissioners and City Council		

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	<p>nexus established in this Draft EIR as well as other mechanisms. The Plan required by this mitigation shall include the following:</p> <ol style="list-style-type: none"> a. The responsible entities (the Entities) included in this effort will include, but may not be limited to, the City, other cities along I-5, the Port, SANDAG, and Caltrans. Other entities will be included upon the concurrence of the foregoing Entities. b. The Plan will identify physical and operational improvements to I-5 adjacent to the project area, relevant arterial roads and transit facilities (the Improvements), that are focused on regional impacts and specific transportation impacts from the project, and will also identify the fair share responsibilities of each Entity for the construction and financing for each Improvement. The Plan will include an implementation element that includes each Entity's responsibilities and commitment to mitigate the impacts created by all phases of the Proposed Project. c. The Plan will set forth a timeline and other agreed upon relevant criteria for implementation of each Improvement. d. The Plan will identify the total estimated design and construction cost for each Improvement and the responsibility of each Entity for both implementation and funding of such costs. e. The Plan will include the parameters for any agreed upon fair-share funding to be implemented, that would require private and/or public developers to contribute to the costs, in a manner that will comply with applicable law. f. In developing the Plan, the Entities shall also consider ways in which the Improvements can be coordinated with existing local and regional transportation and facilities financing plans and programs, in order to avoid duplication of effort and expenditure; however, the existence of such other plans and programs shall not relieve the Entities of their collective obligation to develop and implement the Plan as set forth in this mitigation measure. Nothing in the Plan shall be construed as relieving any Entity (or any other entity) from its independent responsibility (if any) for the implementation of any transportation improvement. g. The Port shall seek adoption of the Plan before the Port Board of Commissioners and the City shall seek adoption of the Plan before the City Council upon the completion of the multi-jurisdictional effort to develop the Plan. The Port and the City shall report, to their respective governing bodies regarding the progress made to develop the Plan within 6 months of the first meeting of the entities. Thereafter, the Port and the City shall report at least annually regarding the progress of the 				

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	<p>Plan, for a period of not less than 5 years, which may be extended at the request of the City Council and/or Board of Commissioners.</p> <p>h. The Plan shall also expressly include each Entity's pledge that it will cooperate with each other in implementing the Plan.</p> <p>i. Prior to issuance of certificates of occupancy or building permits for any development of individual projects within the Chula Vista Bayfront Master Plan, the Port and the City shall require project applicants to make their fair share contribution toward mitigation of cumulative freeway impacts within the City's portion of the I-5 South Corridor by participating in the City's Western Traffic Development Impact Fee or equivalent funding program.</p> <p>The failure or refusal of any Entity other than the Port or the City to cooperate in the implementation of this mitigation measure shall not constitute failure of the Port or the City to implement this mitigation measure; however, the Port and the City shall each use its best efforts to obtain the cooperation of all responsible Entities to fully participate, in order to achieve the goals of the mitigation measure.</p> <p>*Applies to Significant Impacts 4.2-12, 4.2-17, 4.2-18, 4.2-29, 4.2-30, 4.2-35 through 4.2-37, and 4.2-46 through 4.2-50.</p>				
MM 4.2-10	<p>Prior to issuance of certificates of occupancy for parcel H-3 or building permits for any development within the City, the Port and the City shall require project applicants to make their fair share contribution toward mitigation of intersection impacts at H Street and E Street within the City's jurisdiction by participating in the City's Western Traffic Development Impact Fee or equivalent funding program.</p> <p>The failure or refusal of any Entity other than the Port or the City to cooperate in the implementation of this mitigation measure shall not constitute failure of the Port or the City to implement this mitigation measure; however, the Port and the City shall each use its best efforts to obtain the cooperation of all responsible Entities to fully participate, in order to achieve the goals of mitigation measure.</p> <p>However, because implementation of the physical improvements needed to reduce the significant impacts to the affected intersections will require funding from other sources in addition to the WTDIF, such as local, state and federal funds, and such funding is not</p>	Applicant(s) -Prior to First Certificate of Occupancy	Port and/or City		

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	<p>certain or under the control of the Port or the City, the Port and the City cannot assure the necessary improvements will be constructed as needed or that they will be constructed within any known time schedule. Accordingly, the Proposed Project's impacts to the E Street and H Street intersections affected by an at-grade trolley crossing are considered significant and unmitigated.</p> <p>*Applies to Significant Impact 4.2-19.</p>				
---	<p>No feasible mitigation beyond redesign of the project as identified as a project alternative would reduce this impact to view quality. See <i>Chapter 5, Alternatives</i>, for a discussion of design options that would allow for an overall reduction in height and bulk of the proposed towers.</p> <p>*Applies to Significant Impacts 4.4-1 and 4.4-2.</p>	—	—		
MM 4.6-1	<p>Prior to the commencement of any grading activities, the following measures shall be placed as notes on all grading plans and shall be implemented during grading of each phase of the project to minimize construction emissions. These measures shall be completed to the satisfaction of the Port and the Director of Planning and Building for the City of Chula Vista (These measures were derived, in part, from Table 11-4 of Appendix 11 of the SCAQMD CEQA Air Quality Handbook, and from SCAQMD Rule 403).</p> <p>See Mitigation Measure 4.6-1 in <i>Section 4.6, Air Quality</i> for a list of Best Available Control Measures for Specific Construction Activities.</p> <p>*Applies to Significant Impacts 4.6-1 and 4.6-6.</p>	<p>Developer -Prior to start of grading</p>	Port and City		
MM 4.6-2	<p>A. For development within the City's jurisdiction, applicants shall submit an AQIP with any Tentative Maps submitted to the City in accordance with Municipal Code Section 19.09.050B, and the applicant shall demonstrate that air quality control measures outlined in the AQIP pertaining to the design, construction, and operational phases of the project have been implemented to the satisfaction of the Director of Planning and Building for the City. This plan shall demonstrate "the best available design to reduce vehicle trips, maintain or improve traffic flow, and reduce vehicle miles traveled." There are two options to meet the AQIP requirement. The applicant shall evaluate the project in accordance with the computer modeling procedures outlined in the City's AQIP</p>	<p>Applicants -With submittal of Tentative Map</p>	City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>Guidelines, including any necessary site plan modifications.</p> <p>B. Prior to the issuance of building permits, the applicant shall demonstrate that the Proposed Project complies with Title 24 of the California Energy Efficient Standards for Residential and Nonresidential buildings. These requirements, along with the following measures, shall be incorporated into the final project design to the satisfaction of the Port and the Director of Planning and Building for the City:</p> <ul style="list-style-type: none"> • Use of low NO_x emission water heaters • Installation of energy efficient and automated air conditioners when air conditioners are provided • Energy efficient parking area lights • Exterior windows shall be double paned. <p>Although these measures will reduce air quality impacts of the Proposed Project, they would not bring area and operations emissions to a level below the standard established by the SCAQMD and used in this document by the City and Port. Therefore, air quality impacts remain significant and unmitigated.</p> <p>*Applies to Significant Impact 4.6-2.</p>	<p>Applicant -Prior to First Building Permit</p>	<p>Port and City</p>		
MM 4.6-3	<p>A. For development within the City's jurisdiction, the applicants shall submit an AQIP with any Tentative Maps submitted to the City in accordance with Municipal Code Section 19.09.050B, and the applicant shall demonstrate that air quality control measures outlined in the AQIP pertaining to the design, construction, and operational phases of the project have been implemented to the satisfaction of the Director of Planning and Building for the City of Chula Vista. This plan shall demonstrate "the best available design to reduce vehicle trips, maintain or improve traffic flow, and reduce vehicle miles traveled." There are two options to meet the AQIP requirement. The applicant shall evaluate the project in accordance with the computer modeling procedures outlined in the City's AQIP Guidelines, including any necessary site plan modifications.</p> <p>B. Prior to the issuance of building permits, the applicant shall demonstrate that the Proposed Project complies with Title 24 of the California Energy Efficient Standards for Residential and Nonresidential buildings. These requirements along with the following</p>	<p>Applicants -With submittal of Tentative Map</p> <p>Applicant -Prior to First Building Permit</p>	<p>City</p> <p>Port and City</p>		

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	<p>Although these measures would reduce air quality impacts of the Proposed Project, they would not bring area and operations emissions to a level below the standard established by the SCAQMD and used in this document by the City and Port. Therefore, air quality impacts remain significant and unmitigated.</p> <p>*Applies to Significant Impact 4.6-5.</p>				
MM 4.13.5-1	<p>Prior to the approval of a building permit for any residential project, the applicant shall pay a PFDIF or equivalent fee in an amount calculated according to the City's PFDIF program in effect at the time of permit issuance.</p> <p>*Applies to Significant Impacts 4.13.5-1 and 4.13.5-2.</p>	<p>Applicant -Prior to Building Permit Approval</p>	<p>City and applicable school district</p>		
<i>Cumulative Impacts</i>					
MM 6.5-1	<p>The Port and the City shall participate in a multi-jurisdictional effort conducted by Caltrans and SANDAG to assist in developing a detailed I-5 corridor-level study (hereinafter, the "Plan") that will identify transportation improvements along with funding, including federal, state, regional, and local funding sources, and phasing that would reduce congestion management with Caltrans standards on the I-5 South corridor from the SR-54 interchange to the Otay River (the "I-5 South Corridor"). Local funding sources identified in the Plan shall include fair-share contributions related to private and/or public development based on nexus as well as other mechanisms. The Plan required by this mitigation shall include the following:</p> <ol style="list-style-type: none"> a. The responsible entities (the Entities) included in this effort will include, but may not be limited to, the City, other cities along I-5, the Port, SANDAG, and Caltrans. Other entities will be included upon the concurrence of the foregoing Entities. b. The Plan will identify physical and operational improvements to I-5 adjacent to the project area, relevant arterial roads, and transit facilities (the Improvements) that are focused on regional impacts and specific transportation impacts from the project and will also identify the fair-share responsibilities of each Entity for the construction and financing for each Improvement. The Plan will include an implementation element that includes each Entity's responsibilities and commitment to mitigate the impacts created by all phases of the Proposed Project. c. The Plan will set forth a timeline and other agreed upon relevant criteria for implementation of each Improvement. 	<p>Port, City, CALTRANS, and SANDAG</p>	<p>Port and City in coordination with other cities along I-5, SANDAG, and Caltrans.</p>		

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	<p>d. The Plan will identify the total estimated design and construction cost for each Improvement and the responsibility of each Entity for both implementation and funding of such costs.</p> <p>e. The Plan will include the parameters for any agreed upon fair-share funding to be implemented that would require private and/or public developers to contribute to the costs, in a manner that will comply with applicable law.</p> <p>f. In developing the Plan, the Entities shall also consider ways in which the Improvements can be coordinated with the financing plans and programs of existing local and regional transportation and facilities, in order to avoid duplication of effort and expenditure; however, the existence of such other plans and programs shall not relieve the Entities of their collective obligation to develop and implement the Plan as set forth in this mitigation measure. Nothing in the Plan shall be construed as relieving any Entity (or any other entity) from its independent responsibility (if any) for the implementation of any transportation improvement.</p> <p>g. The Port shall seek adoption of the Plan before the Port Board of Commissioners and the City shall seek adoption of the Plan before the City Council upon the completion of the multi-jurisdictional effort to develop the Plan. The Port and the City shall report to their respective governing bodies regarding the progress made to develop the Plan within 6 months of the first meeting of the entities. Thereafter, the Port and the City shall report at least annually regarding the progress of the Plan, for a period of not less than 5 years, which may be extended at the request of the City Council and/or Board of Commissioners.</p> <p>h. The Plan shall also expressly include each Entity's pledge that it will cooperate with each other in implementing the Plan.</p> <p>i. Prior to issuance of certificates of occupancy or building permits for any development of individual projects within the Chula Vista Bayfront Master Plan, the Port and the City shall require project applicants to make their fair-share contribution toward mitigation of cumulative freeway impacts within the City's portion of the I-5 South Corridor by participating in the City's Western Traffic Development Impact Fee or equivalent funding program.</p> <p>The failure or refusal of any Entity other than the Port or the City to cooperate in the implementation of this mitigation measure shall not constitute failure of the Port or the City to implement this mitigation measure; however, the Port and the City shall each use</p>				

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	<p>its best efforts to obtain the cooperation of all responsible Entities to fully participate, in order to achieve the goals of this mitigation measure.</p> <p>*Applies to Significant Impacts 6.5-1, 6.5-2, 6.5-3, 6.5-4, 6.5-5, 6.5-6, 6.5-7, 6.5-8, 6.5-9, 6.5-10, 6.5-14, 6.5-15, 6.5-21, 6.5-22, 6.5-23, 6.5-24 and 6.5-25, which would remain significant after implementation.</p>				
MM 6.5-2	<p>In assessing the impact of the project on the Phase III network, it was determined that H Street between Street A and the I-5 Ramps was already widened in Phase II to accommodate growth in traffic, and it would be difficult to widen more, due to right-of-way constraints. To accommodate traffic from the project and to provide another route to I-5, the Port shall extend E Street from the RCC Driveway to west of Bay Boulevard. The segment shall be built as a two-lane Class III Collector prior to the issuance of either a building permit or final map for a Phase II project. This Mitigation would reduce Significant Impacts 6.5-11 and 6.5-12 to below a level of significance.</p> <p>*Applies to Significant Impacts 6.5-11 and 6.5-12.</p>	<p>Port -Prior to First Building Permit or Final Map for Phase II Project</p>	City Engineer		
MM 6.5-3	<p>Prior to issuance of a certificate of occupancy for any Phase III project, the Port shall construct an exclusive westbound right-turn lane at the intersection of J Street and I-5 NB Ramps. The lane shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 6.5-13 to below a level of significance.</p> <p>*Applies to Significant Impact 6.5-13.</p>	<p>Port -Prior to First Certificate of Occupancy for any Phase III Project</p>	City Engineer		
MM 6.5-4	<p>Prior to issuance of a certificate of occupancy for any Phase III project, the Port shall widen E street between the RCC Driveway and Bay Boulevard to a two-lane Class II Collector. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 6.5-16 to below a level of significance.</p> <p>*Applies to Significant Impact 6.5-16.</p>	<p>Port -Prior to First Certificate of Occupancy for any Phase III Project</p>	City Engineer		
MM 6.5-4	<p>Prior to issuance of a certificate of occupancy for any Phase III project, the Port shall widen Street A between H Street and Street C to a four-lane Class I Collector. The additional roadway capacity would facilitate the flow of project traffic. This mitigation would reduce Significant Impact 6.5-17 to below a level of significance.</p>	<p>Port -Prior to First Certificate of Occupancy for any Phase III Project</p>	City Engineer		

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	*Applies to Significant Impact 6.5-17.				
MM 6.5-6	Prior to issuance of a certificate of occupancy for any Phase III project, the Port shall construct southbound left- and right-turn lanes at the intersection of E Street and Bay Boulevard. The lanes shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 6.5-18 to below a level of significance. *Applies to Significant Impact 6.5-18..	Port -Prior to First Certificate of Occupancy for any Phase III Project	City Engineer		
MM 6.5-7	Prior to issuance of a certificate of occupancy for any Phase III project, the Port shall construct an exclusive eastbound right-turn lane at the intersection of J Street and Bay Boulevard. The lane shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 6.5-19 to below a level of significance. *Applies to Significant Impact 6.5-19..	Port -Prior to First Certificate of Occupancy for any Phase III Project	City Engineer		
MM 6.5-8	Prior to issuance of a certificate of occupancy for any Phase III project, the Port shall construct an exclusive westbound right-turn lane at the intersection of J Street and I-5 NB Ramps. The lane shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 6.5-20 to below a level of significance. *Applies to Significant Impact 6.5-20.	Port -Prior to First Certificate of Occupancy for any Phase III Project	City Engineer		
MM 6.5-9	Prior to the issuance of certificates of occupancy for any development in Phase IV of the development, the Port shall construct an eastbound and westbound through-lane along H Street (as part of roadway segment mitigation) and a westbound right-turn lane at the intersection of H Street and Woodlawn Avenue. The additional lanes shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce Significant Impact 6.5-26 to below a level of significance. *Applies to Significant Impact 6.5-26.	Port -Prior to First Certificate of Occupancy	City Engineer		
MM 6.5-10	Prior to the issuance of certificates of occupancy for any development in Phase IV of the development, the Port shall construct a westbound through- and right-turn lane along H Street at the intersection of H Street and Broadway. The lane shall be constructed to the satisfaction of the City Engineer. With mitigation, this intersection would still operate at LOS E during the PM peak hour. This is consistent with the result from the Chula Vista Urban Core traffic study, which concluded that no additional mitigation is desired at this	Port -Prior to First Certificate of Occupancy for any development in Phase IV	City Engineer		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>residential development, the project developer shall submit a landscaping design plan for on-site landscaping improvements that is in conformance to design guidelines and standards established by the City of Chula Vista. The plan shall be implemented as a condition of project approval.</p> <p>F. Gateway Plan: Concurrent with the preparation of Phase I infrastructure design plans for E and H Street, a Gateway plan shall be prepared for E and H Streets. Prior to issuance of occupancy for any projects within the Port's jurisdiction in Phase I, the E and H Street Gateway plan shall be approved by the Port and City's Directors of Planning and Building. The E and H Street Gateway plan shall be coordinated with the Gateway plan for J Street.</p> <p>G. Gateway Plan: Concurrent with development of H-13 and H-14, the applicant shall submit a Gateway plan for J Street for City Design Review consideration. Prior to issuance of any building permits, the J Street Gateway plan shall be approved by the Director of Planning and Building in coordination with the Port's Director of Planning. The J Street Gateway plan shall be coordinated with the Gateway plan for E and H Streets.</p> <p>*Applies to Significant Impact 6.6-1, which would remain significant after mitigation</p>	<p>-Prior to TM/SDP Approval</p> <p>Applicant -Prior to Occupancy</p> <p>Applicant -Prior to First Building Permit</p>	<p>Port and City's Director of Planning and Building</p> <p>City's Director of Planning and Building in coordination with the Port's Director of Planning</p>		
MM 6.8-1	<p>Prior to the issuance of any grading permit, the following measures shall be placed as notes on all grading plans, and shall be implemented during grading of each phase of the project to minimize construction emissions. These measures shall be completed to the satisfaction of the Port and the Director of Planning and Building for the City of Chula Vista (these measures were derived, in part, from Table 11-4 of Appendix 11 of the SCAQMD CEQA Air Quality Handbook (SCAQMD 1999)).</p> <p>See Mitigation Measure 6.8-1 in <i>Chapter 6, Cumulative Impacts</i>, for a list of Best Available Control Measures for Specific Construction Activities.</p> <p>*Applies to Significant Impact 6.8-1, which would remain significant and unmitigated after mitigation</p>	<p>Developer -Prior to start of grading</p>	<p>Port and City</p>		

**CHULA VISTA BAYFRONT MASTER PLAN PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p><u>Energy Efficiency</u></p> <ul style="list-style-type: none"> • Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping, and sun screens to reduce energy use. • Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings. • Install light colored "cool" roofs, cool pavements, and strategically placed shade trees. • Provide information on energy management services for large energy users. • Install energy efficient heating and cooling systems, appliances and equipment, and control systems. • Install light emitting diodes (LEDs) for traffic, street, and other outdoor lighting. • Limit the hours of operation of outdoor lighting. • Use solar heating, automatic covers, and efficient pumps and motors for pools and spas. • Provide education on energy efficiency. • Renewable Energy • Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives. • Install solar panels on carports and over parking areas. • Use combined heat and power in appropriate applications. • Water Conservation and Efficiency • Create water-efficient landscapes. • Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls. • Use reclaimed water for landscape irrigation in new developments and on public property where appropriate. Install the infrastructure to deliver and use reclaimed water. • Design buildings to be water-efficient. Install water-efficient fixtures and appliances. • Use gray water. (Gray water is untreated household wastewater from bathtubs, showers, bathroom wash basins, and water from clothes washing machines.) For example, install dual plumbing in all new development, allowing gray water to be 	components of the CVBMP			

**CHULA VISTA BAYFRONT MASTER PLAN PROJECT
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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>used for landscape irrigation.</p> <ul style="list-style-type: none"> • Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff. • Restrict the use of water for cleaning outdoor surfaces and vehicles. • Implement low-impact development practices that maintain the existing hydrologic character of the site to manage stormwater and protect the environment. (Retaining stormwater runoff on site can drastically reduce the need for energy-intensive imported water at the site.) • Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project. • Provide education about water conservation and available programs and incentives. • Solid Waste Measures • Reuse and recycle construction and demolition waste (including but not limited to soil, vegetation, concrete, lumber, metal, and cardboard). • Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas. • Recover by-product methane to generate electricity. • Provide education and publicity about reducing waste and available recycling services. • Transportation and Motor Vehicles • Limit idling time for commercial vehicles, including delivery and construction vehicles. • Use low- or zero-emission vehicles, including construction vehicles. • Promote ride sharing programs, for example, by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides. • Provide the necessary facilities and infrastructure to encourage the use of low- or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling). • Provide public transit incentives, such as free or low-cost monthly transit passes. • For commercial projects, provide adequate bicycle parking near building entrances to 				

**CHULA VISTA BAYFRONT MASTER PLAN PROJECT
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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including (for example) locked bicycle storage or covered or indoor bicycle parking.</p> <ul style="list-style-type: none"> • Institute a telecommute work program. Provide information, training, and incentives to encourage participation. Provide incentives for equipment purchases to allow high-quality teleconferences. • Provide information on all options for individuals and businesses to reduce transportation-related emissions. Provide education and information about public transportation. • The measures identified above and in Mitigation Measures 4.16-2, will substantially reduce GHG emissions, achieving reductions of at least 20 percent below "business as usual." Furthermore, better technology is rapidly developing and may provide further measures in the near future that will avoid conflict with the goals or strategies of AB 32 or related Executive Orders. Once projects are defined within the program phases, further environmental review will be required, at which time the most current measures will be identified and required to be consistent with this mitigation measure and any additional regulations in effect at the time. Implementation of Mitigation Measure 6.8-3, therefore, will avoid a contribution to a cumulatively significant impact and will result in a less than significant impact to global climate change. <p>*Applies to Significant Impact 6.8-3</p>				
MM 6.11-1	<p>A. Prior to construction of any program-level components of the project that impact eelgrass, a pre-construction eelgrass survey shall be conducted by a qualified biologist to confirm the exact extent of the impact at the time of pile driving operations. The pre-construction survey must be conducted during the period of March through October and would be valid for a period of no more than 60 days, with the exception that surveys conducted in August through October would be valid until the following March 1.</p> <p>B. Prior to the construction of any program-level components of the project that impact eelgrass, the Port shall establish and implement a plan to create new eelgrass habitat at a ratio of 1.2:1. The Port shall create new eelgrass habitat by removing the existing eelgrass currently located in the impacted areas and transplanting it at the new location. Identification and planting of the restoration site shall be completed to the satisfaction of the Port prior to commencement of construction.</p>	<p>Port</p> <p>-Prior to construction of any program-level components that would impact eelgrass</p> <p>Port</p> <p>-Prior to construction of any program-level</p>	<p>Port in coordination with a qualified biologist</p> <p>Port in coordination with a</p>		

**CHULA VISTA BAYFRONT MASTER PLAN PROJECT
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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	<p>C. Subsequent to construction of any program-level components of the project that impact eelgrass, a post-construction eelgrass survey shall be conducted by a qualified biologist. The post-construction survey shall be conducted within 30 days of the cessation of construction activities to confirm the exact amount of eelgrass affected. The difference between the pre-construction and post-construction eelgrass surveys shall determine the amount of required additional mitigation. In addition, the Port shall:</p> <ul style="list-style-type: none"> • Conduct transplant reports following construction (Initial Report). It would take 1 to 2 years for all of the fine sediment to dissipate in the water column for the movement of such a large amount of sediment. Based on this, eelgrass transplant success would not be possible for 1 to 2 years. Mitigation would be required for additional time delays. • Conduct monitoring reports at 6, 12, 24, 36, 48, and 60 months post-transplant. Specific milestones and criteria for success are directed in the SCEMP along with guidelines for remedial actions if the success criteria are not met, which would require (based on the absence of other mitigating environmental considerations) a Supplementary Transplant Area to be constructed and monitored for an additional 5 years. • Initiate any potential additional mitigation within 135 days of project inception; projects requiring more than 135 days to be completed may result in further additional mitigation. <p>D. If an appropriate mitigation site is not available at the time of construction of the program components which would impact eelgrass, mitigation habitat shall be created through fill or appropriate habitat in the Bay. Any delays to eelgrass planting after the impact occurs would require additional mitigation of 7 percent per month of additional eelgrass.</p> <p>Implementation of Mitigation Measure 6.11-1 would reduce significant cumulative impacts to eelgrass to below significance.</p> <p>*Applies to Significant Impact 6.11-1.</p>	<p>components that would impact eelgrass</p> <p>Port in coordination with a qualified biologist eelgrass</p>	<p>qualified biologist</p> <p>Port</p>		

**CHULA VISTA BAYFRONT MASTER PLAN PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

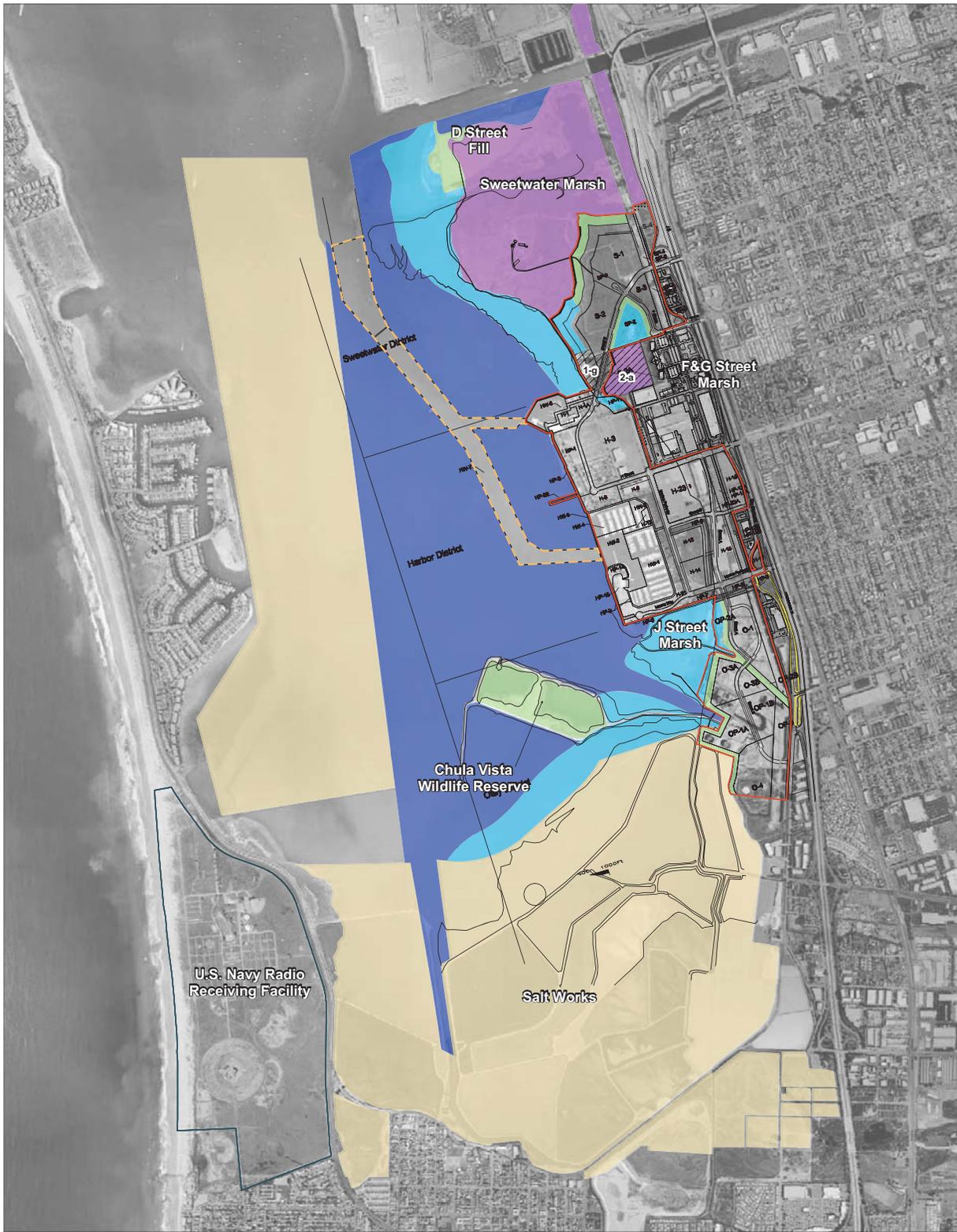
Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
MM 6.15.2-1	<p>Prior to the approval of a building permit for any development in all phases of the Proposed Project, the City shall verify that it has adequate sewer capacity to serve the proposed development. In the event the City does not have adequate sewer capacity to serve the proposed development, no building permit shall be approved for the proposed development until the City has acquired adequate sewer capacity to serve the proposed development. In accordance with Section 15130(a)(3) of the State CEQA Guidelines, a significant cumulative impact would be rendered less than cumulatively considerable, and thus is not significant when the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The requirement for the contribution to provide a fair-share contribution to the provision of the needed sewer service mitigates the cumulative impact to below significance.</p> <p>*Applies to Significant Impact 6.15.2-1</p>	<p>City -Verify adequate sewer capacity exists prior to Approval of Building Permit (if City acquires additional sewer capacity for project, applicant to pay fair share of acquisition fee)</p>	City		
MM 6.15.6-1	<p>Prior to the issuance of a building permit, the applicant shall pay all required school mitigation fees.</p> <p>Payment of statutory school fees would ensure that project impacts to school services remain below a level of significance. As indicated above, the fees set forth in Government Code Section 65996 constitute the exclusive means of both "considering" and "mitigating" school facilities impacts of projects (Government Code Section 65996(a)). Once the statutory school mitigation fee (sometimes referred to as a "developer fee") is paid, the impact would be deemed mitigated as a matter of law. Therefore, this mitigation measure would reduce the cumulative impact to schools to a level less than significant.</p> <p>*Applies to Significant Impact 6.15.6-1.</p>	<p>Applicant -Prior to Building Permit Approval</p>	City		
MM 6.15.7-1	<p>For Phase I residential project, prior to the approval of a building permit, the applicant(s) shall pay a Public Facilities Development Impact Fee (PFDIF) or other equivalent fee in an amount calculated according to the City's PFDIF program in effect at the time of permit issuance.</p> <p>Implementation of Mitigation Measure 6.15.7-1 would provide funds that can be used to construct new facilities, as required, to meet the need resulting from project development. Due to existing library deficiency and inability to demonstrate that fees would fully</p>	<p>Applicant(s) -Prior to Building Permit Approval</p>	City		

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Number	Mitigation Measure	Responsible Party and Mitigation Timing	Monitoring Agency	Date of Completion	Date of Verification
	mitigate, implementation of the measure would not reduce the significant impact to library services to a level below significance. *Applies to Significant Impact 6.15.7-1				
MM 6.17-1	<p>Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.</p> <ul style="list-style-type: none"> • Promote and facilitate transit system improvements in order to increase transit use and reduce dependency on the automobile. • Encourage innovative energy conservation practices and air quality improvements in new development and redevelopment projects consistent with the City's AQIP Guidelines or their equivalent, pursuant to the City's Growth Management Program. <p>Despite the fact that the Project would result in adoption of these conservation measures, the cumulative impact relative to energy supply would remain significant and unmitigated because of the of the uncertainty of the future supply of energy, which is within the responsibility and control of SDG&E and other entities responsible for arranging electric energy supplies, not the Port or the City.</p> <p>*Applies to Significant Impact 6.17-1.</p>	Applicant	Port or City		

Exhibit 1
Wildlife Habitat Areas

Z:\Projects\570301\Figs\ER\FigsSection 418-B0\fig4-8_01 (marshes).mxd



AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

- | | | | |
|---|---|---|---------------------|
|  | National Wildlife Refuge (San Diego Bay Unit)* | Port Master Plan - Planning District 7 | |
|  | Sweetwater Marsh National Wildlife Refuge* | Conservation Land and Water Designations | |
|  | City of Chula Vista LCP Open Space Land Use Designation |  | Estuary |
|  | City of Chula Vista S-4 100 ft. No-Touch Buffer |  | Habitat Replacement |
|  | CVBMP Boundary |  | Wetland |
|  | Proposed Navigation Channel | | |

Exhibit 1 to the Mitigation Monitoring and Reporting Program for the Chula Vista Bayfront Master Plan Wildlife Habitat Areas

*National Wildlife Refuge lands are included in the definition of Wildlife Habitat Areas for the sole purpose of addressing adjacency impacts and not for the purpose of imposing affirmative resource management obligations with respect to the areas within the National Wildlife Refuge lands.

