

# CHULA VISTA BAYFRONT Master Plan



and PORT MASTER PLAN AMENDMENT

**VOLUME 3**

## **FINAL** Environmental Impact Report

April 2010

**FINAL  
ENVIRONMENTAL IMPACT REPORT (EIR)  
for the  
CHULA VISTA BAYFRONT MASTER PLAN  
UPD #83356-EIR-658  
SCH #2005081077**

**VOLUME 3**

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## 4.8 Terrestrial Biological Resources

This section discusses the Proposed Project's potential impact to terrestrial biological resources. Specifically, this section provides a project-level analysis of the Phase I components which include ~~the RCC, residential and retail development, a fire station, and Phase I infrastructure, and the Signature Park in the Sweetwater District.~~ The development of the remaining uses during Phases I, II, III, and IV are assessed at the program level.

The analysis in this section relies on the information and data sourced in the following documents and reports, attached as appendices to this EIR:

- Plant Species Observed in the Chula Vista Bayfront Project Boundary, collected by RECON Environmental, Inc. (*Appendix 4.8-1*)
- Wildlife Species Detected in the Chula Vista Bayfront Project Boundary, collected by RECON Environmental, Inc. (*Appendix 4.8-2*)
- Birds of the Sweetwater Marsh National Wildlife Refuge, published by the Chula Vista Nature Center (*Appendix 4.8-3*)
- Sensitive Plant Species Observed or with the Potential for Occurrence, collected by RECON Environmental, Inc. (*Appendix 4.8-4*)
- Sensitive Wildlife Species Known (or Potentially Occurring) in the Chula Vista Bayfront Project Area, collected by RECON Environmental, Inc. (*Appendix 4.8-5*)
- Field Data Forms for the Chula Vista Bayfront Project (March 2005), collected by RECON Environmental, Inc. (*Appendix 4.8-6*)
- California Invasive Plant Council List of Exotic Pest Plants of Greatest Ecological Concern (*Appendix 4.8-7*)
- Mitigation Opportunities for the Chula Vista Bayfront Project in the City of Chula Vista (June 2006), prepared by RECON Environmental, Inc. (*Appendix 4.8-8*).

In addition, field verification of vegetation mapping was conducted by Dudek on March 18, 2008.

The Port and City have proposed a land transfer for portions of the project site; therefore, this section provides tables summarizing the acreage of existing biological resources and impacts to those resources for the post-land trade conditions (assuming Parcels H-13, H-14, H-15, and HP-5 are exchanged).

The analysis contained in this section is based on biological data and a wetland delineation compiled by RECON during field surveys conducted in March, April, and December 2005 and in

March 2006. Vegetation communities were mapped and a complete inventory of floral and faunal resources recorded.

This biological impact analysis also refers to information from the following documents:

- San Diego Bay National Wildlife Refuge, Sweetwater Marsh and South San Diego Bay Units Draft Comprehensive Conservation Plan and Environmental Impact Statement (USFWS 2005)
- San Diego Bay Integrated Natural Resources Management Plan (USDN 2000)
- Final Environmental Impact Report Midbayfront LCP Re-submittal No. 8 (City of Chula Vista 1991)
- Chula Vista MSCP Subarea Plan (Chula Vista, City of 2003a).

#### 4.8.1 Existing Conditions

This section discusses the existing terrestrial biological resources and conditions at the site, including vegetation communities, wildlife, and sensitive species. It also describes the regulatory framework, including plans and policies established to protect water quality. *Figure 4.8-1* provides an overview of the refuges and marshes in the Proposed Project area.

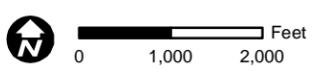
##### 4.8.1.1 Biological Setting

The Proposed Project area, which is approximately 560 acres, is located at the south end of San Diego Bay. The San Diego Bay is the largest naturally occurring embayment between San Francisco and Scammon's Lagoon, Baja California, Mexico.

The South Bay contains many valuable biological resources, including habitat for a diverse assemblage of plant and wildlife species. The Sweetwater Marsh and South San Diego Bay Units of the San Diego Bay NWR lie directly to the north and south of the project area (see *Figure 4.8-1*). In addition, the Proposed Project area surrounds, but does not include, the F & G Street Marsh, which is within the jurisdiction of the USFWS NWR. The project area is across the Bay from the Coronado Cays and Silver Strand State Beach.