Exhibit 2
Buffer Areas

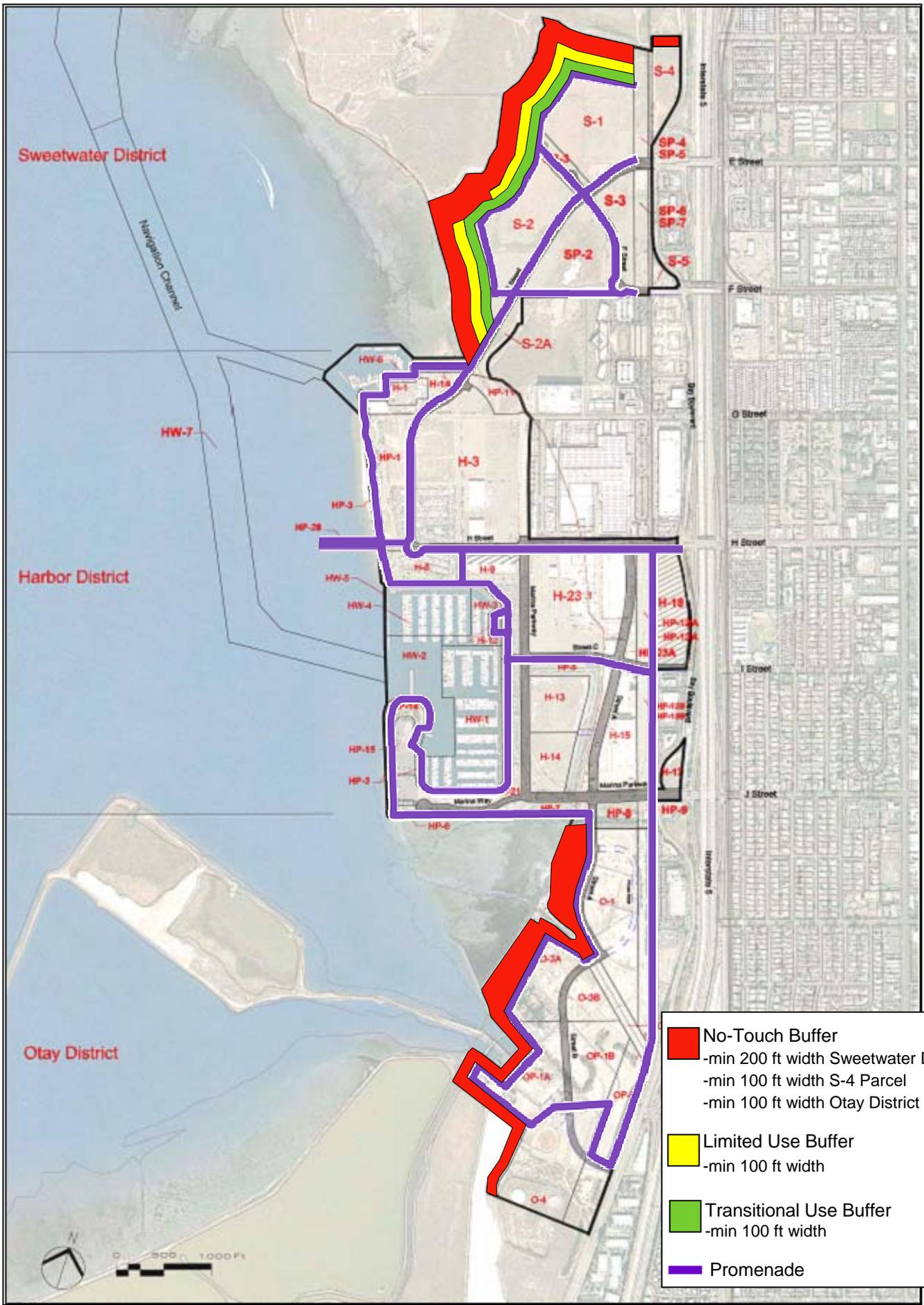


Exhibit 2 to the Mitigation Monitoring and Reporting Program for the Chula Vista Bayfront Master Plan Buffer Areas (Defined by Chapter 3, Project Description, of the Final EIR)

Exhibit 3
Energy Demand Reduction

EXHIBIT 3 to the Mitigation Monitoring and Reporting Program for the Chula Vista Bayfront Master Plan

Exhibit 3 outlines the methodologies for determining that the goals of the Energy Section are met. The Sample Worksheets are for illustration purposes, to provide a format which may be used both by Developments and by the City of Chula Vista's Building Department. Note that the Energy Section outlines requirements and approaches for projects which will be subject to future codes, regulations, tariffs, and technologies, all of which are subject to change. When clarifications are needed, they will be provided by the City of Chula Vista.

Baseline. The term "Baseline" refers to the amount of energy against which the energy reduction will be measured.

SAMPLE Worksheets. Sample worksheets are provided as suggested approaches. Actual worksheets for calculating the energy requirements should be coordinated with the City of Chula Vista Building Department.

Title 24 Path. Title 24 language refers to the "Standard Budget" and "Proposed Budget." The Whole Building Performance Method, which generates the Standard and Proposed Energy Budgets, is specifically for energy uses within a conditioned building, and does not include lighting which is in Interior Unconditioned Spaces or lighting which is outside. However, for the purposes of the Energy Section, this lighting energy will be added to the energy budgets for the conditioned building, and the combined energy uses will become the Baseline for the "Title 24 Path." Each of the various energy uses will be converted into Site kBtu, except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

LEED Path. LEED language refers to the "Baseline Design" and "Proposed Design." The LEED Path Baseline is likely to be different and higher than the Title 24 Path Baseline because LEED counts all of the energy uses within the site boundary, some of which are not counted by Title 24. However, LEED is also likely to be better and more comprehensive in calculating overall energy performance features, such as district thermal plants, combined heat and power, natural ventilation, efficiencies in process loads, aggregating multiple buildings, and the benefits of renewable energy. Each of the various energy uses will be converted into dollars (\$), except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

If the LEED Path is chosen, the Development may be subject to an additional fee to the City of Chula Vista for a 3rd party plan check by an experienced LEED reviewer acceptable to the City. Recognizing that LEED Templates may not be complete at the time of the initial Building Department submittals, draft Templates may be used, at the discretion of the reviewer.

Natural Ventilation. When using Natural Ventilation (NV) to qualify as an energy reduction feature, the Development may qualify for a waiver of up to 10% if at least 75% of the area that would normally be cooled relies solely on natural ventilation strategies to help maintain comfortable temperatures. Pro-rations are possible.

City of Chula Vista Sponsored Energy Efficiency Program. Refer to the appropriate City ordinances for details on this program.

Measurement and Verification. Each Development shall develop and implement an ongoing Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D. If the LEED Path is chosen, the M&V Plan should be consistent with Credit EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

Demand Response Tariffs. Developments which enroll in SDG&E Demand Response rate tariff(s) which are designed to reduce the load on the electric grid during critical times may be awarded up to a 5% waiver.

EXHIBIT 3

SAMPLE Worksheet A: Title 24 Path

Name: Example Development

Description ¹	Source of Info (Attachments)	Input Standard	Input Proposed	Typical Units of Measure	Convert to Site kbtu	Standard = Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduction
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Uses										
T24 Electricity	T24 UTIL-1, Part 2			Site KWH/year	3.413	-	-	kBtu		
T24 Gas	T24 UTIL-1, Part 2			Site Therms/year	100.000	-	-	kBtu		
T24 Lighting Outside and Uncond	Worksheet A-LTG	-	-	Site KWH/year	3.413	-	-	kBtu		
A. Summary of Efficiency of End Uses						-	-	kBtu		
B. Renewable Energy Contributions										
PV: within Development	CSI calculation or	n/a		Site KWH output/year	3.413	n/a	-	kBtu		
PV: Credited from Project	PV-Watts ²	n/a		Site KWH output/year	3.413	n/a	-	kBtu		
Solar Thermal: within Development	F-Chart or equal	n/a		Site kbtu offset/year	1.000	n/a	-	kBtu		
Other	as appropriate	n/a		as appropriate		n/a				
B. Combined Renewable Reductions										
C. Natural Ventilation										
	Worksheet C						0% to 10%			
D. Chula Vista Program Savings										
Verified Electricity Savings	Confirm with Program Administrator	n/a		Site KWH	3.413		-	kBtu		
Verified Gas Savings		n/a		Site Therms	100.000		-	kBtu		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify										
	Worksheet E						Required			
F. Demand Response Tariff										
	Worksheet F						0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET A

Note 1: If the Development includes more than one building, then use multiple Worksheets, or, add backup calculations or line items to this spreadsheet, as most appropriate.

Note 2: Final photovoltaic design and output informatio shall use industry standard software, including at least site location, array orientation, array tilt, and system efficiency. California Solar Initiative (CSI) rebate calculations and PV-Watts are examples of acceptable software.

EXHIBIT 3

Worksheet A-LTG: Lighting Outside and in Interior Unconditioned Spaces

Name: Example Development

Category ¹	Source of Info (Attachments)	T24 Allowed Watts	Proposed Watts	Occupancy	Average hours	Days /year	Hours /year	Standard KWH/yr	Proposed KWH/yr
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Signs (Non-Tradable)	T24 OLTG Forms						-	-	-
Signs (Non-Tradable)	T24 OLTG Forms						-	-	-
Totals (Subtotals are inputs to Worksheet A)								-	-

NOTES TO WORKSHEET A-LTG

Note 1: If more lines are needed, create a spreadsheet in similar format, and enter above, as appropriate.

Note 2: For average runtimes, use the hours in this chart, unless proposer demonstrates to the Bldg Department's satisfaction that a different value should be used.

EXHIBIT 3

SAMPLE Worksheet B: LEED Path

Name: Example Development

Description	Source of Info (Attachments)	Standard or Baseline	Proposed	Typical Units of Measure	Virtual Rate	Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduciton
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Costs: LEED Performance Rating Method (PRM) EAp2/c1 Letter Template										
Conditioned Building(s)	LEED EAp2/c1 Letter Template	Included	Included							
Other energy uses on site		Included	Included							
Lighting: Outside and Uncond		Included	Included							
Onsite Renew Energy: Development		Included	Included							
Campus Renew Energy: Project		Included	Included							
Other		Included	Included							
Natural Ventilation		May be included in LEED EAp2/c1, OR, use Worksheet C								
Electricity (Summary)	LEED EAp2/c1 Section 1.8 Summary ¹			kWh	#DIV/0!			Site \$		
Natural Gas (Summary)				therms	#DIV/0!			Site \$		
A. Summary of Efficiency of Energy Costs							\$ -	\$ -	Site \$	
B. Combined Renewable Reductions	Included in EAp2/c1 above									
C. Natural Ventilation	May be included in LEED EAp2/c1 above, OR, use Worksheet C									
Alternate:	Worksheet C						0% to 10%			
D. Chula Vista Program Savings	Confirm with Program Administrator									
Verified Electricity Savings				Site KWH	#DIV/0!		#DIV/0!	Site \$		
Verified Gas Savings				Site Therms	#DIV/0!		#DIV/0!	Site \$		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify	LEED EAc5. See Worksheet E.						Required			
F. Demand Response Tariff	Worksheet F						0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET B

Note 1: LEED EAp2/c1 Letter Template: Section 1.8, "Energy Cost and Consumption by Energy Type - Performance Rating Method Compliance Table"

EXHIBIT 3

SAMPLE Worksheet C: Natural Ventilation

Name: Example Development

When using Natural Ventilation (NV) to qualify as an energy reduction feature for this Agreement, the Development may qualify for a waiver if at least 75% of the area that would normally cooled includes effective natural ventilation strategies to help maintain comfortable temperatures. A 5% waiver is granted if the area is also served by an energy or cooling system drawing energy from the grid. A 10% waiver is granted if the area is not served by an energy or cooling system drawing from the grid. The waiver may be prorated if the area is less than 75%. Final determination of normally cooled areas are at the discretion of the Building Department. For example, in CA Climate Zone 7, spaces such as warehouses and kitchens do not normally have electric cooling.

Two approaches are possible:

1. A Development may use a performance approach, such as macro-flow or Computational Fluid Dynamics (CFD) modeling, to design and confirm the maintenance of comfort using natural ventilation techniques.

2. As an alternate, the prescriptive calculations outlined in the Collaborative for High Performance Schools (CHPS) may be used. CHPS identifies an approach to achieving ventilation strategies which are likely to be effective in helping to maintain interior comfort when outside conditions are moderate. Even though the CHPS program targets school campuses, the approach is useful for
 The designer should follow the CHPS guidelines. To satisfy the prescriptive approach, the following table may be used. Inlets and Outlets should each be at least 4% of the floor area of the spa

Space Name	Source of Cooling	Conditioned Floor Area (CFA)	Qualifying CFA	Performance or Prescriptive Calculation	Prescriptive: Inlet (Windward)			Prescriptive: Outlet (Leeward)					
					Area	Orientation	% CFA	Area	Orientation	% CFA	higher than inlet	opposite or corner wall	
Space A	NV with grid cooling												
Space B	NV with grid cooling												
Space C	NV with grid cooling												
Subtotal:			0										
Space D	NV only												
Space E	NV only												
Space F	NV only												
Subtotal:			0										
Other spaces	no NV												
Total Normally Conditioned Floor Area		-											

CFA which is Naturally Ventilated, with Grid Cooling	0
Energy Reduction Allowed	
CFA Which is Naturally Ventilated Only	0
Energy Reduction Allowed	
Combined Energy Reduction Allowed	

CFA: NV + grid	Reduction
0%	0%
15%	1%
30%	2%
45%	3%
60%	4%
75%	5%

CFA: NV Only	Reduction
0%	0%
15%	2%
30%	4%
45%	6%
60%	8%
75%	10%

EXHIBIT 3

SAMPLE Worksheet D: Chula Vista Energy Efficiency Program

Name: Example Development

Refer to the appropriate City ordinances for details on this program, including, but not limited to:

City of Chula Vista Municipal Code Section 15.12 "Green Building Standards Ordinance"

City of Chula Vista Municipal Code Section 15.26.030 "Increase Energy Efficiency Ordinance"

EXHIBIT 3

SAMPLE Worksheet E: Ongoing Measurement & Verification (M&V)

Name: Example Development

Develop and implement a Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D.

M&V shall be on-going for the length of the lease.

Tenants shall have sub-meters for electricity. Sub-meters for gas and water should also be considered, but are not required.

The plan shall include a process for corrective action if energy performance goals are not achieved as planned. Refer to ASHRAE Guideline 14 for suggested ranges of discrepancy, appropriate to the meter, magnitude of energy uses, and overall plan.

If the LEED Path is chosen, the M&V Plan should be consistent with EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

EXHIBIT 3

Links for References used in EXHIBIT 3

Title 24 Building Energy Efficiency Standards	www.energy.ca.gov/title24/
Collaborative for High Performance Schools (CHPS) CHPS 2006 Volume II Best Practices Manual - Design	www.chps.net/dev/Drupal/node/31
IPMVP, Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003.	www.evo-world.org Products & Services / IPMVP / Applications Volume III
Leadership in Energy and Environmental Design (LEED™)	www.usgbc.org
City of Chula Vista sponsored energy efficiency program	
Living Building Challenge	www.ilbi.org

(41)

EXHIBIT D

CHULA VISTA BAYFRONT MASTER PLAN

SETTLEMENT AGREEMENT

This Chula Vista Bayfront Master Plan Settlement Agreement ("this Agreement") is entered into as of this fourth day of May, 2010, by and among the BAYFRONT COALITION member organizations named below (collectively "Coalition"), the SAN DIEGO UNIFIED PORT DISTRICT, a public body corporate and politic ("District"), the CITY OF CHULA VISTA, a municipal corporation ("City"), and the REDEVELOPMENT AGENCY OF THE CITY OF CHULA VISTA, a redevelopment agency pursuant to the Community Redevelopment Law, Health and Safety Code section 33000, et seq. ("RDA"), in light of the following facts and circumstances:

RECITALS

A. District has proposed an amendment to the Port Master Plan to provide a master plan for redevelopment of the Chula Vista Bayfront, which consists of approximately 556 acres of land and water located on the southeastern edge of San Diego Bay in the City of Chula Vista. In conjunction with the District's amendment to the Port Master Plan, the City is amending its General Plan, Mid-Bayfront Specific Plan and Local Coastal Plan, which will include implementation of future coastal development permits, tentative maps and final maps (collectively, the "City's Amendments"). The description contained in Chapter 3, including the Alternate L-Ditch Remediation Alternative contained in Section 5.7, of the DEIR (defined below), the proposed amendment to the Port Master Plan, the City's Amendments, and the infrastructure and development projects proposed therein, will be referred to in this Agreement as the "Proposed Project"; and

B. District, as the lead agency, has prepared a draft environmental impact report for the Proposed Project in compliance with the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, et seq., and its implementing guidelines, California Code of Regulations, title 14, section 15000, et seq. ("CEQA Guidelines"), which is known as the *Draft Revised Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan (UPD # 83356-EIR-658; SCH # 2005081077)* and which will be referred to in this Agreement as the "DEIR"; and

C. The District duly circulated the DEIR for public review and comment, received comments on the DEIR from public agencies, individuals and organizations, and is preparing responses to the public comments received which will be included in the final environmental impact report ("FEIR") prepared for the Proposed Project; and

D. District, as the lead agency under CEQA, in its sole and absolute discretion, may certify or not certify the FEIR and may approve or not approve the Proposed Project or may select any alternative, including the alternative of not going forward with the Proposed Project, or adopt any mitigation measure or condition which it determines is necessary and appropriate to reduce or avoid any potential environmental impact of the Proposed Project or to comply with any applicable law or regulation; and

E. All or parts of the Proposed Project and the FEIR require the approval of other public agencies, including without limitation the California Coastal Commission ("CCC"), the State Lands

Commission, the City, the RDA, and other federal and state regulatory agencies with jurisdiction over natural resources which may be affected by the Proposed Project (“Resource Agencies”); and

F. Coalition is composed of the Environmental Health Coalition, San Diego Audubon Society, San Diego Coastkeeper, Coastal Environmental Rights Foundation, Southwest Wetlands Interpretative Association, Surfrider Foundation, San Diego Chapter and Empower San Diego, which are committed to ensuring that the Proposed Project and its component parts are implemented in a manner that provides community benefits including, but not limited to preservation and protection of natural resources and the environment, job quality and housing; and

G. In order to resolve any potential legal action, litigation or other action challenging the Project, the District, the City and the RDA wish to obtain the Coalition’s support for approval of the Proposed Project and the Coalition wishes to obtain additional measures for protection of the environment above and beyond those required by CEQA and any other federal, state and local laws and regulations applicable to the Proposed Project.

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS SET FORTH BELOW, THE PARTIES AGREE AS FOLLOWS:

1. **INCORPORATION OF RECITALS.** The recitals set forth above are incorporated herein as though set forth in full.

2. **DEFINITIONS.** Unless the context otherwise indicates, whenever used in this Agreement, the following terms will have the meanings ascribed to them below:

2.1 “Adaptive Management Review” will mean review of the adopted NRMP and its achievement of Management Objectives with the goal of adjusting implementation measures to enhance achievement of the Management Objectives.

2.2 “BCDC” will have the meaning set forth in Section 13.1.

2.3 “Baseline” will have the meaning set forth in Section 15.2.2.

2.4 “CCC” will have the meaning set forth in Recital E.

2.5 “CEQA” will have the meaning set forth in Recital B.

2.6 “Coalition” will have the meaning set forth in the Introduction.

2.7 “DEIR” will have the meaning set forth in Recital B.

2.8 “Development” will have the meaning set forth in Section 15.1.

2.9 “Development Commencement” will mean the commencement of mass grading for any infrastructure or site development contemplated by the Proposed Project but specifically excluding construction of H Street or the grading of Parcels HP-5, H-13, H-14 and H-15.

2.10 “Disputing Party” will have the meaning set forth in Section 11.1.1

- 2.11 "District" will have the meaning set forth in the Introduction.
- 4.4.1.1. 2.12 "District Enforcement Personnel" will have the meaning set forth in Section
- 15.2.1. 2.13 "Energy Efficiency Requirement" will have the meaning set forth in Section
- 2.14 "FEIR" will have the meaning set forth in Recital C.
- 2.15 "Findings" will mean the written findings as defined in Section 15091 of the CEQA Guidelines, adopted by District as the lead agency for the FEIR and by City or RDA as responsible agencies for the FEIR.
- 2.16 "JPA" will have the meaning set forth in Section 3.4.
- 2.17 "LEED Path" will have the meaning set forth in Section 15.2.2.
- 2.18 "MA II Notice" will have the meaning set forth in Section 12.2.2.
- 2.19 "MA Notice" will have the meaning set forth in Section 11.1.3.
- 2.20 "M&V Plan" will have the meaning set forth in Section 15.2.2.4.
- 2.21 "Management Objections" will have the meaning set forth in Section 4.1.
- 2.22 "Managing Agency" will have the meaning set forth in Section 11.1.2.
- 2.23 "MMRP" will have the meaning set forth in Section 4.4.6.1.
- 2.24 "No-Touch Buffer Areas" will have the meaning set forth in Section 4.1.3.
- 2.25 "Notice of Dispute" will have the meaning set forth in Section 11.1.1.
- 2.26 "NRMP" will have the meaning set forth in Section 3.
- 2.27 "NRMP Amendment" will have the meaning set forth in Section 3.3.
- 2.28 "Opposition Statements" will have the meaning set forth in Section 11.1.2.1.
- 2.29 "Passive" will have the meaning set forth in Section 6.1.
- 2.30 "Periodic Review" will have the meaning set forth in Section 3.3.
- 2.31 "PMP" will have the meaning set forth in Section 9.2.
- 2.32 "PMPA Cap" will have the meaning set forth in Section 9.2.
- 2.33 "Position Statement" will have the meaning set forth in Section 12.2.

2.34 "Predators" will have the meaning set forth in Section 4.1.3.

2.35 "Proposed Project" will have the meaning set forth in Recital A.

2.36 "PWC" will mean a motorboat less than sixteen feet in length which uses an inboard motor powering a jet pump as its primary motive power and which is designed to be operated by a person sitting, standing, or kneeling on, rather than in the conventional manner of sitting or standing inside the vessel.

2.37 "RDA" will have the meaning set forth in the Introduction.

2.38 "Renewable Energy" will have the meaning set forth in Section 15.2.2.1.

2.39 "Renewable Energy Site" will have the meaning set forth in Section 15.2.2.2.

2.40 "Resource Agencies" will have the meaning set forth in Recital E.

2.41 "RFP" will have the meaning set forth in Section 13.3.

2.42 "RFQ" will have the meaning set forth in Section 13.3.

2.43 "Title 24" will have the meaning set forth in Section 15.2.1.

2.44 "Title 24 Path" will have the meaning set forth in Section 15.2.2.

2.45 "Transition Buffer Areas" will have the meaning set forth in Section 4.1.4.

2.46 "Wildlife Advisory Group" will have the meaning set forth in Section 10.1.

2.47 "Wildlife Habitat Areas" will have the meaning set forth in Section 3.1.

3. **NATURAL RESOURCES MANAGEMENT PLAN.** In recognition of the sensitivity of the natural resources and the importance of protection, restoration, management and enforcement in protecting those resources, the District, City and RDA will cause to be prepared a Natural Resources Management Plan ("NRMP") in accordance with this section. The NRMP will be designed to achieve the Management Objectives (defined below) for the Wildlife Habitat Areas (defined below). The NRMP will be an adaptive management plan, reviewed and amended as necessary by the District and City in compliance with the process described in Section 3.3 of this Agreement.

3.1 **WILDLIFE HABITAT AREAS DEFINED.** "Wildlife Habitat Areas" are defined as:

3.1.1 All National Wildlife refuge lands, currently designated and designated in the future, in the South San Diego Bay and Sweetwater Marsh National Wildlife Refuge Units. Anything in this Agreement to the contrary notwithstanding, National Wildlife Refuge lands are included in the definition of Wildlife Habitat Areas for the sole purpose of addressing adjacency impacts and not for the purpose of imposing affirmative resource management obligations with respect to the areas within the National Wildlife Refuge lands.

3.1.2 All District designated lands and open water areas in the Conservation Land Use Designations of Wetlands, Estuary, and Habitat Replacement as depicted in the Draft Precise Plan for Planning District 7.

3.1.3 Parcels 1g and 2a from the City's Bayfront Specific Plan.

3.1.4 No-Touch Buffer Areas as depicted on attached Exhibit 2.

3.1.5 The Wildlife Habitat Areas are depicted on attached Exhibit 1.

3.2 NRMP MANAGEMENT OBJECTIVES FOR WILDLIFE HABITAT AREAS. Taking into consideration the potential changes in functionality of Wildlife Habitat Areas due to rising sea levels, the NRMP will promote, at a minimum, the following objectives ("Management Objectives") for the Wildlife Habitat Areas:

3.2.1 Long term protection, conservation, monitoring, and enhancement of:

3.2.1.1 Wetland habitat, with regard to gross acreage as well as ecosystem structure, function, and value.

3.2.1.2 Coastal sage and coastal strand vegetation.

3.2.1.3 Upland natural resources for their inherent ecological values, as well as their roles as buffers to more sensitive adjacent wetlands. Upland areas in the Sweetwater and Otay Districts will be adaptively managed to provide additional habitat or protection to create appropriate transitional habitat during periods of high tide and taking into account future sea level rise.

3.2.2 Preservation of the biological function of all Bayfront habitats serving as avifauna for breeding, wintering, and migratory rest stop uses.

3.2.3 Protection of nesting, foraging, and rafting wildlife from disturbance.

3.2.4 Avoidance of actions within the Proposed Project area that would adversely impact or degrade of water quality in San Diego Bay or watershed areas or impair efforts of other entities for protection of the watershed.

3.2.5 Maintenance and improvement of water quality where possible and coordination with other entities charged with watershed protection activities.

3.3 CREATION, PERIODIC REVIEW AND AMENDMENT OF THE NRMP. The NRMP will be a natural resource adaptive management and monitoring plan initially prepared in consultation with the Wildlife Advisory Group, defined in Section 10.1, and reviewed and amended in further consultation with the Wildlife Advisory Group one year following adoption of the NRMP and annually thereafter for the first five years after adoption, after which it will be reviewed and amended as necessary every other year for the next six (6) years, then once every five (5) years thereafter, each in accordance with Section 10.5. If the RCC is not pursued in the first five (5) years after certification of the FEIR, this schedule will be amended to ensure that the NRMP is

evaluated every year for five years after the development of the RCC. The periodic review of the NRMP described in the preceding sentences is hereinafter called "Periodic Review." A material revision of the NRMP is hereinafter called an "NRMP Amendment." Nothing in the foregoing schedule requirements will be interpreted to preclude a speedy response or revision to the NRMP if necessary to abate an emergency condition or to accommodate relevant new information consistent with the Management Objectives. Any permanent changes to the NRMP will be subject to Section 10.5. Preparation of the NRMP will begin within six months of the filing of the Notice of Determination for the FEIR by District and will be completed prior to the earlier of: (a) Development Commencement; (b) issuance of a Certificate of Occupancy for the Pacifica project; or (c) three years. Periodic Review will address, among other things, monitoring of impacts of development as it occurs and monitoring the efficacy of water quality improvement projects (if applicable) and management and restoration actions needed for resource protection, resource threats, management (i.e., sea-level rise, trash, window bird strikes, lighting impacts, bird flushing, water quality, fireworks, human-wildlife interface, education and interpretation programs, public access, involvement, and use plan, management of the human-wildlife interface, wildlife issues related to facilities, trails, roads, overlooks planning, and watershed coordination) and other issues affecting achievement of Management Objectives and related to Adaptive Management Review.

3.3.1 District and City will cause the preparation, consideration negotiation and approval of the NRMP including, staff and administrative oversight and engagement of such consultants as are reasonable and necessary for their completion, approval and amendment in accordance with this Agreement.

3.3.2 District and City will each provide a written notice of adoption ("Notice of Adoption") to other parties to this Agreement upon their respective approval of the NRMP.

3.4 SPECIFIC PROVISIONS REGARDING PERSONNEL AND FUNDING. Funding for the implementation of the NRMP will be provided by the District, City and RDA. To meet these obligations, the District, City and RDA will commit revenues or otherwise provide funding to a joint powers authority ("JPA") formed pursuant to the California Marks-Roos Act, Articles 1, 2, 3 and 4 of Chapter 5 of Division 7 of Title 1 of the California Government Code. District, City and RDA will ensure the JPA is specifically charged to treat the financial requirements of this Agreement as priority expenditures that must be assured as project-related revenues are identified and impacts initiated. The District, City and RDA expressly acknowledge the funding commitments contemplated herein will include, but not be limited to, funding for personnel and overhead or contractor(s)/consultant(s) to implement and ensure the following functions and activities:

3.4.1 On-site management and enforcement for parks and Wildlife Habitat Areas as necessary to enforce restrictions on human and Predator access regarding Wildlife Habitat Areas;

3.4.2 Enforcement of mitigation measures including, but not limited to, trash collection, noise restrictions, removal of invasive plants, habitat restoration, and park use restrictions;

3.4.3 Coordination, development, implementation and evaluation of effectiveness of education and mitigation programs, including implementation of NRMP;

3.4.4 Evaluation of effectiveness of bird strike mitigation and design measures;

3.4.5 Water quality protections; and

3.4.6 Coordination of injured animal rehabilitation activities.

3.5 **PACIFICA INITIAL SALE UNIT CONTRIBUTION.** Pacifica Initial Sale Unit Contribution Funds shall be directed to the JPA and placed into a Community Benefits Fund that will be non-wasting, with interest revenues committed to the specific broad categories of: Natural Resources; Affordable Housing; Sustainability/Livability; and Community Impacts and Culture. The Community Benefits Fund revenues shall be spent within the Project Area and Western Chula Vista as further described in Section 10.6, subject to applicable law.

4. **IMPLEMENTATION OF NRMP.** The following Management Objectives and minimum performance standards shall guide the preparation of the NRMP.

4.1 **MANAGEMENT OBJECTIVES.** In addition to Section 3.2, the NRMP will achieve the following Management Objectives:

4.1.1 Ensure the Port, City and RDA are not required to expend funds for NRMP implementation until project-related revenues are identified in accordance with Section 3.4 and impacts initiated.

4.1.2 Require coordination with the Resource Agencies of the District's, City's and Resource Agencies' respective obligations with respect to the Buffer Areas and Wildlife Habitat Areas.

4.1.3 Designate "No-Touch Buffer Areas" as that term is defined in the Project description of the FEIR and as depicted in Exhibit 2. Such areas will contain fencing designed specifically to limit the movement of domesticated, feral, and nuisance predators (e.g. dogs, cats, skunks, opossums and other small terrestrial animals [collectively, "Predators"]) and humans between developed park and No-Touch Buffer Areas and Wildlife Habitat Areas. The fence will be a minimum 6-foot high, black vinyl chain link fence or other suitable barrier (built to the specifications described in the FEIR). Fence design may include appropriate locked access points for maintenance and other necessary functions. Installation of the fence will include land contouring to minimize visual impacts of the fence. The installation of such fencing in the Sweetwater and Harbor Districts must be completed prior to the issuance of Certificates of Occupancy for development projects on either Parcel H-3 or H-23 and in conjunction with development or road improvements in the Sweetwater District with the exception of Parcel S-4 which will retain the existing fencing until that parcel is redeveloped and the fencing of the No-Touch Buffer installed.

4.1.4 Prohibit active recreation, construction of any road (whether paved or not), within No-Touch Buffer Areas, "Transition Buffer Areas" and "Limited Use Buffer Areas" as

those terms are defined in the Project description of the FEIR and as depicted in Exhibit 2, with the exception of existing or necessary access points for required maintenance.

4.1.5 Protect the No-Touch Buffer Areas from the impacts of the Proposed Project including, without limitation, fencing necessary to protect the Sweetwater Marsh and the Sweetwater parcel tidal flats, the J Street Marsh next to the SDB Refuge and the north side of Parcel H-3.

4.1.6 Include additional controls and strategies restricting movement of humans and Predators into sensitive areas beyond the boundaries of the designated Buffer Areas.

4.1.7 Require the Recreational Vehicle Park to install fencing or other barriers sufficient to prevent passage of Predators and humans into sensitive adjacent habitat.

4.1.8 Require all dogs to be leashed in all areas of the Proposed Project at all times except in any designated and controlled off-leash areas.

4.1.9 Impose and enforce restrictions on all residential development to keep cats and dogs indoors or on leashes at all times. Residential developments will be required to provide education to owners and/or renters regarding the rules and restrictions regarding the keeping of pets.

4.2 **WALKWAY AND PATH DESIGN.** Detail conditions and controls applicable to the walkways, paths, and overlooks near Wildlife Habitat Areas and outside of the No-Touch Buffer Areas in accordance with the following:

4.2.1 Alignment, design, and general construction plans of walkways and overlooks will be developed to minimize potential impacts to Wildlife Habitat Areas.

4.2.2 Path routes will be sited with appropriate setbacks from Wildlife Habitat Areas.

4.2.3 Paths running parallel to shore or marsh areas that will cause or contribute to bird flushing will be minimized throughout the Proposed Project.

4.2.4 Walkways and overlooks will be designed to minimize and eliminate, where possible, perching opportunities for raptors and shelter for skunks, opossums or other Predators.

4.2.5 Walkways and overlooks that approach sensitive areas must be blinded, raised, or otherwise screened so that birds are not flushed or frightened. In general, walkway and overlook designs will minimize visual impacts on the Wildlife Habitat Areas of people on the walkways.

4.3 **PREDATOR MANAGEMENT.** The NRMP will include provisions designed to manage Predator impacts on Wildlife Habitat Areas which will include and comply with the following:

4.3.1 Year-round Predator management will be implemented for the life of the Proposed Project with clearly delineated roles and responsibilities for the District, City and Resource Agencies. The primary objective of such provisions will be to adequately protect terns, rails, plovers, shorebirds, over-wintering species, and other species of high management priority as determined by the Resource Agencies.

4.3.2 Predator management will include regular foot patrols and utilize tracking techniques to find and remove domestic or feral animals.

4.3.3 Address Predator attraction and trash management for all areas of the Proposed Project by identifying clear management measures and restrictions. Examples of the foregoing include design of trash containers, including those in park areas and commercial dumpsters, to be covered and self-closing at all times, design of containment systems to prevent access by sea gulls, rats, crows, pigeons, skunks, opossums, raccoons, and similar animals and adequate and frequent servicing of trash receptacles.

4.3.4 All buildings, signage, walkways, overlooks, light standards, roofs, balconies, ledges, and other structures that could provide line of sight views of Wildlife Habitat Areas will be designed in a manner to discourage their use as raptor perches or nests.

4.4 **ADDITIONAL HABITAT MANAGEMENT AND PROTECTION.**

4.4.1 The District will exercise diligent and good faith efforts to enter into the following cooperative agreements with the USFWS or other appropriate agency or organization:

4.4.1.1 An agreement providing for the long-term protection and management of the sensitive biological habitat running north from the South Bay Boatyard to the Sweetwater River Channel (known as the Sweetwater Tidal Flats) and addressing educational signage, long-term maintenance, and additional protection measures such as increased monitoring and enforcement, shared jurisdiction and enforcement by District personnel with legal authority to enforce applicable rules and regulations ("District Enforcement Personnel"), shared jurisdiction and enforcement by District Enforcement Personnel and other appropriate Resource Agencies of resource regulations, and placement of enforcement signage. Subject to the cooperation of the applicable Resource Agency, such cooperative agreement will be executed prior to the Development Commencement of any projects subject to District's jurisdiction within the Sweetwater or Harbor Districts.

4.4.1.2 An agreement for the long-term protection and management of the J Street Marsh and addressing additional protective measures such as educational signage, long-term maintenance, and monitoring and enforcement by District Enforcement Personnel and enforcement of resource regulations by District Enforcement Personnel and other Resource Agencies and placement of enforcement signage. Subject to the cooperation of the applicable Resource Agency, such cooperative agreement will be executed prior to the Development Commencement within the Otay District.

4.4.1.3 If either of the cooperative agreements contemplated in Sections 4.4.1.1 and 4.4.1.2 is not achievable within three (3) years after FEIR certification, the

District will develop and pursue another mechanism that provides long-term, additional protection and natural resource management for these areas.

4.4.2 The District will include an analysis of the appropriate level and method for wetland and marine life habitat restoration of the intake/discharge channels associated with the South Bay Power Plant in the environmental review document for the demolition of the South Bay Power Plant.

4.4.3 The FEIR Project Description will be revised to include, within Parcel SP-2, a permanent 100-foot-wide buffer for the seasonal wetland from proposed development. The PMP Amendment will also be revised to reflect the permanent buffer width within Parcel SP-2.

4.4.4 The FEIR Project Description for Parcel S-4 will be revised to add the requirement for the fencing of the 100-foot buffer on the north side of the parcel prior to any physical alterations of the site. In addition, the FEIR Project Description for parcels S-4 and S-1 will be amended to clarify that at the time project specific development is proposed on these parcels, shading impacts, appropriate setbacks, step backs, and/or height reductions, will be analyzed as part of the necessary subsequent environmental review for those projects.

4.4.5 As a future and separate project, the District will investigate, in consultation with the USFWS, the feasibility of restoring an ecologically meaningful tidal connection between the F & G Street Marsh and the upland marsh on parcel SP-2 consistent with USFWS restoration concepts for the area. At a minimum, the investigation will assess the biological value of tidal influence, the presence of hazardous materials, necessary physical improvements to achieve desired results, permitting requirements, and funding opportunities for establishing the tidal connection. This investigation will be completed prior to the initiation of any physical alteration of SP-2, F Street, and/or the F & G Street Marsh. In addition, once emergency access to the Proposed Project area has been adequately established such that F Street is no longer needed for public right-of-way, the District and City will abandon/vacate the F Street right-of-way for vehicular use, but may reserve it for pedestrian and bicycle use if ecologically appropriate.

4.4.6 In addition to the standards described above, the NRMP will include:

4.4.6.1 All elements which address natural resource protection in the FEIR Mitigation Monitoring and Reporting Program (“MMRP”) including but not limited to those which assign responsibility and timing for implementing mitigation measures consistent with the City’s MSCP Subarea Plan;

4.4.6.2 Pertinent sections of the MSCP Subarea Plan;

4.4.6.3 References to existing District policies and practices, such as Predator management programs and daily trash collections with public areas and increase service during special events;

4.4.6.4 Establishment of design guidelines to address adjacency impacts, such as storm water, landscape design, light and noise and objectives as discussed in Sections 4.6, 4.7, 4.8 and 4.9, below;

4.4.6.5 Establishment of baseline conditions and management objectives; and

4.4.6.6 Habitat enhancement objectives and priorities.

4.5 BIRD STRIKES AND BIRD DISORIENTATION. Use of reflective coatings on any glass surface will be prohibited. Buildings will employ the measures described in Mitigation Measure 4.8-23 of the FEIR to the maximum extent practicable. Structural design will include secondary and tertiary setbacks and, to the maximum extent practicable, balconies and other elements will step back from the water's edge.

4.5.1 Buildings will be sited and designed to minimize glass and windows facing Wildlife Habitat Areas to the maximum extent possible. Design for towers on Parcel H-3 should avoid east-west monolith massing and should include architectural articulation.

4.5.2 Parcels containing surface parking, such as those depicted for the Sweetwater District, will be designed with parking lots nearer Wildlife Habitat Areas. Site plans on parcels adjacent to Wildlife Habitat Areas will maximize distance between structures and such areas.

4.5.3 Project design standards will encourage window stenciling and angling.

4.5.4 Bird strikes must be monitored in accordance with the NRMP and measures developed to address persistent problem areas. Nighttime lighting in tower buildings must be addressed and evaluated through adaptive management. Minimization of impacts of buildings on birds and the Wildlife Habitat Areas will be a priority in the selection of window coverings, glass color, other exterior materials, and design of exterior lighting and lighting of signs.

4.5.5 The tallest buildings on Parcel H-3 will be located generally on the southern portion of the parcel with building heights decreasing towards the north and west. The foregoing will not be interpreted to preclude incorporating secondary and tertiary setbacks along public streets.

4.6 STORM WATER AND URBAN RUNOFF QUALITY.

4.6.1 Vegetation-based storm water treatment facilities, such as natural berms, swales, and detention areas are appropriate uses for Buffer Areas so long as they are designed using native plant species and serve dual functions as habitat areas. Provisions for access for non-destructive maintenance and removal of litter and excess sediment will be integrated into these facilities. In areas that provide for the natural treatment of runoff, cattails, bulrush, mulefat, willow, and the like are permissible.

4.6.2 Storm water and non-point source urban runoff into Wildlife Habitat Areas must be monitored and managed so as to prevent unwanted ecotype conversion or weed invasion. A plan to address the occurrence of any erosion or type conversion will be developed and implemented, if necessary. Monitoring will include an assessment of stream bed scouring and habitat degradation, sediment accumulation, shoreline erosion and stream bed widening, loss of aquatic species, and decreased base flow.

4.6.3 The use of persistent pesticides or fertilizers in landscaping that drains into Wildlife Habitat Areas is prohibited. Integrated Pest Management must be used in all outdoor, public, buffer, habitat, and park areas.

4.6.4 Fine trash filters (as approved by the agency having jurisdiction over the storm drain) are required for all storm drain pipes that discharge toward Wildlife Habitat Areas.

4.7 **LANDSCAPING AND VEGETATION.** The following landscape guidelines will apply to the Proposed Project area:

4.7.1 Invasive plant species (as defined in Appendix 4.8-7 of the FEIR or listed in the California Invasive Plant Inventory list or California Invasive Plant Inventory Database or updates) will not be used in the Proposed Project area. Any such invasive plant species that establishes itself within the project area will be immediately removed to the maximum extent feasible and in a manner adequate to prevent further distribution into Wildlife Habitat Areas.

4.7.2 Only designated native plants will be used in No-Touch Buffer Areas, habitat restoration areas, or in the limited and transitional zones of Parcel SP-1 adjacent to Wildlife Habitat Areas.

4.7.3 Non-native plants will be prohibited adjacent to Wildlife Habitat Areas and will be strongly discouraged and minimized elsewhere where they will provide breeding of undesired scavengers.

4.7.4 No trees will be planted in the No-Touch Buffer Areas or directly adjacent to a National Wildlife Refuge, J Street Marsh, or SP-2 areas where there is no Buffer Area.

4.8 **LIGHTING AND ILLUMINATION.**

4.8.1 All roadways will be designed, and where necessary edges bermed, to ensure penetration of automobile lights in the Wildlife Habitat Areas will be minimized, subject to applicable City and District roadway design standards.

4.8.2 Explicit lighting requirements to minimize impacts to Wildlife Habitat Areas will be devised and implemented for all Bayfront uses including commercial, residential, municipal, streets, recreational, and parking lots. Beacon and exterior flood lights are prohibited where they would impact a Wildlife Habitat Area and use of this lighting should be minimized throughout the project. All street and walkway lighting should be shielded to minimize sky glow.

4.8.3 To the maximum extent feasible, all external lighting will be designed to minimize any impact to Wildlife Habitat Areas, and operations and maintenance conditions and procedures will be devised to ensure appropriate long-term education and control. To the maximum extent feasible, ambient light impacts to the Sweetwater or J Street Marshes will be minimized.

4.8.4 In Sweetwater and Otay District parks, lighting will be limited to that which is necessary for security purposes. Security lighting will be strictly limited to that required by applicable law enforcement requirements. All lighting proposed for the Sweetwater and Otay District parks and the shoreline promenade will be placed only where needed for human safety.

Lights will be placed on low-standing bollards, shielded, and flat bottomed, so the illumination is directed downward onto the walkway and does not scatter. Lighting that emits only a low-range yellow light will be used since yellow monochromatic light is not perceived as natural light by wildlife and minimizes eco-disruptions. No night lighting for active sports facilities will be allowed.

4.8.5 Sweetwater and Otay District parks will open and close in accordance with District Park Regulations.

4.8.6 Laser light shows will be prohibited.

4.8.7 Construction lighting will be controlled to minimize Wildlife Habitat Areas impacts.

4.9 **NOISE.**

4.9.1 Construction noise must be controlled to minimize impact to Wildlife Habitat Areas.

4.9.2 A maximum of three (3) fireworks events can be held, all outside of Least Tern nesting season except 4th of July, which may be allowed if in full regulatory compliance and if the nesting colonies are monitored during the event and any impacts reported to the Wildlife Advisory Committee so they can be addressed. All shows must comply with all applicable water quality and species protection regulations. All shows must be consistent with policies, goals, and objectives in NRMP.

4.10 **EDUCATION.** An environmental education program will be developed and implemented and will include the following:

4.10.1 The program must continue for the duration of the Proposed Project and must target both residential and commercial uses as well as park visitors.

4.10.2 The program's primary objective will be to educate Bayfront residents, visitors, tenants and workers about the natural condition of the Bay, the ecological importance of the Proposed Project area and the public's role in the restoration and protection of wildlife resources of the Bay.

4.10.3 The program will include educational signage, regular seminars and interpretive walks on the natural history and resources of the area, regular stewardship events for volunteers (shoreline and beach cleanups, exotic plant removal, etc.).

4.10.4 Adequate annual funding for personnel or contractor/consultant and overhead to ensure implementation of the following functions and activities in collaboration with the Chula Vista Nature Center or US Fish and Wildlife Service:

4.10.5 Coordination of Volunteer programs and events;

4.10.6 Coordination of Interpretive and educational programs;

4.10.7 Coordination of Tenant, resident and visitor educational programs;

4.10.8 Docent educational; and

4.10.9 Enhancements and restoration events.

4.11 BOATING IMPACTS.

4.11.1 All boating, human and pet intrusion must be kept away from the F&G Street channel mouth and marsh.

4.11.2 Water areas must be managed with enforceable boating restrictions. The District will exercise diligent and good faith efforts to enter into a cooperative agreement with the Resource Agencies and Coast Guard to ensure monitoring and enforcement of no-boating zones and speed limit restrictions to prevent wildlife disturbances.

4.11.3 No boating will be allowed in vicinity of the J Street Marsh or east of the navigation channel in the Sweetwater District during the fall and spring migration and during the winter season when flocks of birds are present.

4.11.4 All rentals of PWCs will be prohibited in the Proposed Project area.

4.11.5 Use PWCs will be prohibited in Wildlife Habitat Areas, subject to applicable law.

4.11.6 A five (5) mile per hour speed limit will be enforced in areas other than the navigation channels.

4.11.7 Nothing in this section shall preclude bona fide research, law enforcement, or emergency activities.

5. RESTORATION PRIORITIES. The following will supplement the description of the conceptual mitigation opportunities in the FEIR (including Appendix 4.8-8 (Mitigation Opportunities). The parties understand and acknowledge that the following restoration priorities will not be included in the NRMP but rather will be applicable (i) if and only to the extent that District or City are required to restore degraded habitat in accordance with the terms of the MMRP or (ii) to establish priorities for District's pursuit of grant funding.

5.1 Restoration priorities for the Proposed Project are those mitigation opportunities in the FEIR as depicted in the conceptual mitigation opportunities (figures 4.8-23 and 4.8-26) and the projects located in the South Bay in the District's Adopted Restoration and Enhancement Plan.

5.2 With the exception of the restoration described in Section 6.4, shoreline/marsh interface restorations in the Sweetwater and Otay Districts should be natural and gradually sloped and planted with salt marsh and upland transition plants in a manner that will stabilize the bank without the need for additional riprap areas. Upland slopes should be contoured to provide a very gentle grade so as to maximize tidal elevation of mudflats, salt marsh habitat and upland transition

areas. This area should be wide enough to encourage or allow wildlife to move between the Sweetwater marsh and the F&G Street marsh and between the J Street Marsh and the South San Diego Bay Unit of the NWR. The shoreline should be improved and restored to facilitate a more effective upland refuge area for species during high tides and to accommodate the impacts from global sea rise.

5.3 The Telegraph Creek should be improved to be a more natural channel as part of the redevelopment of the Otay District. Efforts to naturalize and revegetate the creek will be maximized as is consistent with its function as a storm water conveyance.

5.4 The District will perform an analysis of the appropriate level and method for environmental restoration of the intake/discharge channels associated with the South Bay Power Plant in the environmental review document for the demolition of the power plant.

5.5 Clarifying language will be added to the FEIR to state that the removal of Lagoon Drive/E Street will be done as part of the E Street extension improvement project.

6. **SWEETWATER AND OTAY DISTRICT PUBLIC PARK REQUIREMENTS.** Sweetwater and Otay District Public Parks will meet the following minimum standards in addition to those described above:

6.1 The parks will be Passive in nature and encourage Passive recreation, be low-impact and contain minimal permanent structures. Structures will be limited to single-story heights and will be limited in function to restrooms, picnic tables, tot lots, shade structures and overlooks. For the purposes of this Agreement, the term "Passive" will mean that which emphasizes the open-space aspect of a park and which involves a low level of development, including picnic areas and trails. In contrast, active recreation is that which requires intensive development and includes programmable elements that involve cooperative or team activity, including, ball fields and skate parks.

6.2 The parks will be constructed using low water-use ground cover alternatives where possible.

6.3 Pedestrian and bike trails will be segregated where feasible. A meandering public trail will be provided along the entire length of the Bayfront. The meandering trail within the Sweetwater Park and adjacent to Buffer Areas will not be paved.

6.4 The parks will not include athletic field amenities.

6.5 No unattended food vending will be allowed.

6.6 The parks will include enforcement signage that prohibits tenants, employees, residents, or visitors from feeding or encouraging feral cat colonies and prevents feral cat drop-off or abandonment of pets; and prohibits leash free areas near buffers.

6.7 Due to their immediate adjacency to Wildlife Habitat Areas, the following restrictions will apply to parks located within the Sweetwater and Otay Districts:

6.7.1 Such parks will be designated as Passive use parks and use of amplified sound equipment will be prohibited.

6.7.2 Reservations for group events and activities will be prohibited.

7. **PHASE I SIGNATURE PARK IMPROVEMENTS.** Phase I Signature Park improvements (including development of Parcel S-2, within the Transition Buffer Areas and Limited Use zones of parcel SP1, and the fencing of the No-Touch Buffer Area of Parcel SP1) will be completed prior to the issuance of Certificates of Occupancy for projects developed on either Parcel H-3 or H-23 and after any additional necessary environmental review. The public participation process for the design of the parks (see BCDC process described in Section 13 below) will be completed prior to District staff seeking concept approval from the Board of Port Commissioners. The concept approval for the Signature Park will include a refined plan to address the linkage between the parks over the F and G Street Channel. The design will ensure that the linkage between the two parks is easily accessed, obvious, and allows visitors to flow naturally and safely between the two parts of the park. A separate pedestrian bridge will be evaluated and, if necessary, a supplemental environmental review will be performed to address any necessary issues prior to the concept approval being forwarded to the Board of Port Commissioners.

8. **HAZARDOUS WASTE REMOVAL STANDARDS.** Parcels contaminated with hazardous materials will be remediated to levels adequate to protect human health and the environment.

9. **H-3 DENSITIES.** The following provisions relate to the density of Parcel H-3.

9.1 The Project Description in the FEIR and the PMPA will be revised to include a reduced RCC maximum building height of 240 feet above ground level.

9.2 The Port Master Plan ("PMP") will establish a maximum number of hotel rooms allowed to be constructed within the boundary of the Chula Vista Bayfront Master Plan which will be 3,100 rooms with a maximum number of 2,850 hotel rooms within that portion of the CVBMP covered by the PMP amendment ("PMPA Cap").

9.3 The Findings adopted in connection with the approval of the FEIR and PMP amendment for the CVBMP will indicate that the full suite of mitigation measures described and required within the certified FEIR is sufficient to mitigate the construction of 1,600 rooms and 415,000 net square feet of conference facilities on Parcel H-3 at the program level.

9.4 Any proposal to construct more than 1,600 rooms on Parcel H-3 will require a supplement to the FEIR ("SEIR"). The SEIR will evaluate any areas needing additional analysis but, at a minimum, must include biological impacts, massing, visual, noise, shading, water supply, water quality, hazardous materials and environmental remediation, and will include discussion of the need for additional mitigation measures to reduce impacts associated with any increase in rooms proposed for Parcel H-3.

10. CREATION OF THE SOUTH BAY WILDLIFE ADVISORY GROUP.

10.1 A South Bay Wildlife Advisory Group ("Wildlife Advisory Group") will be formed to advise the District and City in the creation of the NRMP, cooperative management agreements, Adaptive Management Review (defined below) and any related wildlife management and restoration plans or prioritizations. The Wildlife Advisory Group will also address management issues and options for resolution. The Wildlife Advisory Group will initiate and support funding requests to the District and City, identify priorities for use of these funds and engage in partnering, education, and volunteerism to support the development of the Proposed Project in a manner that effectively protects and enhances the fish, wildlife, and habitats of the area and educates and engages the public.

10.2 District and City will provide such administrative and staff support to the Wildlife Advisory Group as is necessary to perform the functions and achieve the goals described herein.

10.3 The Wildlife Advisory Group will be comprised of the following: one (1) representative from each Environmental Health Coalition, San Diego Audubon Society, San Diego Coastkeeper, Coastal Environmental Rights Foundation, Southwest Wetlands Interpretative Association, Surfrider Foundation, San Diego Chapter and Empower San Diego; two (2) representatives from the Chula Vista Nature Center (one from educational programs and one from programs/operations); up to three (3) representatives of major developers or tenants with projects in the CVBMP (including one from Pacifica Companies, which on completion, may be succeeded by a representative of its homeowner association); one (1) representative from the City's Resource Conservation Commission; one (1) from either Harborside or Mueller elementary school or the School District; Western and Eastern Chula Vista residents selected by the City (one from Northwest, one from Southwest and one from east of I-805); one (1) representative from eco-tourism based business; two (2) individuals appointed by District; and representatives from Resource Agencies (two from the US Fish and Wildlife Service one from Refuges and one from Endangered Species, and one (1) each from California Department of Fish and Game, National Marine Fisheries Service, Regional Water Board, and CCC).

10.4 The Wildlife Advisory Group will meet as needed, but at a minimum of every six (6) months for the first ten (10) years and annually thereafter. The Wildlife Advisory Group will be formed within six months of the filing of the Notice of Determination for the FEIR by the District.

10.5 The Wildlife Advisory Group will meet at the intervals described in Section 10.4 to review the NRMP to: (i) determine the effectiveness of the NRMP in achieving the Management Objectives; (ii) identify any changes or adjustments to the NRMP required to better achieve the Management Objectives; (iii) identify any changes or adjustments to the NRMP required to respond to changes in the man-made and natural environments that are affecting or, with the passage of time may affect, the effectiveness of the NRMP in achieving the Management Objectives; and (iv) review priorities relative to available funding. At its periodic meetings, the Wildlife Advisory Group may also consider and make recommendations regarding (x) implementation of the NRMP as needed, (y) Adaptive Management Review and (z) NRMP Amendments.

10.6 The Wildlife Advisory Group will advise the JPA on expenditure of the Community Benefits Fund consistent with Section 3.5, subject to applicable law.

10.7 Written recommendations from the Wildlife Advisory Group will be forwarded to the District and City for consideration on key decisions as the build-out of the Proposed Project occurs.

11. DISPUTE RESOLUTION FOR PLAN CREATION AND AMENDMENT. The parties agree and acknowledge that the NRMP and any material amendments to the NRMP will require submission, review, and approval by the CCC after final adoption by the District and City. Nonetheless, the parties agree that each of them would benefit if the NRMP is developed through a meaningful stakeholder process providing for the resolution of as many disagreements as possible prior to NRMP submission to the CCC. This section provides a process by which the Coalition can participate in the creation and amendment of the NRMP.

11.1 PLAN CREATION AND AMENDMENT. Where this Agreement contemplates the creation of the NRMP following the Effective Date or an NRMP Amendment, this section will provide a non-exclusive mechanism for the parties to resolve disputes concerning the content of the NRMP and such NRMP Amendments. The standard of review and burden of proof for any disputes arising hereunder shall be the same as those under the California Environmental Quality Act.

11.1.1 PLAN CREATION AND AMENDMENT INFORMAL NEGOTIATIONS. Any dispute that arises with respect to the creation or amendment of the NRMP will in the first instance be the subject of informal negotiations between the parties to the dispute. A dispute will be considered to have arisen when one (1) party (the "Disputing Party") sends the other party a written Notice of Dispute. During the informal negotiations, the Disputing Party will identify in writing and with specificity the issue, standard, or proposed requirement which is the subject of the dispute (the "Notice of Dispute"). The period for informal negotiations will not exceed thirty (30) days from the date the Notice of Dispute is received.

11.1.2 PLAN CREATION AND AMENDMENT FORMAL DISPUTE RESOLUTION, PHASE I. In the event the Parties cannot resolve a dispute by informal negotiations under Section 11.1.1, the Disputing Party may invoke formal dispute resolution procedures by providing the other parties a written statement of position on the matter in dispute, including, but not limited to, any facts, data, analysis or opinion supporting that position and any supporting documentation relied upon by the Disputing Party (the "Position Statement"). The Position Statement must be transmitted (via electronic mail or verifiable post) within thirty (30) days of the end of informal negotiations, and will be provided to the other parties and to each member of the Wildlife Advisory Group. If informal negotiations are unsuccessful, and the Disputing Party does not invoke formal dispute resolution within thirty (30) days, the position held by the District, City or Agency (the respective public agency involved in such dispute is hereinafter called "Managing Agency") will be binding on the Disputing Party, subject to submission, review, and approval by the CCC.

11.1.2.1 The other parties will submit their position statements ("Opposition Statements"), including facts, data, analysis or opinion in support thereof, to the

Disputing Party and the Wildlife Advisory Group members within thirty (30) days of transmission of the Position Statement.

11.1.2.2 Within twenty-one (21) days after transmission of the Opposition Statement(s), the Wildlife Advisory Group will convene, consider and, within a reasonable period of time thereafter, render its proposed resolution of the dispute. The Wildlife Advisory Group's decision will not be binding upon the Disputing Party, but rather, will be considered purely advisory in nature. The proposed resolution of the Wildlife Advisory Group will be that comprehensive recommendation supported by a majority of Wildlife Advisory Group members after vote, with each member entitled to one vote. The Wildlife Advisory Group's proposal will be transmitted to all parties by an appointed Wildlife Advisory Group member via electronic mail.

11.1.3 PLAN CREATION AND AMENDMENT FORMAL DISPUTE RESOLUTION, PHASE II. If any party to this agreement does not accept the advisory decision of the Wildlife Advisory Group, it must invoke the second phase of formal dispute resolution by presenting the dispute to the governing board ("Governing Board") of the Managing Agency (i.e., Board of Port Commissioners or City Council). This phase of the dispute resolution process is initiated by such party providing written notice to the other parties within thirty (30) days of receipt of the Wildlife Advisory Group proposal ("MA Notice"). The MA Notice will include the Position Statement, Opposition Statement, the Wildlife Advisory Group proposal, and any other information such party desires to include. Any supplement to the Opposition Statement will be filed with the Managing Agency within fourteen (14) days. The Governing Board of the Managing Agency will review the transmitted information and within sixty (60) days from receipt of the MA Notice will schedule a public hearing to consider the dispute and within ten (10) days of such public hearing, render a decision. The decision of the Governing Board of the Managing Agency will be final and binding on the Managing Agency but will not bind the members of the Coalition. If the members of the Coalition accept the decision of the Governing Board of the Managing Agency, the decision will dictate the manner in which the dispute is resolved in the NRMP or amendment to the NRMP. Nothing herein will preclude such party from publicly opposing or supporting the Governing Board's decision before the CCC.

12. DISPUTE RESOLUTION REGARDING NRMP IMPLEMENTATION AND ENFORCEMENT. Once the CCC approves the NRMP or any NRMP Amendment, the Governing Board will issue a Notice of Adoption with respect to the NRMP or NRMP amendment. Once a Notice of Adoption is issued with respect to the NRMP or NRMP Amendment, this section will be the exclusive mechanism for the parties to resolve disputes arising under, or with respect to implementation or enforcement of, the NRMP including when the NRMP is reviewed during an Adaptive Management Review or Periodic Review and such review does not require an NRMP Amendment. This provision will not be used to challenge the adequacy of the NRMP or an NRMP Amendment after the issuance of a Notice of Adoption with respect thereto. The standard of review and burden of proof for any disputes arising hereunder shall be the same as those under the California Environmental Quality Act.

12.1 PLAN ENFORCEMENT INFORMAL NEGOTIATIONS. Any dispute that arises with respect to implementation or enforcement of the NRMP will in the first instance be the subject of informal negotiations between the parties to the dispute. A dispute will be considered

to have arisen when one Disputing Party sends the other party a written Notice of Dispute. During the informal negotiations, the Disputing Party will send a written Notice of Dispute to the other parties specifying the aspect of the NRMP it believes is not being implemented properly and the way in which the Disputing Party believes the NRMP should be implemented according to its terms (the "Notice of Dispute"). The period for informal negotiations will not exceed forty-five (45) days from the date such Notice of Dispute is received.

12.2 PLAN ENFORCEMENT FORMAL DISPUTE RESOLUTION, PHASE I. In the event the Parties cannot resolve a dispute by informal negotiations under the preceding section, the Disputing Party may invoke a formal dispute resolution procedure by presenting the dispute to the Governing Board of the Managing Agency by providing the other parties a written statement of position on the matter in dispute, including, but not limited to, any facts, data, analysis or opinion supporting that position and any supporting documentation relied upon by the Disputing Party (the "Position Statement"). The Position Statement must be transmitted (via electronic mail or verifiable post) within thirty (30) days of the end of informal negotiations, and will be provided to the other parties, to each member of the Wildlife Advisory Group. If informal negotiations are unsuccessful, and the Disputing Party does not invoke formal dispute resolution within thirty (30) days, the Managing Agency's position will be binding on the Disputing Party subject to any periodic review and/or approval by the CCC, if required by law.

12.2.1 The other parties will submit their position statements ("Opposition Statements"), including facts, data, analysis or opinion in support thereof, to the Disputing Party, the Wildlife Advisory Group members, and the Governing Board within thirty (30) days of transmission of the Position Statement.

12.2.2 Within forty-five (45) days after transmission of the Opposition Statement(s), the Disputing Party will provide a written notice ("MA II Notice") to the other parties, the Wildlife Advisory Group and the Governing Board. The MA II Notice will include the Position Statement, Opposition Statement, the Wildlife Advisory Group proposal, and any other information the Disputing Party desires to include. Any supplement to the Opposition Statement will be filed with the Managing Agency within fourteen (14) days following receipt of the MA II Notice. The Governing Board will review the transmitted information and within sixty (60) days from receipt of the MA II Notice will schedule a public hearing to consider the dispute and within ten (10) days of such public hearing, render a decision. The decision of the Governing Board will be final and binding on the Managing Agency but will not bind the members of Coalition. If the members of the Coalition accept the decision of the Governing Board of the Managing Agency, the decision will dictate the manner in which the dispute is resolved in the NRMP. If any member of the Coalition disagrees with the decision of the Governing Board, it shall have the right to seek a petition for writ of mandate from the Superior Court of California, San Diego Division.

12.3 WAIVER OF DEFENSE. To the extent permitted by law, the District, City and RDA agree that lack of funds shall not be a defense to any claim of failure to adequately fund implementation and enforcement of the adopted NRMP.

13. BAYFRONT CULTURAL AND DESIGN COMMITTEE FOR PROJECTS LOCATED IN PORT DISTRICT LANDS.

13.1 District will form a Bayfront Cultural and Design Committee ("BCDC") to advise the District in addressing the design of parks, cultural facilities, and development projects. The public participation process for the BCDC will include broad community representation and will be modeled after the Community Advisory Committee (CAC) process. Membership will include at least one member each from the District, Chula Vista Planning Commission, Design Review Committee, and Resource Conservation Committee.

13.2 The BCDC will advise the District in the establishment of CVBMP design guidelines to address cohesive development and streetscape design standards, walkways and bikeways design to promote safe walking and biking, standards for design of park areas, and cultural facilities but will not address NRMP and Wildlife Habitat Areas design guidelines described above. A minimum of three public meeting/workshops will be held to establish the design guidelines.

13.3 The BCDC will have an opportunity to provide input on the development of any District-sponsored Request for Proposals ("RFP(s)") or Request for Qualifications ("RFQ(s)") for major development projects. District will conduct a stakeholder review of major development projects following completion of the RFP/RFQ selection process and the BCDC will be invited to participate in such review. In addition, BCDC will be invited to participate in stakeholder design review of park and/or cultural facilities within the CVBMP prior to District Staff seeking concept approval from the Board of Port Commissioners.

13.4 The BCDC will have an opportunity to advise and provide input on District-sponsored public art projects proposed for sites within the Proposed Project area through representation on artist/artwork selection panels convened by the District. These project-specific, ad hoc panels will; make recommendations to the District's public art committee and staff regarding acquisitions and exhibitions. The BCDC will be notified of the formation of such selection panels and will be afforded an opportunity to nominate one or more of its members, preferably with art related experience or background, to serve thereon.

14. **PORT MASTER PLAN AMENDMENT.** The District will revise the Port Master Plan Amendment as follows prior to submission to the CCC.

14.1 Consistent with Section 9, above, the Port Master Plan will incorporate the PMPA Cap and an H-3 tower maximum height of 240 feet.

14.2 Add the following clause to the definition for the Industrial Business Park land use designation after the words "active sports facilities" wherever they appear: "...where associated with a business park campus and intended for employees."

14.3 Delete the following sentence from the proposed definition for the Wetlands land use designation: "Development within wetland buffers is limited to Passive uses, such as outlooks, picnic areas, and/or spur-trails. Such improvements should include interpretive and educational opportunities while allowing coastal access in a manner that will ensure the protection and preservation of these sensitive habitat areas."

14.4 Revise the beginning of the third sentence in the last paragraph of the Otay District Planning Subarea description, describing roadways in the Otay District as follows: "A

shoreline pedestrian trail is proposed in the Otay District, and its design will ensure protection of the adjacent sensitive habitat areas...”

14.5 Revise the beginning of the penultimate sentence under the Wildlife Reserve Subarea description as follows: “Other than potential habitat restoration activities, no alterations to the existing intake/discharge channel area are proposed...”

14.6 As part of a separate project and PMP amendment, the District will revise the Marine Sales & Service land use designation on the D Street Fill area to Estuary or Habitat Replacement.

15. **ENERGY.** The parties agree that the development of the Proposed Project offers the District and City a unique opportunity to demonstrate the viability of responsible and sustainable development practices. Accordingly, the parties desire to establish guidelines to govern the future build-out of the programmatic elements of Proposed Project and to ensure that the Proposed Project is comprised of high performance and highly energy-efficient buildings and clean, efficient generation. The parties further agree that the standards in this section are intended to be interpreted broadly and with the flexibility to adapt to new energy technology and evolving building construction and design practices.

15.1 This section will apply to and govern development of all parcels within the Proposed Project area except Parcels HP-5, H-13, H-14 and H-15. The term “Development” will mean the development of an individual parcel within the Proposed Project area.

15.2 To help reduce the need for fossil-fueled power generation, reduce greenhouse gas emissions, and support the California Energy Commission’s Loading Order for Electricity Resources, all Developments will achieve a minimum of a fifty (50) percent reduction in annual energy use in accordance with this section.

15.2.1 Each building in each Development will perform at least fifteen (15) percent better than Title 24, Part 6 of the California Building Energy Efficiency Standards (“Title 24”) in effect on the date of this agreement. The minimum energy efficiency performance standard adopted by the City is hereinafter described as its “Energy Efficiency Requirement” or “EER”. Should revised Title 24 standards be adopted by the State of California, the City’s EER at the time a building permit application is submitted for such Development shall apply.

15.2.2 The balance of the reduction in annual energy use required by Section 15.2 will be achieved through the use of any combination of the energy reduction measures described in this Section 15.2.2. To achieve compliance with this section, sponsors of Developments may select one of two paths. The first path is based on Title 24 (“Title 24 Path”) and the second is described in Energy and Atmosphere, Credit 1 “Optimize Energy Performance” (Credit EA-/c1) in the US Green Building Council’s Leadership in Energy and Environmental Design (LEED) v3 system (“LEED Path”). The definition of the term “Baseline” against which energy reduction will be measured will vary depending on the path selected and is further described in Exhibit 3 to this Agreement.

15.2.2.1 Renewable Energy generated within the boundaries of the Development will be credited toward the energy reduction requirement of Section 15.2. The term

“Renewable Energy” will mean energy derived from the sources described in California Public Resources Code section 25741 (b)1.

15.2.2.2 Renewable Energy generated on one or more sites (“Renewable Energy Sites”) within the boundaries of the Proposed Project by the District, City or other third party and fed to the electrical grid or to the Development will be credited toward the energy reduction requirement of Section 15.2. Aggregate energy generated on Renewable Energy Sites may be allocated to an individual Development up to the amount necessary to achieve such Development’s compliance with the energy reduction requirement of Section 15.2. Once allocated to a Development, the amount of energy generated by Renewable Energy Sites so allocated may not be further allocated to another Development.

15.2.2.3 Participation in a City of Chula Vista sponsored energy efficiency program provided that the resulting energy reduction may be calculated and verified. The methodology for calculating the amount of the credit toward the energy reduction requirement of Section 15.2 under the Title 24 Path and the LEED Path is described in Exhibit 3.

15.2.2.4 Each Development will develop, implement, and for the life of each Development, maintain a measurement and verification plan (“M&V Plan”). Such participation has been shown to increase the persistence of energy efficiency (“EE”) and also to provide a way of recognizing and encouraging the ongoing conservation efforts of occupants and facility managers and will be awarded a waiver for five (5) percent credit against the Baseline to determine compliance with the energy reduction requirement of Section 15.2. The District will include in all leases the requirement to perform an energy audit every three (3) years for the convention centers and hotel Developments over 300 rooms and five (5) years for all other Developments to ensure that all energy systems are performing as planned or corrective action will be taken if failing to meet EE commitments.

15.2.2.5 Participation in one of SDG&E’s manual or semi-automatic Demand Reduction (DR) utility rates will be awarded a waiver for three (3) percent credit against the Baseline to determine compliance with the energy reduction requirement of Section 15.2.

15.2.2.6 Participation in one of SDG&E’s automatic Demand Reduction (DR) utility rates will be awarded a waiver for five (5) percent credit against the Baseline to determine compliance with the energy reduction requirement of Section 15.2.

15.2.2.7 Incorporation of natural ventilation into design such that at least 75% of the conditioned area is naturally ventilated according to the guidelines set forth in Exhibit 3, and if this benefit was not included in the energy efficiency calculations, the project will be awarded either: a waiver for five (5) percent credit against the Baseline to determine compliance with the energy reduction requirement of Section 15.2; or, a waiver for ten (10) percent credit will be awarded if the natural ventilation system is coupled with an energy or cooling system that does not draw from the grid if and when natural ventilation is not used. This may be prorated if less than 75% of the conditioned area is naturally ventilated.

15.2.3 The parties understand and acknowledge that the energy reduction measures described in Section 15.2.2.1, 15.2.2.2 and 15.2.2.3 for a Development or component of a

Development may be phased in over time to achieve compliance with the energy reduction requirement of Section 15.2 provided such energy reduction measures are completed no later than thirty-six (36) months following issuance of a certificate of occupancy for such Development or such component thereof.

15.2.4 To further incent responsible and sustainable development practices within the boundaries of the Proposed Project, District, City and RDA will consider voluntary commitments to levels of energy reduction in excess of the requirements of Section 15.2, commitment to achievement of a LEED Certification, and/or a "Living Building Challenge" in connection with the selection of respondents in RFP/RFQ processes for Developments within the Proposed Project area.

15.2.5 Within one year following the CCC's approval of a PMP amendment substantially consistent with the Proposed Project, the District will in good faith consider adoption of an ordinance, in a public hearing process, that if approved by the Board of Port Commissioners will require the following:

15.2.5.1 Within six (6) months following adoption of the ordinance and every three (3) years thereafter, the District will conduct an energy efficiency and renewable energy analysis that will:

(1) Assess the feasibility and cost-effectiveness of programs and options to reduce demand on the electric grid from all lands under District's jurisdiction; and,

(2) Include, but not be limited to, an assessment of the potential for reduction in energy use on all land under District's jurisdiction through increases in energy efficiency, demand response, clean renewable and distributed energy generation and other methods and technologies.

15.2.5.2 Upon the completion of each analysis, the District will consider good faith implementation of cost-effective programs and options as part of its commitment to greenhouse gas reductions and global climate change prevention activities consistent with Assembly Bill 32.

15.2.5.3 The results of each analysis will be published on the District's website and received by the District's Board of Port Commissioners in a public forum.

16. **HOUSING IMPACTS.** The Redevelopment Agency will use all Low and Moderate Income Housing funds generated from within the Bayfront Redevelopment Project Area on the production of affordable housing units, inside and/or outside of redevelopment areas, for very low, low and moderate income individuals/families only in areas located west of I-805 in the City of Chula Vista.

17. **THE COALITION'S UNDERTAKINGS.** In consideration of the obligations undertaken and the promises made herein by the District, the City and the RDA, the Coalition hereby covenants and agrees to undertake the following actions:

17.1 To support and to actively lobby, in writing, and where practicable orally, the CCC, the State Lands Commission, the Board of Port Commissioners, and the Chula Vista City Council, to approve the FEIR and the Proposed Project;

17.2 Except as expressly provided herein, to take no action whatsoever, directly or indirectly, whether in writing, orally or otherwise, to oppose any governmental approval, permit (including without limitation, coastal development permits) or other entitlement, or non-material modification or amendment thereof, which is or may be required for the certification of the FEIR or approval of the Proposed Project whether in judicial, administrative or legislative proceedings; and

17.3 Except as expressly provided herein, to provide no assistance whatsoever, directly or indirectly, whether financial, legal or otherwise, to any person, organization or other entity to oppose any governmental approval, permit (including without limitation, coastal development permits) or other entitlement, or non-material modification or amendment thereof, which is or may be required for the certification of the FEIR or approval of the Proposed Project whether in judicial, administrative or legislative proceedings.

17.4 Other than with respect to matters specifically addressed in this Agreement, the FEIR, and as components of the Proposed Project approval, Coalition member organizations shall have the right to fully participate in environmental review and project-approval processes for components of the Bayfront development that require project-level review subsequent to FEIR certification and Proposed Project approval.

17.5 Nothing herein shall be interpreted to preclude Coalition member organizations from fully participating in any agency actions related to the cleanup of contaminated soils and sediments within the Proposed Project boundary.

17.6 Nothing herein shall be interpreted to preclude Coalition member organizations from fully participating in processes related to the decommissioning and demolition of the South Bay Power Plant (including substation relocation).

17.7 Notwithstanding the preceding provisions of this Section 17, in the event the Proposed Project is approved, the Coalition reserves the right to object to any material failure to implement the Proposed Project in compliance with this Agreement, the Mitigation Monitoring and Reporting Program and all applicable laws, regulations or permit requirements.

18. COALITION SUPPORT FOR FEIR AND PROJECT APPROVAL. The Coalition member organizations acknowledge and agree that the District, the City, and RDA have appropriately sought and received input from stakeholders concerned with environmental protection, community benefits, and the legal adequacy of the DEIR. The Coalition member organization's agree that the District, City and RDA have incorporated numerous significant and meaningful community recommendations into the FEIR, and that the negotiation process and this Agreement have resulted in a much improved Proposed Project such that it will have the support Coalition member organizations. The parties acknowledge and agree that, although the undertakings of the District, the City and the RDA set forth in this Agreement are intended to provide additional protection to the natural resources and environment above and beyond that required by CEQA and the other federal, state and local laws and regulations which apply to the Proposed Project, said

undertakings will constitute mitigation measures which will be included in the FEIR and the MMRP adopted by the District, the City and the RDA if the Proposed Project is approved and which will be enforceable as mitigation measures pursuant to this Agreement.

19. **IDENTIFICATION OF GRANTS.** Coalition will use reasonable best efforts to identify, and at each member organization's sole discretion to support, grants and other funding options to assist the District, City, and RDA meet their obligations under this Agreement.

20. **NO LIMITATION ON THE DISTRICT'S, CITY'S OR RDA'S DISCRETION.** The parties acknowledge and agree that nothing in this Agreement will be construed as circumscribing or limiting the District's, City's or RDA's discretion with respect to the environmental review required by CEQA and that the District, City and RDA (as applicable), in their sole and absolute discretion, may elect not to certify or approve the FEIR or not to approve the Proposed Project, or may select an alternative, including the alternative of not going forward with the Proposed Project, or adopt mitigation measures or conditions which they determine are necessary and appropriate to reduce or avoid any potential environmental impact of the Proposed Project or to comply with any applicable law or regulation. In the event that the District, City or RDA elect not to certify or approve the FEIR or not to approve the Proposed Project, any such action or inaction will not constitute a breach of the District's, City's or RDA's obligations under this Agreement and this Agreement will terminate and will be of no further force and effect.

21. **THE DISTRICT'S, CITY'S AND RDA'S UNDERTAKINGS.** The undertakings of the District, City and RDA set forth in Sections 3 through 10 and 13 through 16 of this Agreement provide additional mitigation measures that will be incorporated into the FEIR and the MMRP, and will be implemented by the District, City and RDA and may be enforced by the Coalition or any member organization as mitigation measures. The Parties further agree that the Coalition or any member organization have standing to enforce mitigation measures pursuant to Code of Civil Procedure section 1085 and Public Resources Code section 21081.6(b).

22. **RESERVATION OF DISCRETION.** The contents of this Agreement notwithstanding, District, City and RDA reserve their discretion to approve or disapprove all actions which require by law the exercise of discretion and which District, City and RDA cannot lawfully be committed to by contract. Such reservation of discretion will apply to all contemplated legislative and quasi-judicial actions including, without limitation, approval of land use entitlements, CEQA compliance, the exercise of eminent domain, code enforcement and the making of findings and determinations required by law.

23. **JOB QUALITY.** District agrees to comply with the requirements contained in the Covenants and Agreements of District With Respect to Job Quality attached to this Agreement as Exhibit 4. For the avoidance of doubt, the parties to this Agreement acknowledge and agree that the covenants and agreements contained in Exhibit 4 apply solely and exclusively to District and will have no force or effect on the City or the RDA.

24. **MISCELLANEOUS.**

24.1 This Agreement may be pleaded by any party hereto as a full and complete defense to and may be used as the basis for an injunction against any action, suit, claim or other

proceeding of any type which may be prosecuted, initiated or attempted in violation of the terms hereof.

24.2 Each party signing this Agreement jointly and severally represents and warrants that it has full authority to obligate the party or parties on whose behalf it is signing and that no further action or authorization is necessary to execute this Agreement on behalf of such party. The Coalition specifically represents and warrants that it has full authority to obligate its members, that no further action is necessary for the Coalition to make this Agreement on behalf of itself and each of its members, and that the following organizations constitute all of the members of the Coalition: Environmental Health Coalition, San Diego Audubon Society, San Diego Coastkeeper, Coastal Environmental Rights Foundation, Southwest Wetlands Interpretative Association, Surfrider Foundation, San Diego Chapter and Empower San Diego.

24.3 The parties have read all of this Agreement, fully understand the same and have consulted with their attorneys regarding this Agreement. The parties hereto are represented by independent counsel, with whom each party has fully discussed the terms and consequences of this Agreement. The Coalition and its members are represented by the Coast Law Group, LLP, 1140 South Coast Highway 101, Encinitas, California; the District is represented by the Office of the Port Attorney, 3165 Pacific Highway, San Diego, California and Hogan Guiney Dick, LLP, 225 Broadway, Suite 1900, San Diego, California; and the City and the RDA are represented by the Office of the City Attorney, 276 Fourth Avenue, Chula Vista, California. The parties hereto acknowledge that they execute this Agreement of their own free will and under no threat, menace, coercion or duress of any kind from any party. The parties further acknowledge that they execute this Agreement acting on their independent judgment and upon the advice of their respective counsel, without any representation, express or implied, of any kind from any other party, except as specifically set forth herein.

24.4 In the event it becomes necessary for any party to obtain the services of an attorney to enforce the provisions of this Agreement against any party who has breached any obligation set forth herein, the prevailing party in any proceeding will be entitled to recover all its attorneys' fees and costs incurred.

24.5 This Agreement constitutes the entire fully integrated written agreement among the parties with respect to the subject matter of this Agreement and may not be modified or waived except by a writing duly executed on behalf of the party to be bound by the waiver or modification.

24.6 If any part of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, such decision will not affect the validity of any remaining portion of this Agreement and the remainder will stand in full force and effect.

24.7 This Agreement is executed and delivered within the State of California and will be construed and covered by the laws of the State of California.

24.8 This Agreement will be binding upon and will inure to the benefit of the parties hereto and to all members, beneficiaries, elected and appointed officials, officers, directors, employees, attorneys, agents, successors, affiliates, heirs and assigns of any party.

24.9 This Agreement may be executed in one or more counterparts and, when executed by each of the parties signatory hereto, said counterparts will constitute a single valid Agreement even though each of the signatory parties may have executed separate counterparts hereof.

IN WITNESS WHEREOF, this Chula Vista Bayfront Master Plan Settlement Agreement is executed on the date(s) set forth below.

Dated: May 5, 2010

ENVIRONMENTAL HEALTH COALITION

By: *Diane Takvorian*
Executive Director

Diane Takvorian

Dated: May 5, 2010

SAN DIEGO AUDUBON SOCIETY

By: *James A. Peugh*
Conservation Chair

James A. Peugh

Dated: May 5, 2010

SAN DIEGO COASTKEEPER

By: *Bruce Reznik*
Executive Director

Bruce Reznik

Dated: May 5, 2010

COASTAL ENVIRONMENTAL RIGHTS
FOUNDATION

By: *M. Gonzalez*
Marco Gonzalez, Legal Director

Dated: May 5, 2010

SOUTHWEST WETLANDS INTERPRETATIVE
ASSOCIATION

By: *Michael R. McCoy*
President

Michael McCoy

Dated: May 5, 2010

THE SURFRIDER FOUNDATION (SAN DIEGO
CHAPTER)

By: *Manase Mansur*
Chairman

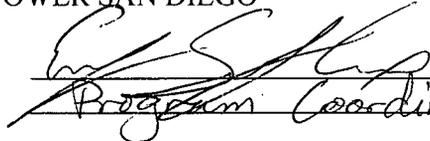
Manase Mansur

[SIGNATURES CONTINUED NEXT PAGE]

Dated: May 5, 2010

EMPOWER SAN DIEGO

By:


Program Coordinator

Emily Serafy Cox

Dated: May 11, 2010

SAN DIEGO UNIFIED PORT DISTRICT

By:


Charles J. Warster
Executive Director

Dated: May 13 2010

CITY OF CHULA VISTA

By:

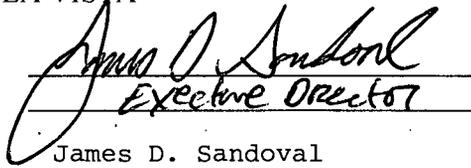

City Manager

James D. Sandoval

Dated: May 13 2010

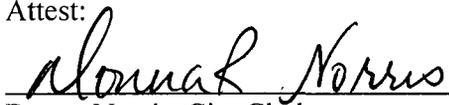
REDEVELOPMENT AGENCY OF THE CITY OF CHULA VISTA

By:

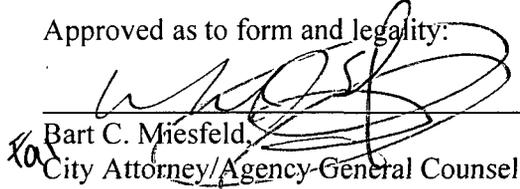

Executive Director

James D. Sandoval

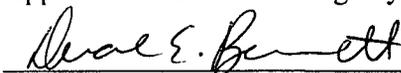
Attest:


Donna Norris, City Clerk

Approved as to form and legality:


Bart C. Miesfeld,
City Attorney/Agency General Counsel

Approved as to form and legality:


Port Attorney, DUANE BENNETT



Z:\Projects\07\0301\Figures\Fig1Section 4(B-B)01(4-01) (marinae).mxd



AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

- | | |
|--|---|
| <ul style="list-style-type: none"> National Wildlife Refuge (San Diego Bay Unit)* Sweetwater Marsh National Wildlife Refuge* City of Chula Vista LCP Open Space Land Use Designation City of Chula Vista S-4 100 ft. No-Touch Buffer CVBMP Boundary Proposed Navigation Channel | <p>Port Master Plan - Planning District 7
Conservation Land and Water Designations</p> <ul style="list-style-type: none"> Estuary Habitat Replacement Wetland |
|--|---|

Exhibit 1 Wildlife Habitat Areas

(Defined by § 3.1 of the Chula Vista Bayfront Master Plan Settlement Agreement; the agreement prevails over any conflict with this exhibit.)

*National Wildlife Refuge lands are included in the definition of Wildlife Habitat Areas for the sole purpose of addressing adjacency impacts and not for the purpose of imposing affirmative resource management obligations with respect to the areas within the National Wildlife Refuge lands.

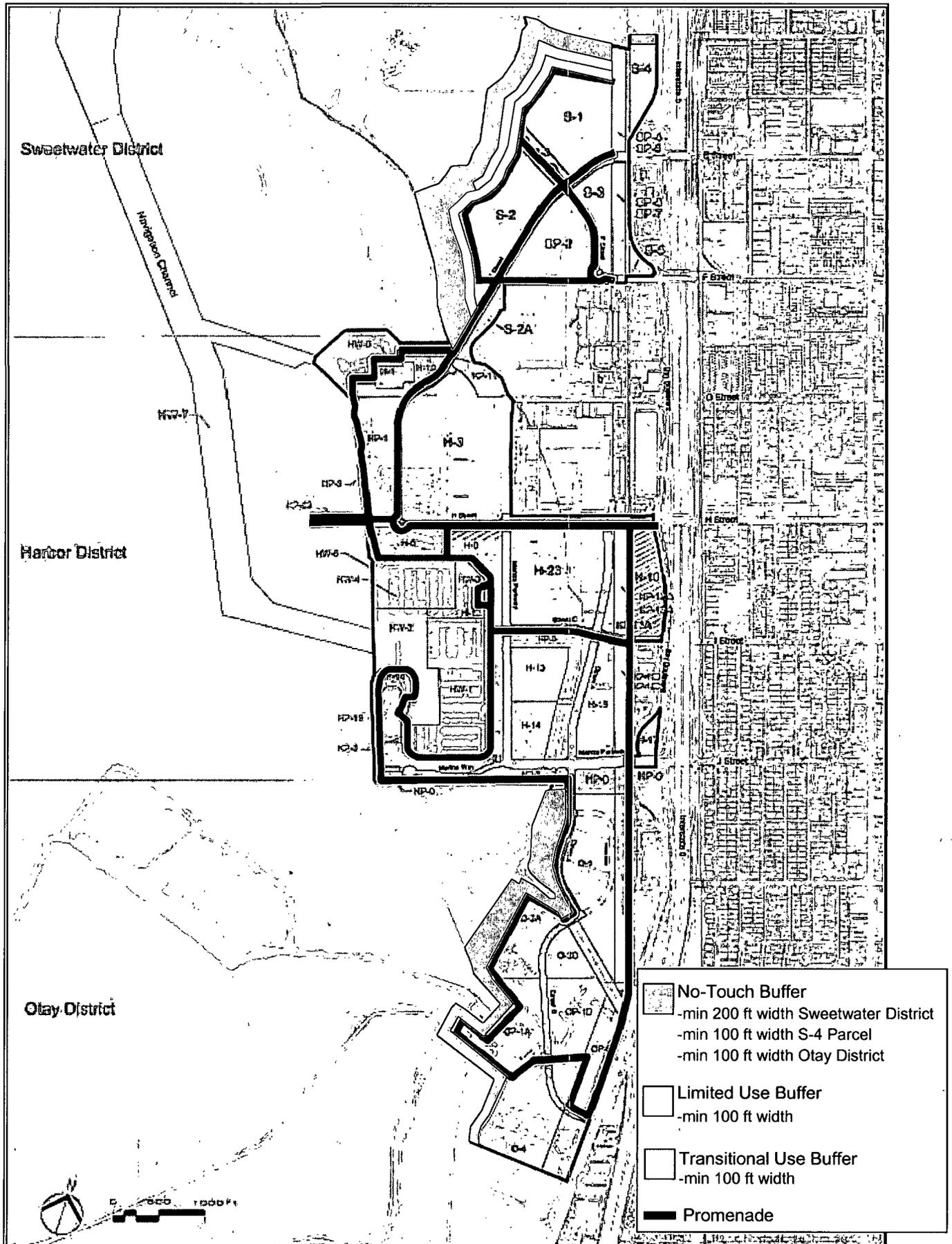


Exhibit 2 – Buffer Areas

(Defined by § 4.1.3 and 4.1.4 of the Chula Vista Bayfront Master Plan Settlement Agreement; the agreement prevails over any conflict with this exhibit)

EXHIBIT 3

Exhibit 3 outlines the methodologies for determining that the goals of the Energy Section are met. The Sample Worksheets are for illustration purposes, to provide a format which may be used both by Developments and by the City of Chula Vista's Building Department. Note that the Energy Section outlines requirements and approaches for projects which will be subject to future codes, regulations, tariffs, and technologies, all of which are subject to change. When clarifications are needed, they will be provided by the City of Chula Vista.

Baseline. The term "Baseline" refers to the amount of energy against which the energy reduction will be measured.

SAMPLE Worksheets. Sample worksheets are provided as suggested approaches. Actual worksheets for calculating the energy requirements should be coordinated with the City of Chula Vista Building Department.

Title 24 Path. Title 24 language refers to the "Standard Budget" and "Proposed Budget." The Whole Building Performance Method, which generates the Standard and Proposed Energy Budgets, is specifically for energy uses within a conditioned building, and does not include lighting which is in Interior Unconditioned Spaces or lighting which is outside. However, for the purposes of the Energy Section, this lighting energy will be added to the energy budgets for the conditioned building, and the combined energy uses will become the Baseline for the "Title 24 Path." Each of the various energy uses will be converted into Site kBtu, except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

LEED Path. LEED language refers to the "Baseline Design" and "Proposed Design." The LEED Path Baseline is likely to be different and higher than the Title 24 Path Baseline because LEED counts all of the energy uses within the site boundary, some of which are not counted by Title 24. However, LEED is also likely to be better and more comprehensive in calculating overall energy performance features, such as district thermal plants, combined heat and power, natural ventilation, efficiencies in process loads, aggregating multiple buildings, and the benefits of renewable energy. Each of the various energy uses will be converted into dollars (\$), except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

If the LEED Path is chosen, the Development may be subject to an additional fee to the City of Chula Vista for a 3rd party plan check by an experienced LEED reviewer acceptable to the City. Recognizing that LEED Templates may not be complete at the time of the initial Building Department submittals, draft Templates may be used, at the discretion of the reviewer.

Natural Ventilation. When using Natural Ventilation (NV) to qualify as an energy reduction feature, the Development may qualify for a waiver of up to 10% if at least 75% of the area that would normally be cooled relies solely on natural ventilation strategies to help maintain comfortable temperatures. Pro-rations are possible.

City of Chula Vista Sponsored Energy Efficiency Program. Refer to the appropriate City ordinances for details on this program.

Measurement and Verification. Each Development shall develop and implement an ongoing Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D. If the LEED Path is chosen, the M&V Plan should be consistent with Credit EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

Demand Response Tariffs. Developments which enroll in SDG&E Demand Response rate tariff(s) which are designed to reduce the load on the electric grid during critical times may be awarded up to a 5% waiver.

EXHIBIT 3

SAMPLE Worksheet A: Title 24 Path

Name: Example Development

Description ¹	Source of Info (Attachments)	Input Standard	Input Proposed	Typical Units of Measure	Convert to Site kbtu	Standard = Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduction
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Uses										
T24 Electricity	T24 UTIL-1, Part 2			Site KWH/year	3.413	-	-	kBtu		
T24 Gas	T24 UTIL-1, Part 2			Site Therms/year	100.000	-	-	kBtu		
T24 Lighting Outside and Uncond	Worksheet A-LTG			Site KWH/year	3.413	-	-	kBtu		
A. Summary of Efficiency of End Uses										
B. Renewable Energy Contributions										
PV: within Development	CSI calculation or PV-Watts ²	n/a		Site KWH output/year	3.413	n/a	-	kBtu		
PV: Credited from Project		n/a		Site KWH output/year	3.413	n/a	-	kBtu		
Solar Thermal: within Development	F-Chart or equal	n/a		Site kbtu offset/year	1.000	n/a	-	kBtu		
Other	as appropriate	n/a		as appropriate		n/a				
B. Combined Renewable Reductions										
C. Natural Ventilation	Worksheet C						0% to 10%			
D. Chula Vista Program Savings										
Verified Electricity Savings	Confirm with Program Administrator	n/a		Site KWH	3.413		-	kBtu		
Verified Gas Savings		n/a		Site Therms	100.000		-	kBtu		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify	Worksheet E						Required			
F. Demand Response Tariff	Worksheet F						0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET A

Note 1: If the Development includes more than one building, then use multiple Worksheets, or, add backup calculations or line items to this spreadsheet, as most appropriate.

Note 2: Final photovoltaic design and output information shall use industry standard software, including at least site location, array orientation, array tilt, and system efficiency. California Solar Initiative (CSI) rebate calculations and PV-Watts are examples of acceptable software.

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EXHIBIT 3

Worksheet A-LTG: Lighting Outside and in Interior Unconditioned Spaces

Name: Example Development

Category ¹	Source of Info (Attachments)	T24 Allowed Watts	Proposed Watts	Occupancy	hours /day ²	Days /year	Hours /year	Standard KWH/yr	Proposed KWH/yr
Unconditioned spaces	T24 LTG Forms								
Unconditioned spaces	T24 LTG Forms								
Unconditioned spaces	T24 LTG Forms								
Unconditioned spaces	T24 LTG Forms								
Unconditioned spaces	T24 LTG Forms								
General Site Illumination (Tradable)	T24 OLTG Forms								
General Site Illumination (Tradable)	T24 OLTG Forms								
General Site Illumination (Tradable)	T24 OLTG Forms								
General Site Illumination (Tradable)	T24 OLTG Forms								
General Site Illumination (Tradable)	T24 OLTG Forms								
Specific Applications (Non-Tradable)	T24 OLTG Forms								
Specific Applications (Non-Tradable)	T24 OLTG Forms								
Specific Applications (Non-Tradable)	T24 OLTG Forms								
Signs (Non-Tradable)	T24 OLTG Forms								
Signs (Non-Tradable)	T24 OLTG Forms								
Totals (Subtotals are inputs to Worksheet A)									

NOTES TO WORKSHEET A-LTG

Note 1: If more lines are needed, create a spreadsheet in similar format, and enter above, as appropriate.

Note 2: For average runtimes, use the hours in this chart, unless proposer demonstrates to the Bldg Department's satisfaction that a different value should be used.

EXHIBIT 3
SAMPLE Worksheet B: LEED Path

Name: Example Development

Description	Source of Info (Attachments)	Standard or Baseline	Proposed	Typical Units of Measure	Virtual Rate	Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduction
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Costs: LEED Performance Rating Method (PRM) EAp2/c1 Letter Template										
<i>Conditioned Building(s)</i>		Included	Included							
<i>Other energy uses on site</i>		Included	Included							
<i>Lighting: Outside and Uncond</i>		Included	Included							
<i>Onsite Renew Energy: Development</i>	LEED EAp2/c1 Letter Template	Included	Included							
<i>Campus Renew Energy: Project</i>		Included	Included							
<i>Other</i>		Included	Included							
<i>Natural Ventilation</i>		May be included in LEED EAp2/c1, OR, use Worksheet C								
Electricity (Summary)	LEED EAp2/c1 Section 1.8 Summary ¹			kWh	#DIV/0!			Site \$		
Natural Gas (Summary)				therms	#DIV/0!			Site \$		
A. Summary of Efficiency of Energy Costs						\$ -	\$ -	Site \$		
B. Combined Renewable Reductions	Included in EAp2/c1 above									
C. Natural Ventilation	May be included in LEED EAp2/c1 above, OR, use Worksheet C									
Alternate:	Worksheet C						0% to 10%			
D. Chula Vista Program Savings										
Verified Electricity Savings	Confirm with Program Administrator			Site KWH	#DIV/0!			Site \$		
Verified Gas Savings				Site Therms	#DIV/0!			Site \$		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify	LEED EAc5. See Worksheet E.						Required			
F. Demand Response Tariff	Worksheet F						0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET B
Note 1: LEED EAp2/c1 Letter Template: Section 1.8, "Energy Cost and Consumption by Energy Type - Performance Rating Method Compliance Table"

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EXHIBIT 3
SAMPLE Worksheet C: Natural Ventilation

Name: Example Development

When using Natural Ventilation (NV) to qualify as an energy reduction feature for this Agreement, the Development may qualify for a waiver if at least 75% of the area that would normally cooled includes effective natural ventilation strategies to help maintain comfortable temperatures. A 5% waiver is granted if the area is also served by an energy or cooling system drawing energy from the grid. A 10% waiver is granted if the area is not served by an energy or cooling system drawing from the grid. The waiver may be prorated if the area is less than 75%. Final determination of normally cooled areas are at the discretion of the Building Department. For example, in CA Climate Zone 7, spaces such as warehouses and kitchens do not normally have electric cooling.

Two approaches are possible:

1. A Development may use a performance approach, such as macro-flow or Computational Fluid Dynamics (CFD) modeling, to design and confirm the maintenance of comfort using natural ventilation techniques.
2. As an alternate, the prescriptive calculations outlined in the Collaborative for High Performance Schools (CHPS) may be used. CHPS identifies an approach to achieving ventilation strategies which are likely to be effective in helping to maintain interior comfort when outside conditions are moderate. Even though the CHPS program targets school campuses, the approach is useful for many occupancies. It is publicly available at www.chps.net. Suggested references are from CHPS 2006 Volume II Best Practices Manual - Design, HVAC Guidelines, Sections TC.13 (Cross Ventilation), TC-14 (Stack Ventilation), and TC-15 (Ceiling Fans).

The designer should follow the CHPS guidelines. To satisfy the prescriptive approach, the following table may be used. Inlets and Outlets should each be at least 4% of the floor area of the space, totalling at least 8%. Ideally they are on opposite sides, but at a minimum may be on perpendicular walls. Inlets are to be on the side which is typically windward, and lower than outlets.

Space Name	Source of Cooling	Conditioned Floor Area (CFA)	Qualifying CFA	Performance or Prescriptive Calculation	Prescriptive: Inlet (Windward)			Prescriptive: Outlet (Leeward)				
					Area	Orientation	% CFA	Area	Orientation	% CFA		
Space A	NV with grid cooling											
Space B	NV with grid cooling											
Space C	NV with grid cooling											
Subtotal:			0									
Space D	NV only											
Space E	NV only											
Space F	NV only											
Subtotal:			0									
Other spaces	no NV											
Total Normally Conditioned Floor Area												

CFA: NV Only	Reduction
0%	0%
15%	2%
30%	4%
45%	6%
60%	8%
75%	10%

CFA: NV + grid	Reduction
0%	0%
15%	1%
30%	2%
45%	3%
60%	4%
75%	5%

CFA which is Naturally Ventilated, with Grid Cooling	0
Energy Reduction Allowed	
CFA which is Naturally Ventilated Only	0
Energy Reduction Allowed	
Combined Energy Reduction Allowed	

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EXHIBIT 3

SAMPLE Worksheet D: Chula Vista Energy Efficiency Program

Name: Example Development

Refer to the appropriate City ordinances for details on this program, including, but not limited to:

City of Chula Vista Municipal Code Section 15.12 "Green Building Standards Ordinance"

City of Chula Vista Municipal Code Section 15.26.030 "Increase Energy Efficiency Ordinance"

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EXHIBIT 3

SAMPLE Worksheet E: Ongoing Measurement & Verification (M&V)

Name: Example Development

Develop and implement a Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D.
M&V shall be on-going for the length of the lease.
Tenants shall have sub-meters for electricity. Sub-meters for gas and water should also be considered, but are not required.
The plan shall include a process for corrective action if energy performance goals are not achieved as planned. Refer to ASHRAE Guideline 14 for suggested ranges of discrepancy, appropriate to the meter, magnitude of energy uses, and overall plan.
If the LEED Path is chosen, the M&V Plan should be consistent with EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

EXHIBIT 3

Links for References used in EXHIBIT 3

Title 24 Building Energy Efficiency Standards	www.energy.ca.gov/title24/
Collaborative for High Performance Schools (CHPS) CHPS 2006 Volume II Best Practices Manual - Design	www.chps.net/dev/Drupal/node/31
IPMVP, Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003.	www.evo-world.org Products & Services / IPMVP / Applications Volume III
Leadership in Energy and Environmental Design (LEED™)	www.usgbc.org
City of Chula Vista sponsored energy efficiency program Living Building Challenge	www.ilbi.org

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Exhibit 4

Covenants and Agreements of District With Respect to Job Quality

In evaluating responses to requests for qualifications and requests for proposals ("RFQ/RFPs") issued by the District with respect to the master development and operation of the Resort and Conference Center ("RCC") on Parcel H-3 of the Chula Vista Master Plan ("CVBMP") area and the entities with which the District contracts for the development and operation of the RCC, the District will give considerable weight and preference to any proposal submitted in response to the RFQ/RFP which:

1. With regard to both RCC operations and RCC construction, effectively commits to reduce or to eliminate the risk of labor strife which would (i) have an adverse financial effect on the District's proprietary interest in the on-time and on-budget completion and long-term operations of the RCC or (ii) jeopardize or delay achievement of the District's policy objectives with respect to the CVBMP;
2. Commits to a local jobs policy that will impose the following criteria on the construction workforce for the project:
 - a. Not less than 70% of total work hours by residents of San Diego County; and
 - b. Not less than 10% of total work hours by disadvantaged workers;
3. Includes a stated preference for contractors or subcontractors headquartered in, or for five years prior to the bid has maintained an office in, San Diego County; and
4. Includes a stated preference for developers utilizing a prequalification process to ensure use of reputable contractors and subcontractors on the RCC which relies on contractor/subcontractor financial, organizational, historic, claims, safety and performance information similar to the information described in Part II and Part III of the publication titled Pre-Qualification of Contractors Seeking to Bid on Public Works Projects, published by the California Department of Industrial Relations in 1999.

The foregoing language will be included in RFQ/RFPs issued by the District with respect to the RCC.

San Diego Unified Port District



Chula Vista Bayfront

Development Policies

July 2012

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Exhibits

- Exhibit 1. Wildlife Habitat Areas
- Exhibit 2. Buffer Areas
- Exhibit 3. Energy Standards
- Exhibit 4. Resort Conference Center (H-3) Development
- Exhibit 5. Sweetwater District (S-1/S-3) Development

CHULA VISTA BAYFRONT

Development Policies

PLANNING AND DEVELOPMENT POLICIES

The policies below form the Chula Vista Bayfront Master Plan Development Policies (Plan). These policies are taken from the adopted and approved plans, certified environmental documents, enforceable settlement agreements, required mitigation measures, and conditions included in the approval process. They are meant to bring together, in one document, the conditions and policies that will apply to and guide the development of the Bayfront. This document has been incorporated by reference into Planning District 7, Chula Vista Bayfront, of the Port Master Plan.

1. Environmental Management Policies

Policy 1.1: In recognition of the sensitivity of the natural resources and the importance of protection, restoration, management and enforcement in protecting those resources, the District and City will prepare a Natural Resources Management Plan (NRMP) for the Chula Vista Bayfront. The NRMP will be designed to achieve the Management Objectives (defined below) for the Wildlife Habitat Areas. The NRMP will be an adaptive management plan, reviewed and amended as necessary by the District and City in coordination with the Wildlife Advisory Group. The Wildlife Advisory Group shall be formed to advise the District and City in the creation of a NRMP, cooperative management agreements, Adaptive Management Review and any related wildlife management and restoration plans or prioritizations. Because it will be frequently revised and updated, the NRMP has not been incorporated into the Port Master Plan (PMP). If there are any conflicts between the NRMP and any portion of the PMP, the provisions of the PMP shall control and take precedence.

Policy 1.2: A NRMP will be created as a condition of this Plan and will meet the management objectives below.

Policy 1.3: Taking into consideration the potential changes in functionality of Wildlife Habitat Areas due to rising sea levels, the NRMP will promote, at a minimum, the following objectives (“Management Objectives”) for the Wildlife Habitat Areas:

- a) Long term protection, conservation, monitoring, and enhancement of: 1) Wetland habitat, with regard to gross acreage as well as ecosystem structure, function, and value; 2) Coastal sage and coastal strand vegetation; and 3) Upland natural resources for their inherent ecological values, as well as their roles as buffers to more sensitive adjacent wetlands.
- b) Upland areas in the Sweetwater and Otay Districts will be adaptively managed to provide additional habitat or protection to create appropriate transitional habitat during periods of high tide and taking into account future sea level rise.
- c) Preservation of the biological function of all Bayfront habitats serving as avifauna for breeding, wintering, and migratory rest stop uses.
- d) Protection of nesting, foraging, and rafting wildlife from disturbance.
- e) Avoidance of actions within the Chula Vista Bayfront area that would adversely impact or degrade of water quality in San Diego Bay or watershed areas or impair efforts of other entities for protection of the watershed.
- f) Maintenance and improvement of water quality where possible and coordination with other entities charged with watershed protection activities.

Wildlife Habitat Areas is defined below and are depicted on Exhibit 1:

- All National Wildlife refuge lands, currently designated and designated in the future, in the South San Diego Bay and Sweetwater Marsh National Wildlife Refuge Units. These areas are included in the definition of Wildlife Habitat Areas for the sole purpose of addressing adjacency impacts and not for the purpose of imposing affirmative resource management obligations with respect to the areas within the National Wildlife Refuge lands.
- All District designated lands and open water areas in the Conservation Land Use Designations of Wetlands, Estuary, and Habitat Replacement as depicted in the Precise Plan for Planning District 7.
- Parcels 1g and 2a from the City's Bayfront Specific Plan.

Policy 1.4: In addition to the standards described above, the NRMP will include:

- a) All elements which address natural resource protection in the Final Environmental Impact Report Mitigation Monitoring and Reporting Program (MMRP) including but not limited to those which assign responsibility and timing for implementing mitigation measures consistent with the City's Multiple Species Conservation Program (MSCP) Subarea Plan.
- b) Pertinent sections of the MSCP Subarea Plan.
- c) References to existing District policies and practices, such as Predator management programs and daily trash collections with public areas and increase service during special events.
- d) Establishment of design guidelines to address adjacency impacts, such as storm water, landscape design, light and noise and objectives as discussed in this Plan.
- e) Establishment of baseline conditions and management objectives.
- f) Habitat enhancement objectives and priorities.

Policy 1.5: The NRMP will be a natural resource adaptive management and monitoring plan initially prepared in consultation with the Wildlife Advisory Group and regularly reviewed and amended in further consultation with the Wildlife Advisory Group. Periodic Review will address, among other things, monitoring of impacts of development as it occurs and monitoring the efficacy of water quality improvement projects (if applicable) and management and restoration actions needed for resource protection, resource threats, management (i.e., sea-level rise, trash, window bird strikes, lighting impacts, bird flushing, water quality, fireworks, human-wildlife interface, education and interpretation programs, public access, involvement, and use plan, management of the human-wildlife interface, wildlife issues related to facilities, trails, roads, overlooks planning, and watershed coordination) and other issues affecting achievement of Management Objectives and related to Adaptive Management Review.

2. Wetlands

Policy 2.1: The biological productivity and the quality of wetlands shall be protected and, where feasible, restored.

Policy 2.2: Wetlands shall be defined and delineated consistent with the Coastal Act and the Coastal Commission Regulations, and shall include, but not be limited to, lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes,

swamps, mudflats, and fens. Any unmapped areas that meet these criteria are wetlands and shall be accorded all of the protections provided for wetlands in the PMP.

Wetlands shall be further defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats.

Policy 2.3: Where the required initial site inventory indicates the presence or potential for wetland species or other wetland indicators, the District shall require the submittal of a detailed biological study of the site, with the addition of a delineation of all wetland areas on the project site. Wetland delineations shall be based on the definitions contained in Section 13577(b) of Title 14 of the California Code of Regulations.

Policy 2.4:

- a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this Plan, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:
 - (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
 - (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
 - (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.
 - (4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
 - (5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
 - (6) Restoration purposes.
 - (7) Nature study, aquaculture, or similar resource dependent activities.

Policy 2.5: Where wetland fill or development impacts are permitted in wetlands in accordance with the Coastal Act and any applicable PMP policies, mitigation measures shall include creation of wetlands of the same type lost. Adverse impacts will be mitigated at a ratio of 4:1 for all types of wetland, and 3:1 for non-wetland riparian areas.

Replacement of wetlands on-site or adjacent to the project site, within the same wetland system, shall be given preference over replacement off-site or within a different system. Areas subjected to temporary wetland impacts shall be restored to the pre-project condition at a 1:1 ratio. Temporary impacts are disturbances that last less than 12 months and do not result in the physical disruption of the ground surface, death of significant vegetation within the development footprint, or negative alterations to wetland hydrology.

Policy 2.6: Wherever wetlands are identified, a buffer of at least 100 feet in width from the upland edge of wetlands and at least 50 feet in width from the upland edge of riparian habitat shall be established. In some unusual cases, smaller buffers may be appropriate, when conditions of the site as demonstrated in a site-specific biological survey, the nature of the proposed development, etc. show that a smaller buffer would provide adequate protection. In such cases, the California Department of Fish and Game (CDFG) must be consulted and agree that a reduced buffer is appropriate and the District, or Commission on appeal, must find that the development could not be feasibly constructed without a reduced buffer. However, in no case shall the buffer be less than 50 feet.

Policy 2.7: At the time of adoption of the Chula Vista Bayfront plan, the seasonal ponds designated “Former Industrial Areas in Process of Remediation” on O-1 and O-4 have been identified as wetland habitat. These areas will be preserved and infrastructure rerouted to preserve the resource. Site-specific studies to assess the extent and quality of natural resources on the site will be required at the time development is proposed.

3. Climate Change and Sea Level Rise:

“Sea level rise” means a change in the mean level of the ocean. Accepted sea level rise scenarios shall be based on best available science (such as the October 2010 State of California Sea Level Rise Interim Guidance Document by the California Climate Action Team) and are presently projected at a range of approximately 10 to 17 inches for 2050.

Policy 3.1: Buffers within the Port Master Plan area have been designed to accommodate potential areas of future sea level rise inundation and are identified on Exhibit 2. The Chula Vista Bayfront plan also provides for an adequate amount of habitat migration within the identified buffer areas based on a projected sea level rise.

In cases where buffers have not yet been established, a buffer of at least 100 feet in width from the upland edge of wetlands and at least 50 feet in width from the upland edge of riparian habitat shall be established. Buffers should take into account and adapt for rises in sea level by incorporating wetland migration areas or other sea level rise adaptation strategies as appropriate. The CDFG and U.S. Fish and Wildlife Service (USFWS) must be consulted in such buffer determinations and, in some cases, the required buffer, especially for salt marsh wetlands, could be greater than 100 feet. Uses and development within buffer areas shall be limited to minor passive recreational uses, with fencing, desiltation or erosion control facilities, or other improvements deemed necessary to protect the habitat, to be located in the upper (upland) half of the buffer area; however, water quality features required to support new development shall not be constructed in wetland buffers. All wetlands and buffers identified and resulting from development and use approval shall be permanently conserved or protected through the application of an open space easement or other suitable device. All development activities, such as grading, buildings and other improvements in, adjacent to, or draining directly to a wetland must be located and built so they do not contribute to increased sediment loading of the wetland, disturbance of its habitat values, or impairment of its functional capacity.

Policy 3.2: Development shall consider the potential changes in functionality of Wildlife Habitat Area due to rising sea levels and coordinate management with the District and City Climate Mitigation and Adaptation Plans. Siting and design of new shoreline development shall take into account predicted future changes in sea level. In particular, an acceleration of the historic rate of sea level rise shall be considered and based upon up-to-date scientific papers and studies, agency guidance (such as the 2010 Sea Level Guidance from the

California Ocean Protection Council), and reports by national and international groups such as the National Research Council and the Intergovernmental Panel on Climate Change. Consistent with all provisions of the PMP, new structures shall be set back a sufficient distance landward or other sea level rise adaptation strategies incorporated to eliminate or minimize, to the maximum extent feasible, hazards associated with anticipated sea level rise over the expected economic life of the structure.

Policy 3.3: Upland areas in the Sweetwater and Otay Districts will be adaptively managed to provide additional habitat or protection to create appropriate transitional habitat during periods of high tide and taking into account future sea level rise.

Policy 3.4: Prospective development on S-1 shall be evaluated for potential hazards associated with the current year 2050 and 2100 projected sea level rise scenarios developed by the District. Development and siting decisions shall take into account identified risks on the site as well as to surrounding resources and incorporate building setbacks or other sea level rise adaptation strategies as appropriate.

4. Wildlife Protection: Bird Strikes and Disorientation

Policy 4.1: Prior to issuance of any building permits, building plans shall be reviewed by a qualified biologist retained by the developer and approved by the District, to verify that the proposed building has incorporated specific design features to avoid or to reduce the potential for bird strikes and that employ measures described below:

Policy 4.1.1: Lighting

- a) No solid red or pulsating red lights shall be installed on or near the building unless required by the Federal Aviation Administration (FAA).
- b) Where lighting must be used for safety reasons (FAA 2000 Advisory Circular), minimum intensity, maximum off-phased (3 seconds between flashes) white strobes shall be used.
- c) No solid spot lights or intense bright lights shall be used during bird migration periods in the spring (from March to May) and fall (from August to October). All event lighting shall be directed downward and shielded, unless such directed and shielded minimized light spills beyond the area for which illumination is required.
- d) Exterior lighting shall be limited to that which is necessary and appropriate to ensure general public safety and way finding, including signage for building identification and way finding.
- e) Exterior lighting shall be directed downward and shielded to prevent upward lighting and to minimize light spill beyond the area for which illumination is required.
- f) Office space, residential units, and hotel rooms shall be equipped with motion sensors, timers, or other lighting control systems to ensure that lighting is extinguished when the space is unoccupied.
- g) Office space, residential units, and hotel rooms shall be equipped with blinds, drapes, or other window coverings that may be closed to minimize the effects of interior night lighting.

Policy 4.1.2: Glass and Reflection

- a) Use of reflective coatings on any glass surface is prohibited.

- b) Buildings shall incorporate measures to the satisfaction of the District or the City to indicate to birds that the glass surface is solid by creating visual markers and muting reflection.
- c) Project design standards will encourage window stencilling and angling.
- d) These measures may include but are not limited to the following:
 - i. Glass surfaces which are non-reflective
 - ii. Glass surfaces which are tilted at a downward angle
 - iii. Glass surfaces which use fritted or patterned glass
 - iv. Glass surfaces which use vertical or horizontal mullions or other fenestration patterns
 - v. Glass surfaces which are fitted with screening, decorative grills, or louvers
 - vi. Glass surfaces which use awnings, overhangs, bris sole, or other exterior sun-shading devices
 - vii. Glass surfaces which use external films or coatings perceivable by birds
 - viii. Artwork, drapery, banners, and wall coverings that counter the reflection of glass surfaces or block "see through" pathways.

Policy 4.1.3: Building Articulation

- a) Structure design will include secondary and tertiary setbacks and, to the maximum extent possible, stepped back building design, protruding balconies, recessed windows, and mullioned glazing systems, shall be incorporated to the extent feasible. Balconies and other elements will step back from the water's edge.
- b) Design features that increase the potential for bird strikes, such as walkways constructed of clear glass and "see through" pathways through lobbies, rooms and corridors, shall be avoided except for minor features intended to enhance view opportunities at grade level and only when oriented away from large open expanses.
- c) Buildings shall be sited and designed to minimize glass and windows facing Wildlife Habitat Areas to the maximum extent possible. Design for towers on Parcel H-3 should avoid east-west monolith massing and shall include architectural articulation.
- d) Parcels containing surface parking, such as those depicted for the Sweetwater District, will be designed with parking lots located nearer to the Wildlife Habitat Areas. Site plans on parcels adjacent to Wildlife Habitat Areas will maximize distance between structures and such areas.

Policy 4.1.4: Landscaping

- a) Exterior trees and landscaping shall be located and glass surfaces shall incorporate measures so that exterior trees and landscaping are not reflected on building surfaces.
- b) In small exterior courtyards and recessed areas, the building's edge shall be clearly defined with opaque materials and non-reflective glass.
- c) Interior plants shall be located a minimum of 10 feet away from glass surfaces to avoid or reduce the potential for attracting birds.

Policy 4.1.5: Public Education

- a) The owner or operator of each building shall implement an ongoing procedure to the satisfaction of the District or the City to encourage tenants, residents, and guests to close their blinds, drapes, or other window coverings to reduce or avoid the potential for bird strikes.

- b) The owner or operator of each building shall enroll in the Fatal Light Awareness Program's "Bird-Friendly Building Program" and shall implement ongoing tenant, resident, and guest education strategies, to the satisfaction of the District or the City, to reduce or avoid the potential for bird strikes, such as elevator and lobby signage and educational displays, e-mail alerts and other bulletins during spring and fall migratory seasons, and other activities designed to enlist cooperation in reducing bird collisions with the building.

Policy 4.1.6: Monitoring Bird Strikes and Collisions

For Phase I projects, the project applicant shall retain a qualified biologist to design a protocol and schedule, in consultation with the USFWS and subject to the approval of the District or City, as appropriate depending on jurisdiction, to monitor bird strikes which may occur during the first 12 months after the completion of construction. Within 60 days after completion of the monitoring period, the qualified biologist shall submit a written report to the District or the City, which shall state the biologist's findings and recommendations regarding any bird strikes that occurred. Based on the findings of those reports, the District or the City, as appropriate depending on jurisdiction, in coordination with the USFWS, will evaluate whether further action is required, which may include further monitoring or redesign of structures for future phases.

Policy 4.2: Bird strikes must be monitored and measures developed to address persistent problem areas in accordance with the NRMP. Nighttime lighting in tower buildings must be addressed and evaluated through adaptive management such that impacts on birds are avoided or minimized. Minimization of impacts of buildings on birds and the Wildlife Habitat Areas will be a priority in the selection of window coverings, glass color, other exterior materials, and design of exterior lighting and lighting of signs.

5. Buffer Areas for Wildlife Protection

Policy 5.1: Designate "No Touch" Buffer Areas as defined and described in Exhibit 2. Such areas will contain fencing designed specifically to limit the movement of domesticated, feral, and nuisance predators (e.g. dogs, cats, skunks, opossums and other small terrestrial animals [collectively, "Predators"]) and humans between developed park and No Touch Buffer Areas and Wildlife Habitat Areas. The fence will be a minimum 6-foot high, black vinyl chain link fence or other equally effective barrier designed to take into consideration public views of the Bay and the need to protect natural resources. Fence design may include appropriate locked access points for maintenance and other necessary functions. Installation of the fence will include land contouring to minimize visual impacts of the fence. The installation of such fencing must be completed prior to the issuance of Certificates of Occupancy for development projects on either Parcel H-3 or H-23 and in conjunction with development or road improvements in the Sweetwater District.

Policy 5.2: Prohibit active recreation, construction of any road (whether paved or not), within No Touch Buffer Areas and "Transition Buffer Areas" as that term is defined and described in Exhibit 2, with the exception of existing or necessary access points for required maintenance.

Policy 5.3: Protect the No Touch Buffer Areas from the impacts of the Chula Vista Bayfront project including, without limitation, fencing necessary to protect the Sweetwater Marsh and the Sweetwater parcel tidal flats, the J Street Marsh next to the San Diego Bay National Wildlife Refuge, and the north side of Parcel H-3.

Policy 5.4: Include additional controls and strategies restricting movement of humans and Predators into sensitive areas beyond the boundaries of the designated Buffer Areas.

Policy 5.5: Require the Recreational Vehicle (RV) Park to install fencing or other barriers sufficient to prevent passage of predators and humans into sensitive adjacent habitat.

Policy 5.6: Require all dogs to be leashed in all areas of the Chula Vista Bayfront at all times except in any designated and controlled off-leash areas.

Policy 5.7: Impose and enforce restrictions on all residential development to keep cats and dogs indoors or on leashes at all times. Residential developments will be required to provide education to owners and/or renters regarding the rules and restrictions regarding the keeping of pets.

Policy 5.8: Habitat buffers shall include a 100-foot-wide buffer from the seasonal pond (parcel SP-2) within the Sweetwater District, a 400-foot combined buffer in the Sweetwater District and a minimum 100-foot buffer in the Otay District.

Policy 5.9: “Environmentally sensitive habitat area” (ESHA) means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The following areas shall be considered ESHA, unless there is compelling site-specific evidence to the contrary:

- Any habitat area that is rare or especially valuable from a local, regional, or statewide basis.
- Areas that contribute to the viability of plant or animal species designated as rare, threatened, or endangered under State or Federal law.
- Areas that contribute to the viability of species designated as Fully Protected or Species of Special Concern under State law or regulations.
- Areas that contribute to the viability of plant species for which there is compelling evidence of rarity, for example, those designated by the California Native Plant Society (CNPS) as 1b (Rare or endangered in California and elsewhere), such as Nuttall’s scrub oak or “2” (rare, threatened or endangered in California but more common elsewhere), such as wart-stemmed Ceanothus.

Policy 5.10: New development shall be sited and designed to avoid impacts to ESHA. ESHA shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas. These uses include enhancement/restoration work, passive recreational parks and public access or recreational facilities such as trails and bike paths integrated into the natural environment and sited and designed to preserve, and be compatible with, native habitat.

Policy 5.11: At the time of adoption of the Chula Vista Bayfront plan, the Coastal Sage Scrub on the berm in the S-1 and S-2 parcel areas and the non-native grasslands located in various locations within the Chula Vista Bayfront Master Plan were not identified as ESHA.

Site-specific studies to assess the extent and quality of natural resources on a site will be required at the time development is proposed.

Policy 5.12: In the 1-g parcel area, a pedestrian bridge is proposed to create a linkage over a tidal inlet associated with the F and G Street Marsh. Tidal habitats should be treated as ESHA and the bridge crossing must be designed to enhance the habitat values present and reduce erosion. This bridge span must be extended and the existing incised channel slope should be cut back, reducing the slope and then creating additional salt marsh habitat on the created floodplain. Site-specific studies to assess the extent and quality of natural resources at the site will be required at the time development is proposed.

Policy 5.13: If located in or adjacent to ESHA, new development shall include an inventory conducted by a qualified biologist of the plant and animal species present on the project site. If the initial inventory indicates the presence or potential for sensitive species or habitat on the project site, a detailed biological study shall be required. Sensitive species are those listed in any of three categories: federally listed, state listed or designated species of special concern or fully protected species, and CNPS categories 1B and 2.

Policy 5.14: Development adjacent to ESHAs shall minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation buffer areas shall be provided around ESHAs to serve as transitional habitat and provide distance and physical barriers to human intrusion. Buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect.

Policy 5.15: All buffers around (non-wetland) ESHA shall be a minimum of 100 feet in width, or a lesser width may be approved by the District if findings are made that a lesser buffer would adequately protect the resource. However, in no case can the buffer size be reduced to less than 50 feet.

Policy 5.16: Public access-ways and trails are considered resource dependent uses. New access-ways and trails located within or adjacent to ESHA shall be sited to minimize impacts to ESHA to the maximum extent feasible. Measures including, but not limited to, signage, placement of boardwalks, and limited fencing shall be implemented as necessary to protect ESHA.

Policy 5.17: Modifications to required development standards that are not related to ESHA protection (street setbacks, height limits, etc.) shall be permitted where necessary to avoid or minimize impacts to ESHA.

Policy 5.18: Protection of ESHA and public access shall take priority over other development standards and where there is any conflict between general development standards and ESHA and/or public access protection, the standards that are most protective of ESHA and public access shall have precedence.

Policy 5.19: Impacts to native habitat that does not constitute ESHA that cannot be avoided through the implementation of siting and design alternatives shall be fully mitigated, with priority given to on-site mitigation. Off-site mitigation measures shall only be approved when it is not feasible to fully mitigate impacts on-site or where off-site mitigation is more protective. Mitigation for impacts to native habitat shall be provided at a 3:1 ratio.

6. Landscaping and Vegetation

Policy 6.1: The following landscape guidelines will apply to the Chula Vista Bayfront area:

- a) Invasive plant species (as listed in the California Invasive Plant Inventory list or California Invasive Plant Inventory Database or updates) will not be used in the Chula Vista Bayfront area. Any such invasive plant species that establishes itself within the Chula Vista Bayfront area will be immediately removed to the maximum extent feasible and in a manner adequate to prevent further distribution into Wildlife Habitat Areas. A condition of approval for coastal development permits will require applicants to remove any such invasive plant species that established itself within the Chula Vista Bayfront area.
- b) Only designated native plants will be used in No Touch Buffer Areas, habitat restoration areas, or in the limited and transitional zones of Parcel SP-1 adjacent to Wildlife Habitat Areas.
- c) Non-native plants will be prohibited adjacent to Wildlife Habitat Areas and will be strongly discouraged and minimized elsewhere where they will provide breeding of undesired scavengers.
- d) No trees will be planted in the No Touch Buffer Areas or directly adjacent to a National Wildlife Refuge, J Street Marsh, or SP-2 areas where there is no Buffer Area.

7. Lighting and Illumination

Policy 7.1: All roadways will be designed, and where necessary edges bermed, to ensure penetration of automobile lights in the Wildlife Habitat Areas will be minimized subject to applicable City and District roadway design standards.

Policy 7.2: Explicit lighting requirements to minimize impacts to Wildlife Habitat Areas will be devised and implemented for all Bayfront uses including commercial, residential, municipal, streets, recreational, and parking lots. Beacon and exterior flood lights are prohibited where they would impact a Wildlife Habitat Area and use of this lighting should be minimized throughout the project.

Policy 7.3: All street and walkway lighting should be shielded to minimize sky glow.

Policy 7.4: To the maximum extent feasible, all external lighting will be designed to minimize any impact on Wildlife Habitat Areas, and operations and maintenance will be devised to ensure appropriate long-term education and control of light impacts. To the maximum extent feasible, ambient light impacts to the Sweetwater or J Street Marshes will be minimized.

Policy 7.5: Sweetwater and Otay District parks will open and close in accordance with District Park Regulations.

Policy 7.6: Laser light shows will be prohibited.

Policy 7.7: Construction lighting will be controlled to minimize Wildlife Habitat Areas impacts.

Policy 7.8: In Sweetwater and Otay District parks, lighting will be limited to that which is necessary for security purposes. Security lighting will be strictly limited to that required by

applicable law enforcement. All lighting proposed for the Sweetwater and Otay District parks and the shoreline promenade will be placed only where needed for human safety. Lights will be placed on low-standing bollards, shielded, and flat bottomed, so the illumination is directed downward onto the walkway and does not scatter. Lighting that emits only a low-range yellow light will be used to minimize ecological disruption. No night lighting for active sports facilities will be allowed.

8. Noise

Policy 8.1: Construction noise shall be controlled to minimize impact to Wildlife Habitat Areas.

9. Public, Resident, Visitor, Worker Education Program Education

Policy 9.1: An environmental education program will be developed and implemented and will include the following:

- a) The program must continue for the duration of the Chula Vista Bayfront project and must target both residential and commercial uses as well as park visitors.
- b) The program's primary objective will be to educate Bayfront users, residents, visitors, tenants and workers about the natural condition of the Bay, the ecological importance of the Chula Vista Bayfront area and the public's role in the restoration and protection of wildlife resources of the Bay.

Policy 9.2: The environmental education program will include educational signage, regular seminars and interpretive walks on the natural history and resources of the area, and regular stewardship events for volunteers (i.e., shoreline and beach cleanups, exotic plant removal, etc.).

Policy 9.3: The environmental education program will include adequate annual funding for personnel or contractor/consultant and overhead to ensure implementation of the following functions and activities in collaboration with the Chula Vista Nature Center or USFWS:

- a) Coordination of volunteer programs and events;
- b) Coordination of interpretive and educational programs;
- c) Coordination of tenant, resident and visitor educational programs;
- d) Docent educational; and
- e) Enhancements and restoration events.

10. Boating Impacts

Policy 10.1: All boating, human, and pet intrusion must be kept away from F&G Street channel mouth and marsh.

Policy 10.2: Water areas will be managed with enforceable boating restrictions. No boating will be allowed in vicinity of the J Street Marsh or east of the navigation channel in the Sweetwater District during the fall and spring migration and during the winter season when flocks of birds are present.

Policy 10.3: All rentals of personal water craft (PWC) will be prohibited in the Chula Vista Bayfront. (Note: PWC will mean a motorboat less than sixteen feet in length which uses an inboard motor powering a jet pump as its primary motive power and which is designed to be operation by a person sitting, standing, or kneeling on rather than in the conventional manner of sitting or standing inside the vessel.)

Policy 10.4: Use of PWCs will be prohibited in Wildlife Habitat Areas, subject to applicable law.

Policy 10.5: A five (5) mile per hour speed limit will be enforced in areas other than the navigation channels.

Policy 10.6: Boating in the project area will be managed in a manner that protects water quality and that ensures persons or employees maintaining boats in slips or using slips on a transient basis are made aware of water quality provisions.

- a) Approval of projects within Chula Vista Bayfront Master Plan marinas shall include appropriate requirements from the District Jurisdictional Urban Runoff Management Document (JURMP) that includes appropriate Best Management Practices (BMPs) for controlling adverse impacts to water quality related to the boating facilities, including those BMPs for activities occurring over water.
- b) Approval of projects within the Chula Vista Bayfront Master Plan marinas shall include a requirement for boating facilities to identify procedures for inspection of boater activities and sanctions for boaters that may be adversely impacting water quality.
- c) Marinas in the Chula Vista Bayfront Master Plan project area shall provide evidence of ongoing efforts to protect water quality, such as a current certification by the Clean Marinas program ([cleanmarina.org](http://www.cleanmarina.org)), stormwater BMP Plan, or other equivalent documentation of clean marina practices (<http://www.cleanmarina.org/cleanmanual.shtml>).
- d) San Diego Bay is a federally designated No Discharge Zone. The District shall ensure that District-leased facilities are adequately informing their boater tenants of their responsibilities regarding the discharge of sewage and are providing information to boaters on ways to anonymously report violators.
- e) The District shall adopt an addendum to leasing agreements for boating facilities that specifies actions that should be taken to protect water quality. This addendum should reflect applicable water quality laws and regulations pertaining to San Diego Bay.

11. Walkway and Pathway Design

Policy 11.1: Walkways, paths, and overlooks near Wildlife Habitat Areas outside of the No Touch Buffer Areas will be designed in accordance with the following:

- a) Alignment, design, and general construction plans of walkways and overlooks will be developed to minimize potential impacts to Wildlife Habitat Areas.
- b) Path routes will be sited with appropriate setbacks from Wildlife Habitat Areas.
- c) Paths running parallel to shore or marsh areas that will cause or contribute to bird flushing will be minimized throughout the Chula Vista Bayfront.
- d) Walkways and overlooks will be designed to minimize and eliminate, where possible, perching opportunities for raptors and shelter for skunks, opossums or other Predators.

- e) Walkways and overlooks that approach sensitive areas must be blinded, raised, or otherwise screened so that birds are not flushed or frightened. In general, walkway and overlook designs will minimize visual impacts on the Wildlife Habitat Areas of people on the walkways.

12. Predator Management

Policy 12.1: The NRMP will include provisions designed to manage Predator impacts on Wildlife Habitat Areas which will include and comply with the following:

- a) Year-round, funded Predator management will be implemented for the life of the Chula Vista Bayfront project with clearly delineated roles and responsibilities for the District, City and Resource Agencies. The primary objective of such provisions will be to adequately protect terns, rails, plovers, shorebirds, over-wintering species, and other species of high management priority as determined by the Resource Agencies.
- b) Predator management will include regular foot patrols and utilize tracking techniques to find and remove domestic or feral animals.
- c) Predator attraction and trash management shall be addressed for all areas of the Chula Vista Bayfront project by identifying clear management measures and restrictions. Examples of the foregoing include design of trash containers, including those in park areas and commercial dumpsters, to be covered and self-closing at all times, design of containment systems to prevent access by sea gulls, rats, crows, pigeons, skunks, opossums, raccoons, and similar animals and adequate and frequent servicing of trash receptacles.
- d) All buildings, signage, walkways, overlooks, light standards, roofs, balconies, ledges, and other structures that could provide line of sight views of Wildlife Habitat Areas will be designed in a manner to discourage their use as raptor perches or nests.

13. Stormwater and Urban Runoff Quality

Policy 13.1: Provisions for access for non-destructive maintenance and removal of litter and excess sediment will be integrated into these facilities. In areas that provide for the natural treatment of runoff, cattails, bulrush, mulefat, willow, and the like are permissible.

Policy 13.2: In order to protect the quality of coastal waters the District shall promote the protection of water quality that meets state standards and the restoration of waters that do not meet state standards, and encourage and support public outreach and education regarding the water quality impacts of development.

All new development shall:

- a) Comply with the Regional Water Quality Control Board Order No. R9-2007-0001, National Pollutant Discharge Elimination System Permit No. CAS0108758, Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, and the San Diego Unified Port District (Municipal Permit), as adopted, amended, and/or modified or replaced by the Regional Water Quality Control Board with a new Municipal Permit. The Municipal Permit prohibits any activities that could degrade stormwater quality.
- b) Comply with the District Jurisdictional Urban Runoff Management Document and the District Standard Urban Stormwater Mitigation Plan which provides BMP requirements for new development and redevelopment.

- c) Be designed and managed to minimize the introduction of pollutants into coastal waters to the maximum extent practicable.
- d) Be designed and managed to minimize increases in peak runoff rate and volume in order to avoid detrimental water quality impacts caused by excessive erosion or sedimentation.
- e) Include Site Design and Source Control BMPs and Low Impact Development practices, where feasible, in all developments.
- f) Implement the requirements of Hydromodification Management Plan developed pursuant to the Municipal Permit, as required.
- g) Minimize impervious surfaces in new development, especially directly connected impervious areas, and, where feasible, increase the area of pervious surfaces in redevelopment.
- h) Minimize erosion, sedimentation, and polluted runoff from construction-related activities of development, to the maximum extent practicable.
- i) Minimize the land disturbance activities of construction (e.g., clearing, grading, and cut-and-fill), especially in erosive areas (including steep slopes, unstable areas, and erosive soils), to avoid detrimental water quality impacts caused by increased erosion or sedimentation. Incorporate soil stabilization BMPs on disturbed areas as soon as feasible.
- j) Require Treatment Control BMPs, in addition to Site Design and Source Control measures, when the combination of Site Design and Source Control BMPs is not sufficient to protect water quality.
- k) Be designed, constructed and maintain any required Treatment Control BMPs (or suites of BMPs) are designed and constructed so that they treat, infiltrate, or filter the amount of storm water runoff produced by all storms up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event (with an appropriate safety factor of 2 or greater) for flow-based BMPs.

Policy 13.3: An on-site pump out facility shall be required with the development of any new marinas.

Policy 13.4: Stormwater and non-point source urban runoff into Wildlife Habitat Areas must be monitored and managed so as to prevent unwanted ecotype conversion or weed invasion. A plan to address the occurrence of any erosion or type conversion will be developed and implemented, if necessary. Monitoring will include an assessment of stream bed scouring and habitat degradation, sediment accumulation, shoreline erosion and stream bed widening, loss of aquatic species, and decreased base flow.

Policy 13.5: The use of insecticides, herbicides, rodenticides or any toxic chemical substance that drains into Wildlife Habitat Areas or which has the potential to significantly degrade ESHA, shall be prohibited within and adjacent to ESHAs, except where necessary to protect or enhance the habitat itself, such as eradication of invasive plant species, or habitat restoration. Application of such chemical substances shall not take place during the winter season or when rain is predicted within a week of application.

Policy 13.6: Integrated Pest Management must be used in all outdoor, public, buffer, habitat, and park areas.

Policy 13.7: Fine trash filters are required for all storm drain pipes that discharge toward Wildlife Habitat Areas.

14. Additional Habitat Management and Protection

Policy 14.1: The District will exercise diligent and good faith efforts to enter into the following cooperative agreements with the USFWS or other appropriate agency or organization:

- a) An agreement providing for the long-term protection and management of the sensitive biological habitat running north from the South Bay Boatyard to the Sweetwater River Channel (known as the Sweetwater Tidal Flats) and addressing educational signage, long-term maintenance, and additional protection measures such as increased monitoring and enforcement, shared jurisdiction and enforcement by District personnel with legal authority to enforce applicable rules and regulations (“District Enforcement Personnel”), shared jurisdiction and enforcement by District Enforcement Personnel and other appropriate Resource Agencies of resource regulations, and placement of enforcement signage. Subject to the cooperation of the applicable Resource Agency, such cooperative agreement will be executed prior to the Development Commencement of any projects subject to District’s jurisdiction within the Sweetwater or Harbor Districts.
- b) An agreement for the long-term protection and management of the J Street Marsh and addressing additional protective measures such as educational signage, long-term maintenance, and monitoring and enforcement by District Enforcement Personnel and enforcement of resource regulations by District Enforcement Personnel and other Resource Agencies and placement of enforcement signage. Subject to the cooperation of the applicable Resource Agency, such cooperative agreement will be executed prior to the Development Commencement within the Otay District.
- c) If either of the cooperative agreements contemplated above is not achievable within three (3) years after Final Environmental Impact Report certification, the District will develop and pursue another mechanism that provides long-term, additional protection and natural resource management for these areas.

Policy 14.2: The District will include an analysis of the appropriate level and method for wetland and marine life habitat restoration of the intake/discharge channels associated with the South Bay Power Plant in the environmental review document for the demolition of the South Bay Power Plant that includes below grade or in water structures.

Policy 14.3: A permanent 100-foot-wide buffer shall be provided from proposed development around the seasonal wetland within Parcel SP-2.

Policy 14.4: In order to ensure that sensitive resources are protected from adjacent development, at the time project specific development is proposed on parcel S-1, shading impacts, appropriate setbacks, step backs, and/or height reductions, will be analyzed as part of the necessary subsequent environmental review for those projects.

Policy 14.5: As a future and separate project, the District will investigate, in consultation with the USFWS, the feasibility of restoring an ecologically meaningful tidal connection between the F & G Street Marsh and the upland marsh on parcel SP-2 consistent with USFWS restoration concepts for the area. At a minimum, the investigation will assess the biological value of tidal influence, the presence of hazardous materials, necessary physical improvements to achieve desired results, permitting requirements, and funding opportunities for establishing the tidal connection. This investigation will be completed prior to the

initiation of any physical alteration of SP-2, F Street, and/or the F & G Street Marsh. In addition, once emergency access to the Chula Vista Bayfront area has been adequately established such that F Street is no longer needed for public right-of-way, the District and City will abandon/vacate the F Street right-of-way for vehicular use, but may reserve it for pedestrian and bicycle use if ecologically appropriate.

Policy 14.6: Channelizations or other substantial alterations of streams shall be prohibited except for: (1) necessary water supply projects where no feasible alternative exists; (2) flood protection for existing development where there is no other feasible alternative; or (3) the improvement of fish and wildlife habitat. Any channelization or stream alteration permitted for one of these three purposes shall minimize impacts to coastal resources, including the depletion of groundwater, and shall include maximum feasible mitigation measures to mitigate unavoidable impacts. Bioengineering alternatives shall be preferred for flood protection over "hard" solutions such as concrete or riprap channels.

15. Energy

The development of the Chula Vista Bayfront offers the District and City a unique opportunity to demonstrate the viability of responsible and sustainable development practices. Accordingly, the Chula Vista Bayfront Development Policies seek to establish guidelines to govern the future build-out of the programmatic elements of Chula Vista Bayfront and to ensure that the project is comprised of high performance and highly energy-efficient buildings and clean, efficient generation. The standards in this section are intended to be interpreted broadly and with the flexibility to adapt to new energy technology and evolving building construction and design practices.

Policy 15.1: The following energy standards shall be applied to development of all parcels within the Chula Vista Bayfront area *except Parcels HP-5, H-13, H-14 and H-15*. These parcels are addressed on separate standards provided below. The term "Development" will mean the development of an individual parcel within the Chula Vista Bayfront area.

- a) To help reduce the need for fossil-fueled power generation, reduce greenhouse gas emissions, and support the California Energy Commission's Loading Order for Electricity Resources, all Developments will achieve a minimum of a fifty (50) percent reduction in annual energy use in accordance with these policies.
- b) Each building in each Development will perform at least fifteen (15) percent better than Title 24, Part 6 of the California Building Energy Efficiency Standards ("Title 24") in effect on the date of the execution of the Chula Vista Bayfront Master Plan Settlement Agreement (May 2010). The minimum energy efficiency performance standard adopted by the City is hereinafter described as its "Energy Efficiency Requirement" or "EER". Should revised Title 24 standards be adopted by the State of California, the City's EER at the time a building permit application is submitted for such Development shall apply.
- c) The balance of the fifty (50) percent reduction in annual energy use will be achieved through the use of any combination of the energy reduction measures described in these policies. To achieve compliance with this policy, sponsors of Developments may select one of two paths. The first path is based on Title 24 ("Title 24 Path") and the second is described in Energy and Atmosphere, Credit 1 "Optimize Energy Performance" (Credit EA-/c1) in the US Green Building Council's Leadership in Energy and Environmental Design (LEED) v3 system ("LEED Path"). The definition of the term "Baseline" against which energy reduction will be measured will vary depending on the path selected and is

further described in Exhibit 3. Choosing the LEED Path does not require a Development to achieve LEED Certification, but simply uses the methodology of EA-/c1.

- d) Renewable Energy generated within the boundaries of the Development will be credited toward the minimum of a fifty (50) percent reduction in annual energy use in accordance energy reduction requirement. The term “Renewable Energy” will mean energy derived from the sources described in California Public Resources Code section 25741 (b) 1.
- e) Renewable Energy generated on one or more sites (“Renewable Energy Sites”) within the boundaries of the Chula Vista Bayfront by the District, City or other third party and fed to the electrical grid or to the Development will be credited toward the minimum of a fifty (50) percent energy reduction requirement. Aggregate energy generated on Renewable Energy Sites may be allocated to an individual Development up to the amount necessary to achieve such Development's compliance with the minimum of a fifty (50) percent energy reduction requirement. Once allocated to a Development, the amount of energy generated by Renewable Energy Sites so allocated may not be further allocated to another Development.
- f) Participation in a City of Chula Vista sponsored energy efficiency program provided that the resulting energy reduction may be calculated and verified. The methodology for calculating the amount of the credit toward the minimum of a fifty (50) percent energy reduction requirement under the Title 24 Path and the LEED Path is described in Exhibit 3.
- g) Each Development will develop, implement, and for the life of each Development, maintain a measurement and verification plan (“M&V Plan”). Such participation has been shown to increase the persistence of energy efficiency (“EE”) and also to provide a way of recognizing and encouraging the ongoing conservation efforts of occupants and facility managers and will be awarded a waiver for five (5) percent credit against the Baseline to determine compliance with the minimum of a fifty (50) percent energy reduction requirement. The District will include in all leases the requirement to perform an energy audit every three (3) years for the convention centers and hotel Developments over 300 rooms and five (5) years for all other Developments to ensure that all energy systems are performing as planned or corrective action will be taken if failing to meet EE commitments.
- h) Participation in one of SDG&E’s Voluntary Demand Reduction (DR) utility rates will be awarded a waiver for three (3) percent credit against the Baseline to determine compliance with the minimum of a fifty (50) percent energy reduction requirement.
- i) Participation in one of SDG&E’s Mandatory Demand Reduction (DR) utility rates will be awarded a waiver for five (5) percent credit against the Baseline to determine compliance with the minimum of a fifty (50) percent energy reduction requirement.
- j) Incorporation of natural ventilation into design such that at least 75% of the conditioned area is naturally ventilated according to the guidelines set forth in Exhibit 3, and if this benefit was not included in the energy efficiency calculations, the project will be awarded either: a waiver for five (5) percent credit against the Baseline to determine compliance with the minimum of a fifty (50) percent energy reduction requirement; or, a waiver for ten (10) percent credit will be awarded if the natural ventilation system is coupled with an energy or cooling system that does not draw from the grid if and when natural ventilation is not used. This may

be prorated if less than seventy-five (75) percent of the conditioned area is naturally ventilated.

- k) The parties understand and acknowledge that the energy reduction measures described above for a Development or component of a Development may be phased in over time to achieve compliance with the minimum of a fifty (50) percent energy reduction requirement provided such energy reduction measures are completed no later than thirty-six (36) months following issuance of a Certificate of Occupancy for such Development or such component thereof.
- l) To further incentivize responsible and sustainable development practices within the boundaries of the Chula Vista Bayfront, District and City will consider voluntary commitments to levels of energy reduction in excess of the requirements of above, commitment to achievement of a LEED Certification, and/or a “Living Building Challenge” in connection with the selection of respondents in Request for Proposals/Request for Qualifications (RFP/RFQ) processes for Developments within the Chula Vista Bayfront area.

Policy 15.2: Within one year following the California Coastal Commission’s (CCC) approval of a Port Master Plan amendment substantially consistent with the Chula Vista Bayfront project, the District will in good faith consider adoption of an ordinance in a public hearing process that, if approved by the Board of Port Commissioners, will require the following:

- a) Within six (6) months following adoption of the ordinance and every three (3) years thereafter, the District will conduct an energy efficiency and renewable energy analysis that will:
 - (i) Assess the feasibility and cost-effectiveness of programs and options to reduce demand on the electric grid from all lands under District’s jurisdiction; and,
 - (ii) Include, but not be limited to, an assessment of the potential for reduction in energy use on all land under District’s jurisdiction through increases in energy efficiency, demand response, clean renewable and distributed energy generation and other methods and technologies.
- b) Upon the completion of each analysis, the District will consider good faith implementation of cost-effective programs and options as part of its commitment to greenhouse gas reductions and global climate change prevention activities consistent with Assembly Bill 32.
- c) The results of each analysis will be published on the District’s website and received by the District’s Board of Port Commissioners in a public forum.

16. Hazardous Materials and Exposure Policies

Policy 16.1: Parcels contaminated with hazardous materials will be remediated to levels adequate to protect human health and the environment.

17. Public Engagement

Policy 17.1: A South Bay Wildlife Advisory Group (“Wildlife Advisory Group”) will be formed to advise the District and City in the creation of the NRMP, cooperative management agreements, Adaptive Management Review and any related wildlife management and restoration plans or prioritizations. The Wildlife Advisory Group will also address management issues and options for resolution. The Wildlife Advisory Group will initiate and support funding requests to the District and City, identify priorities for use of these funds and engage in partnering, education, and volunteerism to support the development of the Chula

Vista Bayfront in a manner that effectively protects and enhances the fish, wildlife, and habitats of the area and educates and engages the public. The Wildlife Advisory Group will meet as needed, but at a minimum of every six (6) months for the first ten (10) years and annually thereafter.

Policy 17.2: The Wildlife Advisory Group will meet to: (i) determine the effectiveness of the NRMP in achieving the Management Objectives; (ii) identify any changes or adjustments to the NRMP required to better achieve the Management Objectives; (iii) identify any changes or adjustments to the NRMP required to respond to changes in the man-made and natural environments that are affecting or, with the passage of time may affect, the effectiveness of the NRMP in achieving the Management Objectives; and (iv) review priorities relative to available funding. At its periodic meetings, the Wildlife Advisory Group may also consider and make recommendations regarding (a) implementation of the NRMP as needed, (b) Adaptive Management Review and (c) NRMP Amendments.

Policy 17.3: The Wildlife Advisory Group will advise the joint powers authority (“JPA”) on expenditure of the Community Benefits Fund consistent with this Plan subject to applicable law. Written recommendations from the Wildlife Advisory Group will be forwarded to the District and City for consideration on key decisions as the build-out of the Chula Vista Bayfront project occurs.

Policy 17.4: A Bayfront Cultural and Design Committee (“BCDC”) shall be formed to advise the District in addressing the design of parks, cultural facilities, and development projects. The public participation process for the BCDC will include broad community representation and will be modeled after the Community Advisory Committee (CAC) process. Membership will include at least one member each from the District, Chula Vista Planning Commission, Design Review Committee, and Resource Conservation Committee. The BCDC will advise the District in the establishment of Chula Vista Bayfront Master Plan design guidelines to address cohesive development and streetscape design standards, walkways and bikeways design to promote safe walking and biking, standards for design of park areas, and cultural facilities but will not address NRMP and Wildlife Habitat Areas design guidelines described above. A minimum of three public meeting/workshops will be held to establish the design guidelines.

18. Public Access

Policy 18.1: The concept approval for the Signature Park will include a refined plan to address the linkage between the parks over the F and G Street channel. The design will ensure that the linkage between the two parks is easily accessed, obvious, and allows visitors to flow naturally and safely between the two parts of the park. A separate pedestrian bridge will be evaluated and, if necessary, a supplemental environmental review will be performed to address any necessary issues prior to the concept approval being forwarded to the Board of Port Commissioners.

Policy 18.2: Phase I Signature Park improvements (including development of Parcel S-2, within the Transition Buffer Areas and Limited Use zones of parcel SP1, and the fencing of the No Touch Buffer Area of Parcel SP1) will be completed prior to the issuance of Certificates of Occupancy for projects developed on either Parcel H-3 or H-23 and after any additional necessary environmental review. The public participation process for the design of the park will be completed prior to District Staff seeking Concept Approval from the Board of Port Commissioners.

19. Sweetwater and Otay District Public Park Requirements

Policy 19.1: Sweetwater and Otay District Public Parks will meet the following minimum standards in addition to those described above:

- a) The parks will be Passive in nature and encourage Passive recreation, be low-impact and contain minimal permanent structures. Structures will be limited to single-story heights and will be limited in function to restrooms, picnic tables, shade structures and overlooks. The term “Passive” will mean that which emphasizes the open-space aspect of a park and which involves a low level of development, including picnic areas and trails. In contrast, active recreation is that which requires intensive development and includes programmable elements that involve cooperative or team activity, including, ball fields and skate parks.
- b) The parks will be constructed using low water-use ground cover alternatives where possible.
- c) Pedestrian and bike trails will be segregated where feasible. A meandering public trail will be provided along the entire length of the Bayfront. The meandering trail within the Sweetwater Park and adjacent to Buffer Areas will not be paved.
- d) The parks will not include athletic field amenities.
- e) No unattended food vending will be allowed.
- f) The parks will include enforcement signage that prohibits tenants, employees, residents, or visitors from feeding or encouraging feral cat colonies and prevents feral cat drop-off or abandonment of pets; and prohibits leash free areas near buffers.
- g) Due to their immediate adjacency to Wildlife Habitat Areas, the following restrictions will apply to parks located within the Sweetwater and Otay Districts:
 - (i) Such parks will be designated as Passive use parks and use of amplified sound equipment will be prohibited.
 - (ii) Reservations for group events and activities will be prohibited.

20. Circulation and Pedestrian Orientation

Policy 20.1: Shoreline promenades shall be a minimum of 25 feet in width allowing both pedestrians and bicyclists and shall be constructed directly along the waterfront where feasible and maintained free of private encroachment around the Bayfront. Pathways and walking trails not proposed along the shoreline shall be a minimum width of 12 feet.

Policy 20.2: Provide a continuous open space system, fully accessible to the public, which would seamlessly connect the Sweetwater, Harbor, and Otay Districts through components such as a continuous shoreline promenade or “Baywalk” and a continuous bicycle path linking the parks and ultimately creating greenbelt linkages.

Policy 20.3: Create a meandering pedestrian trail constructed of natural material that is easily maintained and interwoven throughout the Signature Park. Create, as part of the E Street Extension, a pedestrian pathway/bridge to provide a safe route for pedestrians to walk and to transition from the Sweetwater District to the Harbor Park Shoreline Promenade and park in the Harbor District.

Policy 20.4: Segregate Pedestrian and bike trails where feasible. Provide a meandering public trail along the entire length of the Bayfront. Leave unpaved the meandering trail within the Sweetwater Park and adjacent to Buffer Areas.

Policy 20.5: Open spaces integrated into the hotels must include activating uses such as restaurants, outdoor sitting and dining areas and retail shops, which would be open to the public as well as hotel patrons.

Policy 20.6: Public access and other path-finding signage should be placed at strategic locations throughout the hotel complexes and to guide guests and visitors to and from public use areas, shops and restaurants, restrooms, and other facilities.

Policy 20.7: To help integrate all publicly accessible areas and provide convenience and low cost services for the general public, the ground floor of the hotel developments and associated outdoor areas should contain a variety of pedestrian-oriented amenities, which may include reasonably priced restaurants, newspaper stands, outdoor cafes with sit down and walkup service, informational kiosks, ATM's, public art or gift shops easily accessible to the public.

Policy 20.8: The design of the Resort Conference Center (H-3) development must provide a strong public interface with the adjacent Signature Park by including publicly accessible areas with convenience and low cost services for the general public. Specifically, on the west side of the site, the ground floor of the development and associated outdoor areas must include a variety of pedestrian-oriented amenities and activating uses, such as restaurants, outdoor cafes with sit down and walkup service, informational kiosks, ATMs, public art or gift shops easily accessible to the public. The RFP for the development of the Resort Conference Center (H-3) site will identify these requirements and will emphasize the need for establishing linkages to, from and through the site such that the public feels welcome on the site and encouraged to connect to public promenades and other public amenities in the park areas or along H Street and Marina Parkway. Other public amenities that may be provided at various locations around the hotel site include public wireless connectivity, drinking fountains, bike racks, horticultural interpretive labels on landscape elements, educational and historic plaques/displays, and dog drinking fountains. These elements represent public recreational opportunities and will encourage access to and around the site.

21. Visitor Serving Policies

Policy 21.1: Overnight visitor-serving accommodations shall be encouraged and protected within the Chula Vista Bayfront Master Plan area.

Policy 21.2: Limited Use Overnight Visitor Serving Accommodations (i.e., fractional ownership condominium hotels and timeshares) shall be prohibited on District Tidelands.

Policy 21.3: Lower cost visitor and recreational facilities shall be protected, encouraged and provided where feasible. Specifically, a range of room types, sizes, and room prices should be provided in order to serve a variety of income ranges.

Where a new hotel or motel development would consist of entirely high cost overnight accommodations, after thorough consideration of a supply/demand analysis within the Chula Vista Bayfront Master Plan and South Bay area, in-lieu fees or comparable mitigation may be required as a condition of approval for a coastal development permit, to ensure a range of overnight accommodations are provided within the Chula Vista Bayfront Master Plan and South Bay area. High cost is defined as those hotels with daily room rates 25% higher than the statewide average for coastal areas.

The mitigation payment would be for providing funding for the establishment of lower cost overnight visitor accommodations within the City of Chula Vista or South San Diego County coastal area. The monies and accrued interest shall be used for the above-stated purpose, in consultation with the CCC Executive Director. Any development funded by this account will require review and approval by the Executive Director of the Coastal Commission and a coastal development permit.

Policy 21.4: If removal or conversion of lower or moderate cost overnight accommodations is proposed in the District, the inventory shall be replaced with units that are of comparable cost with the existing units to be removed or converted. The District shall proactively work with hotel/motel operators and offer incentives to maintain and renovate existing properties.

If replacement of lower or moderate cost units is not proposed (either on-site or elsewhere in District Tidelands or Chula Vista within five (5) miles of the coast), then the new development shall be required to pay, as a condition of approval for a coastal development permit, a mitigation payment to provide significant funding for the establishment of lower cost overnight visitor accommodations within Chula Vista, preferably, or within South San Diego County, for each of the low or moderate units removed/converted on a 1:1 basis.

Policy 21.5: Lower-cost RV camping uses shall be protected by maintaining at least an equivalent number of RV sites within the Chula Vista Bayfront Master Plan boundaries. Removal of the existing RV park for construction of a resort hotel and conference center (RCC) is proposed as part of the Chula Vista Bayfront Master Plan, with a replacement RV park to be constructed either in the Otay District (parcel O-3) or the Sweetwater District (parcel S-1). In the event that the replacement park cannot be opened to visitors prior to closing the existing RV park, an interim site with an equivalent number of RV sites shall be established and opened elsewhere within the Chula Vista Bayfront Master Plan area, at parcels S-1, H-23, or in the Otay District.

Policy 21.6: Public recreational opportunities, such as parks, open space, and other no-cost visitor serving amenities shall be provided.

Policy 21.7: Waterfront visitor-serving retail uses and public gathering spaces shall be provided.

Policy 21.8: Marinas within the planning area shall provide lower-cost visitor-serving boating opportunities and shall preserve a varied range of slip sizes. Prior to approval of any changes in the slip size or distribution, the District will undertake an updated comprehensive boater use, slip size, and slip distribution study which is no more than five (5) years old for each dock redevelopment project that affects slip size and distribution of slips, to assess current boater facility needs within the individual project and the Bay as a whole. The District will continue to provide a mix of small, medium and large boat slips based on updated information from the comprehensive study with priority given to boats less than 25 feet in length and a goal of no net loss in number of slips within the Chula Vista Bayfront Master Plan area. Should future projects propose reducing the number or proportion of small slips for boats 25 feet or less within the Chula Vista marina, a Port Master Plan amendment will be required.

22. Funding and Community Benefits

Policy 22.1: Funding for the implementation of the NRMP and for the enforcement and implementation measures shall be provided by the District and City. To meet these

obligations, the District and City will commit revenues or otherwise provide funding to the JPA formed pursuant to the California Marks-Roos Act, Articles 1, 2, 3 and 4 of Chapter 5 of Division 7 of Title 1 of the California Government Code. District and City will ensure the JPA is specifically charged to treat the financial requirements described this policy as priority expenditures that must be assured as project-related revenues are identified and impacts initiated. The District and City expressly acknowledge the funding commitments contemplated herein will include, but not be limited to, funding for personnel and overhead or contractor(s)/consultant(s) to implement and ensure the following functions and activities:

- a) On-site management and enforcement for parks and Wildlife Habitat Areas as necessary to enforce restrictions on human and Predator access regarding Wildlife Habitat Areas;
- b) Enforcement of mitigation measures including, but not limited to, trash collection, noise restrictions, removal of invasive plants, habitat restoration, and park use restrictions;
- c) Coordination, development, implementation and evaluation of effectiveness of education and mitigation programs, including implementation of NRMP;
- d) Evaluation of effectiveness of bird strike mitigation and design measures;
- e) Water quality protections; and
- f) Coordination of injured animal rehabilitation activities.

23. Views and Aesthetics

Policy 23.1: Public views to the beach, lagoons, and along the shoreline as well as to other scenic resources from major public viewpoints, as identified by the “vista” icon on the Precise Plan for Planning District 7 shall be protected. Development that may affect an existing or potential public view shall be designed and sited in a manner so as to preserve or enhance designated view opportunities. Street trees and vegetation shall be chosen and sited so as not to block views upon maturity.

Policy 23.2: The impacts of proposed development on existing public views of scenic resources shall be assessed by the District or City prior to approval of proposed development or redevelopment.

Policy 23.3: Buildings and structures shall be sited to provide unobstructed view corridors from the nearest view corridor road. These criteria may be modified when necessary to mitigate other overriding environmental considerations such as protection of habitat or wildlife corridors.

Policy 23.4: Public views of the Bay and access along the waterfront shall be provided via a proposed “Baywalk” promenade. This pedestrian path will also connect to the Signature Park, and the pathway system within the Sweetwater District, ultimately linking the two districts and “enabling viewers to experience visual contact at close range with the Bay and marshlands.”

Policy 23.5: Existing views to the water from the following view corridor roads shall be protected and enhanced: E Street, F Street, Bay Boulevard between E and F Streets, Marina Parkway, and G and L Streets (in the City of Chula Vista); as shall the new views of the Bay created from the H Street corridor. These protected views shall be denoted by the “vista” icons on the Precise Plan for Planning District 7.

Policy 23.6: Building setbacks and coordinated signage shall be provided along Marina Parkway.

Policy 23.7: Prior to approval of development in the Otay District, views of the Bayfront from Bay Boulevard shall be identified and preserved.

Policy 23.8: View corridors to the Bay shall be established on Marina Parkway between H and J Streets approximately every 500 feet as denoted by the “vista” icon on the Precise Plan for Planning District 7.

Policy 23.9: Landscaping shall be planted along Marina Parkway to frame and enhance this scenic corridor, as well as on E Street and Bay Boulevard, adjacent to the project site.

Policy 23.10: Bayfront Gateway Objective/Policies: Certain points of access to the Bayfront will, by use, become major entrances to the different parts of the area. A significant portion of the visitors’ and users’ visual impressions are influenced by conditions at these locations. Hence, special consideration should be given to roadway design, including signage and lighting, landscaping, the protection of public views towards the Bay, and the siting and design of adjoining structures. Concurrent with the preparation of Phase I infrastructure design plans for E and H Streets, a Gateway plan shall be prepared for E and H Streets. Prior to issuance of certificates of occupancy for any projects within the District’s jurisdiction in Phase I, the E and H Street Gateway plan shall be approved by the District and City’s Directors of Planning and Building. The E and H Street Gateway plan shall be coordinated with the Gateway plan for J Street. All Gateway plans must conform with the setback policies and height limits in the PMP.

Policy 23.11: The landscape designs and standards shall include a coordinated street furniture palette including waste containers and benches, to be implemented throughout the Bayfront at appropriate locations.

Policy 23.12: As a condition for issuance of coastal development permits, buildings fronting H Street shall be designed to step away from the street. More specifically, design plans shall protect open views down the H Street Corridor by ensuring that an approximate 100-foot ROW width (curb–curb, building setbacks, and pedestrian plaza/walkway zone) remains clear of buildings, structures, or major landscaping. Placement of trees should take into account potential view blockage at maturity, and, trees should be spaced in order to ensure “windows” through the landscaping. Trees should also be considered to help frame the views and they should be pruned to increase the views from pedestrians and vehicles, underneath the tree canopy. In order to reduce the potential for buildings to encroach into view corridors, and to address the scale and massing impact, buildings shall step back at appropriate intervals or be angled to open up a broader view corridor at the ground plane to the extent feasible. All plans shall be subject to review and approval by the District. All future development proposals shall conform to District design guidelines and standards.

Policy 23.13: Prior to issuance of coastal development permits for projects within the District’s jurisdiction, the project developer shall ensure that design plans for any large scale projects (greater than two stories in height) shall incorporate standard design techniques such as articulated facades, distributed building massing, horizontal banding, stepping back of buildings, and varied color schemes to separate the building base from its upper elevation and color changes such that vertical elements are interrupted and smaller scale massing implemented. These plans shall be implemented for large project components to diminish imposing building edges, monotonous facades and straight-edge building rooflines and profiles, and to avoid the appearance or effect of “walling off” the Bayfront.

Policy 23.14: Resort Conference Center (H-3) Development: In addition to policies 23.12 and 23.13 above, development of the Resort Conference Center (H-3) site shall incorporate additional building setbacks and stepbacks to further reduce the visual impact of building massing and to further widen view corridors towards the bay. Minimum building setbacks of 50 feet from the H Street right-of-way shall be required to result in a 145 foot wide minimum view corridor width at grade level with minimum tower stepbacks of 75 feet from the H Street right-of-way to generally achieve a 170 foot wide view corridor width at tower level.

Exhibit 4 to this Plan illustrates the general design parameters for the Resort Conference Center (RCC) site. The bayward portion of the RCC site shall be devoted to a mix of public open space, public plazas, limited amounts of parking, and low-scale development with ground floor commercial recreation and visitor commercial uses. Upper floor conference center/hotel uses are allowed. The inland portion of Parcel H-3 will be developed with hotel and conference center structures.

Exhibit 4 shows a setback of an average of 100 feet from the E Street right-of-way on the west side of the site and 50 feet from the E Street right-of-way on the north side of the site. This “esplanade” setback shall be for the creation of publicly accessible areas such as pedestrian promenades, bicycle access ways, landscaping, street furniture, and other pedestrian friendly features. Various public amenities, such as shade structures, benches, or bus stops are allowed within the esplanade.

In addition to the esplanade, this bayward portion shall be developed with a mix of public open spaces and structures to a maximum height of 35 feet. All structures shall include retail or restaurant uses on the ground floor in a pedestrian-friendly specialty shopping “village” style. Conference rooms or other uses associated with the hotel or conference center may be located on the upper level. A minimum of 40% of this portion of the site at ground floor shall be open plaza, seating (including seating for cafés), public art, and landscaping. Uses such as vendor carts, bicycle rentals, etc., shall be permitted in this area.

Within these broad use parameters, flexibility in the specific design and layout of the site is permitted. In order to achieve a lively, pedestrian oriented development attractive to the public and welcoming to visitors, E Street could be shifted inland to allow the development of additional public esplanade-type uses on the bay side of the street, at the adjacent Harbor Park. Retail uses could also be expanded into the area designated esplanade, as long as these structures are designed to create visual interest and variety at a human scale. The boundary between the esplanade and the commercial retail shown on Exhibit 4 is intended to be illustrative only, and it is expected that the distinction between the areas will be meandering and visually appealing.

To ensure that pedestrians can cross between the park and the RCC safely and easily, pedestrian crossing distances shall be minimized where feasible, and crosswalks aligned with retail nodes and points of interest.

On the inland portion, the tallest buildings on Parcel H-3 will be located in the southern portion of the parcel with building heights decreasing towards the north and west. The foregoing will not be interpreted to preclude incorporating secondary and tertiary setbacks along public streets. Hotel structures shall be no more than a maximum height of 240 feet and the conference facility height is limited to a maximum of 120 feet. Design for the hotel structures on Parcel H-3 shall avoid east-west monolith massing and shall include architectural articulation. The hotel structures shall not result in lot coverage exceeding 30% of the inland portion of the parcel.

Policy 23.15: Sweetwater District Lodging (S-1): Sweetwater District Lodging (S-1): Development of the Sweetwater District Lodging (S-1) shall consist of low-scale, low profile, lower-cost overnight accommodations such as a campground and/or RV park. A mix of camping facilities is encouraged. Limited meeting rooms, retail stores, and food service associated with the development shall be permitted. No structures over 1 story within a maximum height of 25 feet shall be permitted. Proposed development shall take into account potential sea level rise when site plans are prepared. The development shall incorporate a setback from the E Street view corridor as shown in Exhibit 5, where no structures shall be permitted.

Policy 23.16: Sweetwater District Mixed-Use Commercial Recreation/Marine Related Office Development (S-3). Development of the Sweetwater District Mixed Use development (S-3) shall incorporate setbacks of 50 feet from E Street in order to reduce visual and shading impacts of building massing and to widen view corridors towards the Bay. Building heights are limited to 45 feet and shall be located in the northeastern portion of the parcel in order to ensure views from the Bay Boulevard to the Bay are preserved to the extent feasible. The development shall incorporate a setback from the F Street view corridor as shown in Exhibit 5, where no structures shall be permitted.

Policy 23.17: All building height limits listed herein are measured from finished grade. Building pads shall not be raised from existing grade more than 8 feet.

24. Transit

The Project's transportation system was developed to focus vehicular activity on the eastern edges of the property, near I-5 and its interchanges, by placing a majority of the common parking areas on the eastern properties, while designing for pedestrian connections and transit service. This will result in narrower, more pedestrian-friendly streets along the waterfront. In order to reduce traffic-related impacts within the Chula Vista Bayfront Master Plan area, the following transit policies shall be considered in the development of the Chula Vista Bayfront Master Plan:

Policy 24.1: The project shall be designed to encourage the use of alternate transportation by including the H Street transit center close to the rail line, bike and pedestrian pathways, water taxis, and a private employee parking shuttle.

Policy 24.2: The project shall include connections to the planned Bayshore Bikeway and provide an additional local bikeway loop that will be safer and more scenic as it is located closer to the water.

Policy 24.3: The District and City shall explore the operating and funding potential for a shuttle service that would link various destinations within the western portions of Chula Vista, including the Chula Vista Bayfront Master Plan area. Implementation of the Chula Vista Bayfront Shuttle is anticipated to include participation by commercial development within the Chula Vista Bayfront Master Plan area.

Policy 24.4: The Chula Vista Bayfront shuttle will service the Chula Vista Bayfront Master Plan area with a key focus on connecting general users to and from: downtown areas east of I-5, the resort conference center, the residential project, park areas, and existing trolley stops. The shuttle system shall be designed with the following design considerations:

- a) Ensure that it has fewer stops than a conventional bus and is located as close as possible to the major traffic generators.

- b) Plan the general route of the transit shuttle to travel along Third Avenue between F Street and H Street, along F Street between Woodlawn Avenue and Third Avenue, along Woodlawn Avenue between E Street and F Street, along E Street, Marina Parkway, Street C, and Street A within the Bayfront development area, and along H Street between the Bayfront and Third Avenue
- c) Plan the route to operate as a two-way loop with stops in both directions.
- d) Plan for shuttles to initially run every 15 minutes.
- e) Consider a private shuttle system to transport employees between the H-18 parking structure and the H-3 parcel in the Harbor District.

Policy 24.5: Shuttle service shall be phased concurrent with development. At a minimum, service shall be provided upon the issuance of Certificate of Occupancy for either the H-3 resort conference center hotel or the 500th residential unit. Additional stops shall be provided at the Signature Park, the Recreational Vehicle Park, the H-18 parking structure, and the Park in Otay District, as these uses are developed.

Policy 24.6: In the Harbor District, typical parking requirement standards for high intensity uses may be reduced if it can be demonstrated that the use will be adequately served by alternative transit.

Policy 24.7: In order to reduce transportation-related air quality impacts, the following items should be encouraged at the project-level planning phase:

- a) Limit idling time for commercial vehicles, including delivery and construction vehicles.
- b) Use low- or zero-emission vehicles, including construction vehicles.
- c) Promote ride sharing programs, for example, by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.
- d) Provide the necessary facilities and infrastructure to encourage the use of low- or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling).
- e) Provide public transit incentives, such as free or low-cost monthly transit passes.
- f) For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including (for example) showers, lockers, locked bicycle storage or covered or indoor bicycle parking.
- g) Institute a telecommute work program. Provide information, training, and incentives to encourage participation. Provide incentives for equipment purchases to allow high-quality teleconferences.
- h) Provide information on all options for individuals and businesses to reduce transportation-related emissions. Provide education and information about public transportation.

Policy 24.8: The District and the City shall participate in a multi-jurisdictional effort conducted by the California Department of Transportation (Caltrans) and San Diego Association of Governments (SANDAG) to assist in developing a detailed I-5 corridor-level study that will identify transportation improvements along with funding, including federal, state, regional, and local funding sources, and phasing that would reduce congestion management with Caltrans standards on the I-5 South corridor from the SR-54 interchange to the Otay River. Local funding sources identified in this Plan shall include fair-share

contributions related to private and/or public development based on nexus as well as other mechanisms.

25. In-water Activities

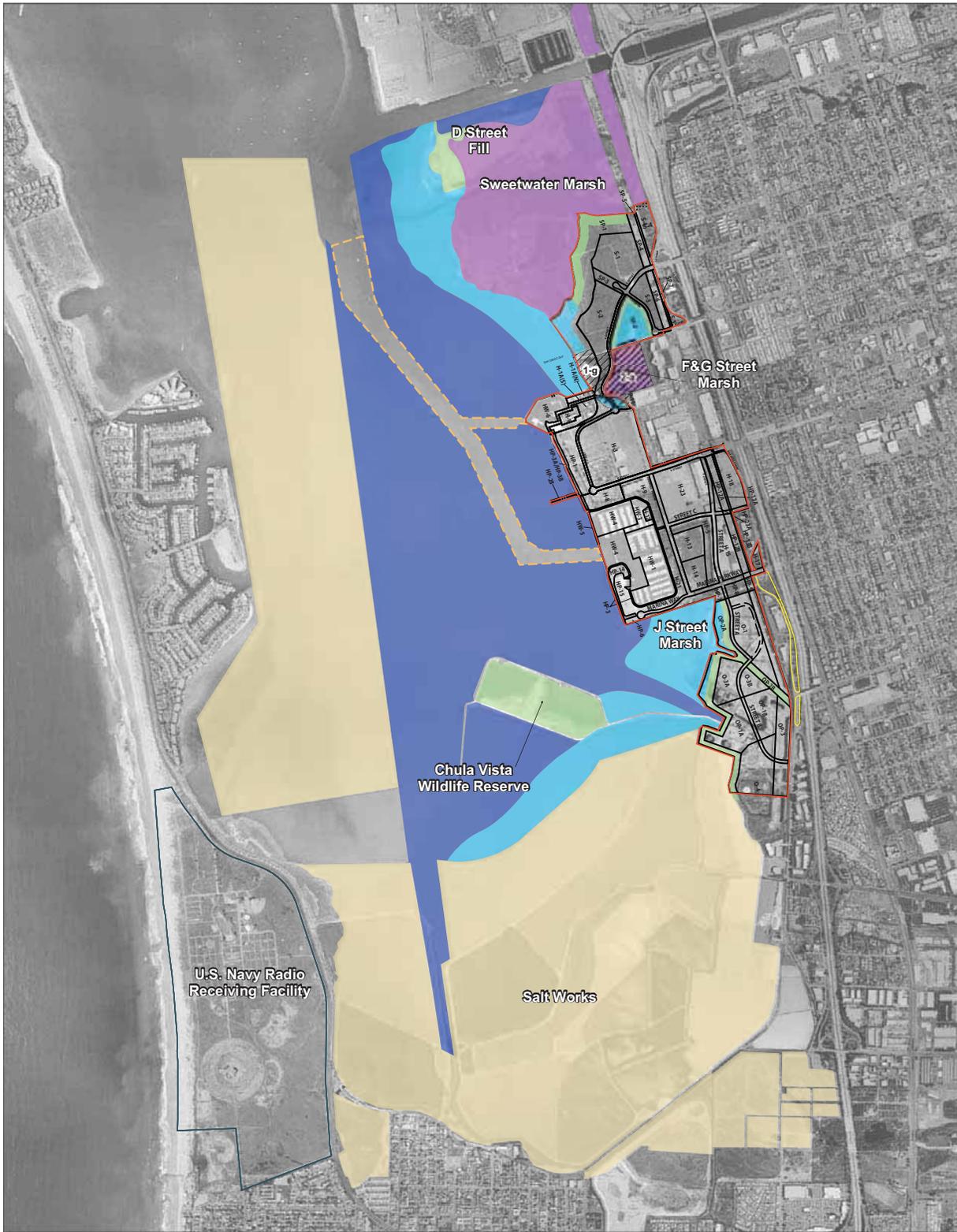
Policy 25.1: Excess dredge material from within the project area shall be tested for beach compatibility and placed on local beaches if suitable.

Policy 25.2: Development in San Diego Bay waters shall be reviewed for potential impacts to open water (foraging) and eelgrass, including any direct (e.g., construction activity) and indirect (e.g., shading from structures or boats) impacts. Efforts must be made to maintain the eelgrass habitat available and improve water quality. No net loss of eelgrass meadows shall be permitted. Pre-construction and post-construction eelgrass surveys shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy or any later revised policy adopted by the National Marine Fisheries Service. Any existing eelgrass impacted shall be replaced at a minimum 1.2:1 ratio, in accordance with the Southern California Eelgrass Mitigation Policy. In addition, impacts to open water habitat shall be assessed and mitigated.

Policy 25.3: Prior to commencement of any in water development that involves disturbance of the subtidal water bottom, surveys will be done of the project area and a buffer area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service.

26. Signage

Policy 26.1: Signs shall be designed and located to minimize impacts to visual resources. Signs approved as part of commercial development shall be incorporated into the design of the project and shall be subject to height and width limitations that ensure that signs are visually compatible with surrounding areas and protect scenic views. Permitted monument signs shall not exceed eight feet in height. Free-standing pole or roof signs are prohibited. Permanent advertising signs and banners shall be prohibited in public beaches and beach parks.



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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

- National Wildlife Refuge (San Diego Bay Unit)*
- Sweetwater Marsh National Wildlife Refuge*
- City of Chula Vista LCP Open Space Land Use Designation
- City of Chula Vista S-4 100 ft. No-Touch Buffer
- CVBMP Boundary
- Proposed Navigation Channel

**Port Master Plan - Planning District 7
Conservation Land and Water Designations**

- Estuary
- Habitat Replacement
- Wetland

Exhibit 1

Wildlife Habitat Areas

(Defined by § 3.1 of the Chula Vista Bayfront Master Plan Settlement Agreement; the agreement prevails over any conflict with this exhibit.)

*National Wildlife Refuge lands are included in the definition of Wildlife Habitat Areas for the sole purpose of addressing adjacency impacts and not for the purpose of imposing affirmative resource management obligations with respect to the areas within the National Wildlife Refuge lands.

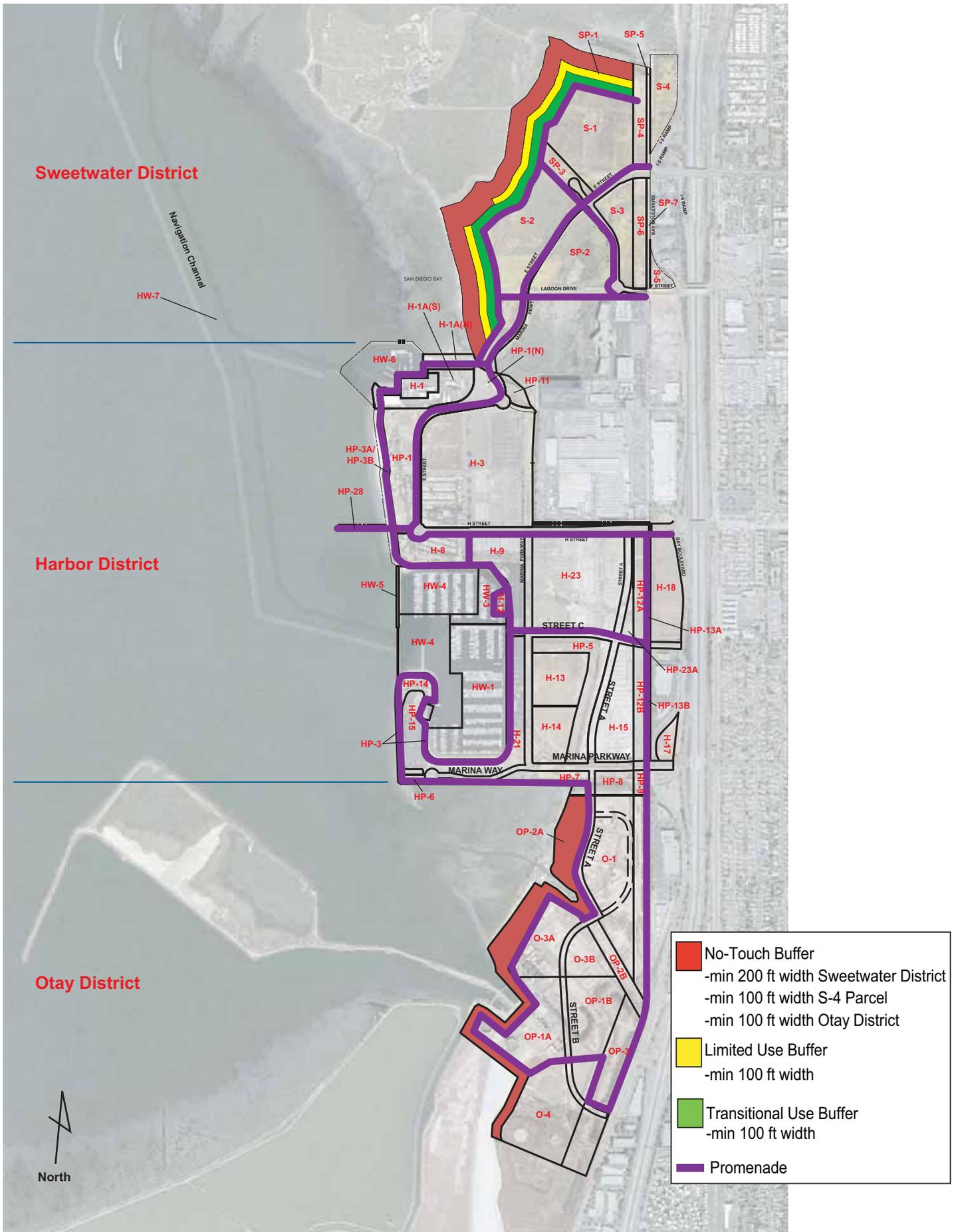


Exhibit 2 – Buffer Areas

(Defined by § 4.1.3 and 4.1.4 of the Chula Vista Bayfront Master Plan Settlement Agreement; the agreement prevails over any conflict with this exhibit)

EXHIBIT 3

Exhibit 3 outlines the methodologies for determining that the goals of the Energy Section are met. The Sample Worksheets are for illustration purposes, to provide a format which may be used both by Developments and by the City of Chula Vista's Building Department. Note that the Energy Section outlines requirements and approaches for projects which will be subject to future codes, regulations, tariffs, and technologies, all of which are subject to change. When clarifications are needed, they will be provided by the City of Chula Vista.

Baseline. The term "Baseline" refers to the amount of energy against which the energy reduction will be measured.

SAMPLE Worksheets. Sample worksheets are provided as suggested approaches. Actual worksheets for calculating the energy requirements should be coordinated with the City of Chula Vista Building Department.

Title 24 Path. Title 24 language refers to the "Standard Budget" and "Proposed Budget." The Whole Building Performance Method, which generates the Standard and Proposed Energy Budgets, is specifically for energy uses within a conditioned building, and does not include lighting which is in Interior Unconditioned Spaces or lighting which is outside. However, for the purposes of the Energy Section, this lighting energy will be added to the energy budgets for the conditioned building, and the combined energy uses will become the Baseline for the "Title 24 Path." Each of the various energy uses will be converted into Site kBtu, except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

LEED Path. LEED language refers to the "Baseline Design" and "Proposed Design." The LEED Path Baseline is likely to be different and higher than the Title 24 Path Baseline because LEED counts all of the energy uses within the site boundary, some of which are not counted by Title 24. However, LEED is also likely to be better and more comprehensive in calculating overall energy performance features, such as district thermal plants, combined heat and power, natural ventilation, efficiencies in process loads, aggregating multiple buildings, and the benefits of renewable energy. Each of the various energy uses will be converted into dollars (\$), except for the final 5% energy reduction waiver allowed for Ongoing Measurement and Verification.

If the LEED Path is chosen, the Development may be subject to an additional fee to the City of Chula Vista for a 3rd party plan check by an experienced LEED reviewer acceptable to the City. Recognizing that LEED Templates may not be complete at the time of the initial Building Department submittals, draft Templates may be used, at the discretion of the reviewer.

Natural Ventilation. When using Natural Ventilation (NV) to qualify as an energy reduction feature, the Development may qualify for a waiver of up to 10% if at least 75% of the area that would normally be cooled relies solely on natural ventilation strategies to help maintain comfortable temperatures. Pro-rations are possible.

City of Chula Vista Sponsored Energy Efficiency Program. Refer to the appropriate City ordinances for details on this program.

Measurement and Verification. Each Development shall develop and implement an ongoing Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D. If the LEED Path is chosen, the M&V Plan should be consistent with Credit EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

Demand Response Tariffs. Developments which enroll in SDG&E Demand Response rate tariff(s) which are designed to reduce the load on the electric grid during critical times may be awarded up to a 5% waiver.

EXHIBIT 3

SAMPLE Worksheet A: Title 24 Path

Name: Example Development

Description ¹	Source of Info (Attachments)	Input Standard	Input Proposed	Typical Units of Measure	Convert to Site kbtu	Standard = Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduction
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Uses										
T24 Electricity	T24 UTIL-1, Part 2			Site KWH/year	3.413	-	-	kBtu		
T24 Gas	T24 UTIL-1, Part 2			Site Therms/year	100.000	-	-	kBtu		
T24 Lighting Outside and Uncond	Worksheet A-LTG	-	-	Site KWH/year	3.413	-	-	kBtu		
A. Summary of Efficiency of End Uses						-	-	kBtu		
B. Renewable Energy Contributions										
PV: within Development	CSI calculation or PV-Watts ²	n/a		Site KWH output/year	3.413	n/a	-	kBtu		
PV: Credited from Project		n/a		Site KWH output/year	3.413	n/a	-	kBtu		
Solar Thermal: within Development	F-Chart or equal	n/a		Site kbtu offset/year	1.000	n/a	-	kBtu		
Other	as appropriate	n/a		as appropriate		n/a				
B. Combined Renewable Reductions										
C. Natural Ventilation							0% to 10%			
D. Chula Vista Program Savings										
Verified Electricity Savings	Confirm with Program Administrator	n/a		Site KWH	3.413		-	kBtu		
Verified Gas Savings		n/a		Site Therms	100.000		-	kBtu		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify							Required			
F. Demand Response Tariff							0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET A

Note 1: If the Development includes more than one building, then use multiple Worksheets, or, add backup calculations or line items to this spreadsheet, as most appropriate.

Note 2: Final photovoltaic design and output informatio shall use industry standard software, including at least site location, array orientation, array tilt, and system efficiency. California Solar Initiative (CSI) rebate calculations and PV-Watts are examples of acceptable software.

EXHIBIT 3

Worksheet A-LTG: Lighting Outside and in Interior Unconditioned Spaces

Name: Example Development

Category ¹	Source of Info (Attachments)	T24 Allowed Watts	Proposed Watts	Occupancy	hours /day ²	Days /year	Hours /year	Standard KWH/yr	Proposed KWH/yr
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
Unconditioned spaces	T24 LTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
General Site Illumination (Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Specific Applications (Non-Tradable)	T24 OLTG Forms						-	-	-
Signs (Non-Tradable)	T24 OLTG Forms						-	-	-
Signs (Non-Tradable)	T24 OLTG Forms						-	-	-
Totals (Subtotals are inputs to Worksheet A)								-	-

NOTES TO WORKSHEET A-LTG

Note 1: If more lines are needed, create a spreadsheet in similar format, and enter above, as appropriate.

Note 2: For average runtimes, use the hours in this chart, unless proposer demonstrates to the Bldg Department's satisfaction that a different value should be used.

EXHIBIT 3

SAMPLE Worksheet B: LEED Path

Name: Example Development

Description	Source of Info (Attachments)	Standard or Baseline	Proposed	Typical Units of Measure	Virtual Rate	Baseline	Proposed	Units	Minimum % Reduction	Actual % Reduciton
15.2.1 MINIMUM EFFICIENCY										
Title 24 Whole Building Performance	T24 UTIL-1, Part 1			Source TDV kbtu/sf-yr					15%	
15.2.2 CALCULATE BASELINE AND REDUCTIONS										
A. Energy Costs: LEED Performance Rating Method (PRM) EAp2/c1 Letter Template										
<i>Conditioned Building(s)</i>	LEED EAp2/c1 Letter Template	<i>Included</i>	<i>Included</i>							
<i>Other energy uses on site</i>		<i>Included</i>	<i>Included</i>							
<i>Lighting: Outside and Uncond</i>		<i>Included</i>	<i>Included</i>							
<i>Onsite Renew Energy: Development</i>		<i>Included</i>	<i>Included</i>							
<i>Campus Renew Energy: Project</i>		<i>Included</i>	<i>Included</i>							
<i>Other</i>		<i>Included</i>	<i>Included</i>							
<i>Natural Ventilation</i>		May be included in LEED EAp2/c1, OR, use Worksheet C								
Electricity (Summary)	LEED EAp2/c1 Section 1.8 Summary ¹			kWh	#DIV/0!			Site \$		
Natural Gas (Summary)				therms	#DIV/0!			Site \$		
A. Summary of Efficiency of Energy Costs							\$ -	\$ -	Site \$	
B. Combined Renewable Reductions	Included in EAp2/c1 above									
C. Natural Ventilation	May be included in LEED EAp2/c1 above, OR, use Worksheet C									
Alternate:	Worksheet C						0% to 10%			
D. Chula Vista Program Savings	Confirm with Program Administrator									
Verified Electricity Savings				Site KWH	#DIV/0!		#DIV/0!	Site \$		
Verified Gas Savings				Site Therms	#DIV/0!		#DIV/0!	Site \$		
D. CV Program Combined Reduction										
E. Ongoing Measure & Verify	LEED EAc5. See Worksheet E.						Required			
F. Demand Response Tariff	Worksheet F						0% to 5%			
TOTAL REDUCTION FROM BASELINE (Must be at least 50% Reduction)										0.0%

NOTES TO WORKSHEET B

Note 1: LEED EAp2/c1 Letter Template: Section 1.8, "Energy Cost and Consumption by Energy Type - Performance Rating Method Compliance Table"

EXHIBIT 3

SAMPLE Worksheet C: Natural Ventilation

Name: Example Development

When using Natural Ventilation (NV) to qualify as an energy reduction feature for this Agreement, the Development may qualify for a waiver if at least 75% of the area that would normally cooled includes effective natural ventilation strategies to help maintain comfortable temperatures. A 5% waiver is granted if the area is also served by an energy or cooling system drawing energy from the grid. A 10% waiver is granted if the area is not served by an energy or cooling system drawing from the grid. The waiver may be prorated if the area is less than 75%. Final determination of normally cooled areas are at the discretion of the Building Department. For example, in CA Climate Zone 7, spaces such as warehouses and kitchens do not normally have electric cooling.

Two approaches are possible:

1. A Development may use a performance approach, such as macro-flow or Computational Fluid Dynamics (CFD) modeling, to design and confirm the maintenance of comfort using natural ventilation techniques.
2. As an alternate, the prescriptive calculations outlined in the Collaborative for High Performance Schools (CHPS) may be used. CHPS identifies an approach to achieving ventilation strategies which are likely to be effective in helping to maintain interior comfort when outside conditions are moderate. Even though the CHPS program targets school campuses, the approach is useful for many occupancies. It is publicly available at www.chps.net. Suggested references are from CHPS 2006 Volume II Best Practices Manual - Design, HVAC Guidelines, Sections TC 13 (Cross Ventilation), TC-14 (Stack Ventilation), and TC-15 (Ceiling Fans).

The designer should follow the CHPS guidelines. To satisfy the prescriptive approach, the following table may be used. Inlets and Outlets should each be at least 4% of the floor area of the space, totalling at least 8%. Ideally they are on opposite sides, but at a minimum may be on perpendicular walls. Inlets are to be on the side which is typically windward, and lower than outlets.

Space Name	Source of Cooling	Conditioned Floor Area (CFA)	Qualifying CFA	Performance or Prescriptive Calculation	Prescriptive: Inlet (Windward)			Prescriptive: Outlet (Leeward)					
					Area	Orientation	% CFA	Area	Orientation	% CFA	higher than inlet	opposite or corner wall	
Space A	NV with grid cooling												
Space B	NV with grid cooling												
Space C	NV with grid cooling												
Subtotal:			0										
Space D	NV only												
Space E	NV only												
Space F	NV only												
Subtotal:			0										
Other spaces	no NV												
Total Normally Conditioned Floor Area		-											

CFA which is Naturally Ventilated, with Grid Cooling	0
Energy Reduction Allowed	

CFA Which is Naturally Ventilated Only	0
Energy Reduction Allowed	

Combined Energy Reduction Allowed	
--	--

CFA: NV + grid	Reduction
0%	0%
15%	1%
30%	2%
45%	3%
60%	4%
75%	5%

CFA: NV Only	Reduction
0%	0%
15%	2%
30%	4%
45%	6%
60%	8%
75%	10%

EXHIBIT 3

SAMPLE Worksheet D: Chula Vista Energy Efficiency Program

Name: Example Development

Refer to the appropriate City ordinances for details on this program, including, but not limited to:

City of Chula Vista Municipal Code Section 15.12 "Green Building Standards Ordinance"

City of Chula Vista Municipal Code Section 15.26.030 "Increase Energy Efficiency Ordinance"

EXHIBIT 3

SAMPLE Worksheet E: Ongoing Measurement & Verification (M&V)

Name: Example Development

Develop and implement a Measurement and Verification (M&V) Plan consistent with the International Performance Measurement and Verification Protocol (IPMVP) Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003. The Development may choose either Option B or Option D.
M&V shall be on-going for the length of the lease.
Tenants shall have sub-meters for electricity. Sub-meters for gas and water should also be considered, but are not required.
The plan shall include a process for corrective action if energy performance goals are not achieved as planned. Refer to ASHRAE Guideline 14 for suggested ranges of discrepancy, appropriate to the meter, magnitude of energy uses, and overall plan.
If the LEED Path is chosen, the M&V Plan should be consistent with EAc5, except that LEED only requires one year of implementation, and the Energy Section of this Agreement requires M&V to be ongoing.

EXHIBIT 3

SAMPLE Worksheet F: Demand Response Tariffs

Name: Example Development

If the development chooses an SDG&E Demand Response tariff in which the customer has the option to manually or semi-automatically reduce electricity use when requested by the utility, then it will be awarded a 3 % waiver towards the overall energy reduction.

If the development chooses an SDG&E Demand Response tariff in which the utility can automatically reduce the customer's electricity use, then it will be awarded a 5 % waiver towards the overall energy reduction.

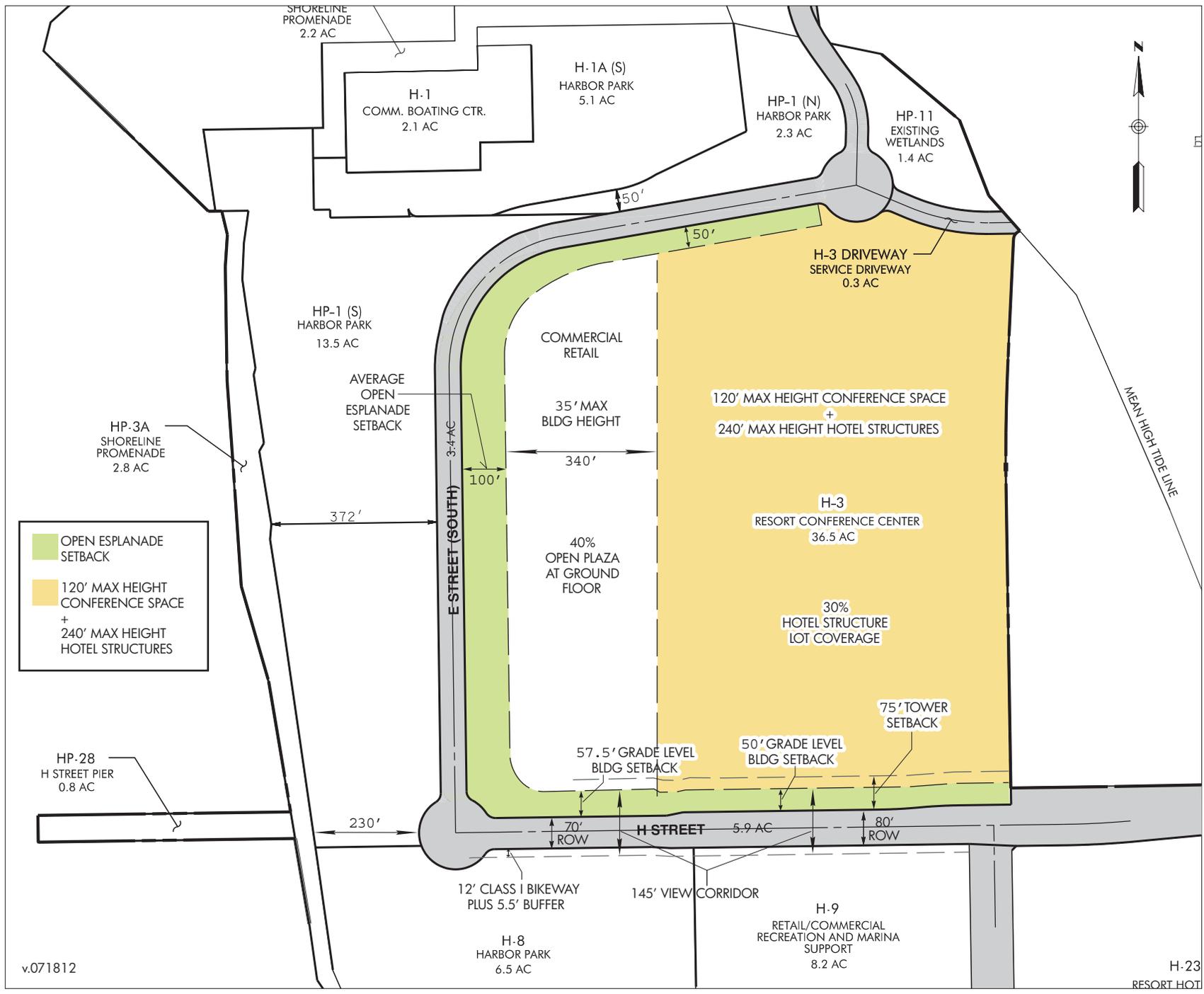
<u>Meter(s)</u>	<u>Tariff</u>	<u>Manual or Semi-Automatic: Customer Controlled: 3%</u>	<u>Automatic, or Utility Controlled: 5%</u>	<u>% Reduction Awarded</u>

EXHIBIT 3

Links for References used in EXHIBIT 3

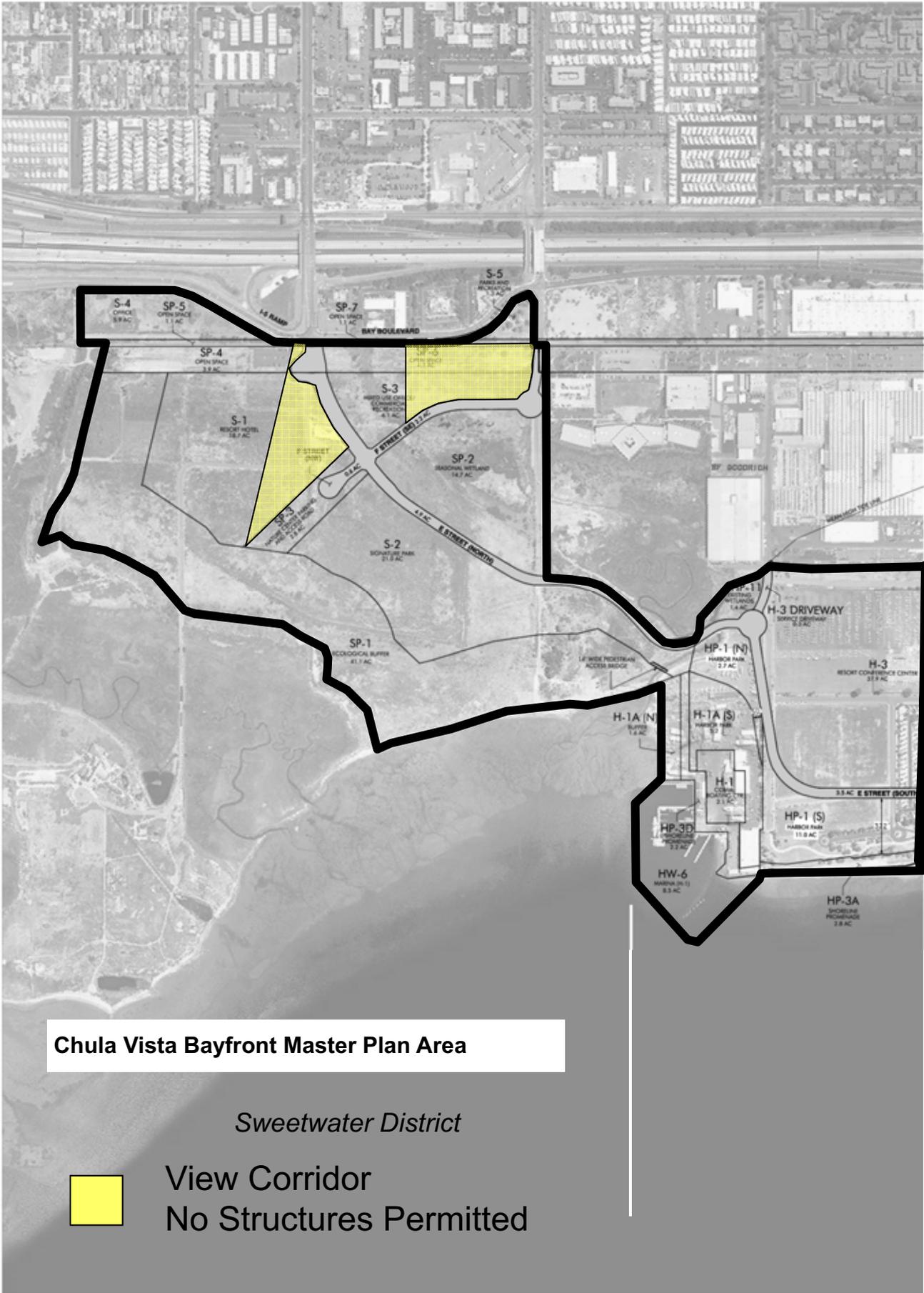
Title 24 Building Energy Efficiency Standards	www.energy.ca.gov/title24/
Collaborative for High Performance Schools (CHPS) CHPS 2006 Volume II Best Practices Manual - Design	www.chps.net/dev/Drupal/node/31
IPMVP, Volume III, Concepts and Options for Determining Energy Savings in New Construction, April 2003.	www.evo-world.org Products & Services / IPMVP / Applications Volume III
Leadership in Energy and Environmental Design (LEED™)	www.usgbc.org
City of Chula Vista sponsored energy efficiency program	
Living Building Challenge	www.ilbi.org

Exhibit 4
Resort Conference Center (H-3) Development



GRAPHIC SCALE 1"= 200'

*Esplanade setback line intended to be illustrative only; distinction between esplanade and commercial retail is to be meandering and visually appealing.



Chula Vista Bayfront Master Plan Area

Sweetwater District

 **View Corridor
No Structures Permitted**

Exhibit 5
Sweetwater District (S-1/S-3) Development