- CVBMP Boundary
- Proposed Navigation Channel
- LCP/LUP Parcel
- MSCP Habitat Preserve boundary
- MSCP: Other Agency - Preserve Planning Efforts
- MSCP: Development Area
- National Wildlife Refuge (San Diego Bay Unit)
- Sweetwater Marsh National Wildlife Refuge



Z:\Projects\570301\Figs\EIR\Figs 2010\Section 418-Bio\fig4-8\_01 (marshes).mxd

AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Overview of Refuges and Marshes in the Study Area**

**FIGURE 4.8-15**

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#### 4.8.1.2 Survey Methods

General biological surveys were conducted in March, April, and December 2005 and March 2006. Animal species were either observed directly, with the aid of binoculars, or detected from calls, tracks, scat, or other signs. Vegetation communities were mapped on a 1-inch-equals-200 feet aerial photograph of the project area flown in 2004 and transferred to a geographic information system (GIS) using ArcGIS software. Plant species that could not be identified in the field were brought back to the office for closer inspection and positive identification using taxonomic keys.

A wetland delineation was conducted on March 8, 9, and 14; April 20; and December 14, 2005, following guidelines set forth by USACE (USACE 1987). The wetland delineation identifies and maps the location of jurisdictional resources. This information is then analyzed by USACE, CDFG, RWQCB, and the CCC. Prior to conducting the delineation, a 1-inch-equals-200 feet aerial photograph of the project area, taken in April 2004, was examined, as well as the USGS National City and Imperial Beach Quadrangle maps and National Wetlands Inventory map. The potential jurisdictional waters were examined to determine the presence of any of the three USACE wetland parameters or drainage channels. The remainder of the project area was also examined in the field for the presence of potential jurisdictional areas.

In addition to the general surveys, focused rare plant surveys were conducted in March 2005 and November 2005. These surveys focused on rare plants that (1) had the potential to occur in the vicinity based on species range and habitat conditions and (2) would have been visible at the time of the survey. Additional surveys for sensitive bird species were conducted in March and April 2006, concentrating particularly on the Belding's savannah sparrow in the available salt marsh habitats and heron/egret rookeries within the trees on site.

The compilation of a comprehensive faunal checklist was limited by seasonal factors, as surveys were not conducted in the summer or fall when some migratory bird species may have been present. Since surveys were performed during the day, nocturnal animals were detected by sign. Avifauna use in the region is well documented, and resources such as the San Diego Bird Atlas (Unitt 2004) were referenced to bridge potential data gaps.

Floral nomenclature for common plants follows Hickman (1993) and, for sensitive plants, follows the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* (2001). Vegetation community classifications follow Holland (1986), as modified by Oberbauer (1996), which is referred to as the "Holland Code." Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (1998) and Unitt (2004); for mammals, Jones et al. (1997) and Hall (1981); for butterflies, Mattoni (1990) and Opler and Wright (1999); and for amphibians and reptiles, Crother (2001) and Crother et al. (2003). Assessments of the sensitivity of species and habitats are based primarily on City of

Chula Vista (2003a), CNPS (2001), State of California (2006a, 2006b, 2006c), USFWS (2002a), and Holland (1986).

#### **4.8.1.3 Topography and Soils**

Elevation on site ranges from below mean sea level within San Diego Bay to approximately 20 feet above mean sea level on the eastern portion of the project area boundary along I-5.

The Soil Survey for San Diego County (USDA 1975) has identified six soil types within the project area: Huerhuero loam (2 to 9 percent slopes), Huerhuero urban land (2 to 9 percent slopes), Tujunga sand (0 to 5 percent slopes), Salinas clay loam (0 to 2 percent slopes), tidal flats, and made land. Some areas remain unmapped on the Soil Survey and have been labeled as such on *Figure 4.8-2*.

Huerhuero loam (2 to 9 percent slopes) soils are typically associated with low relief mima mound complexes in undisturbed areas. Permeability and runoff of this soil is very slow, which aids in this soils' capability of ponding water. Huerhuero loam is the dominant soil type of the relatively undisturbed Sweetwater District within the project area.

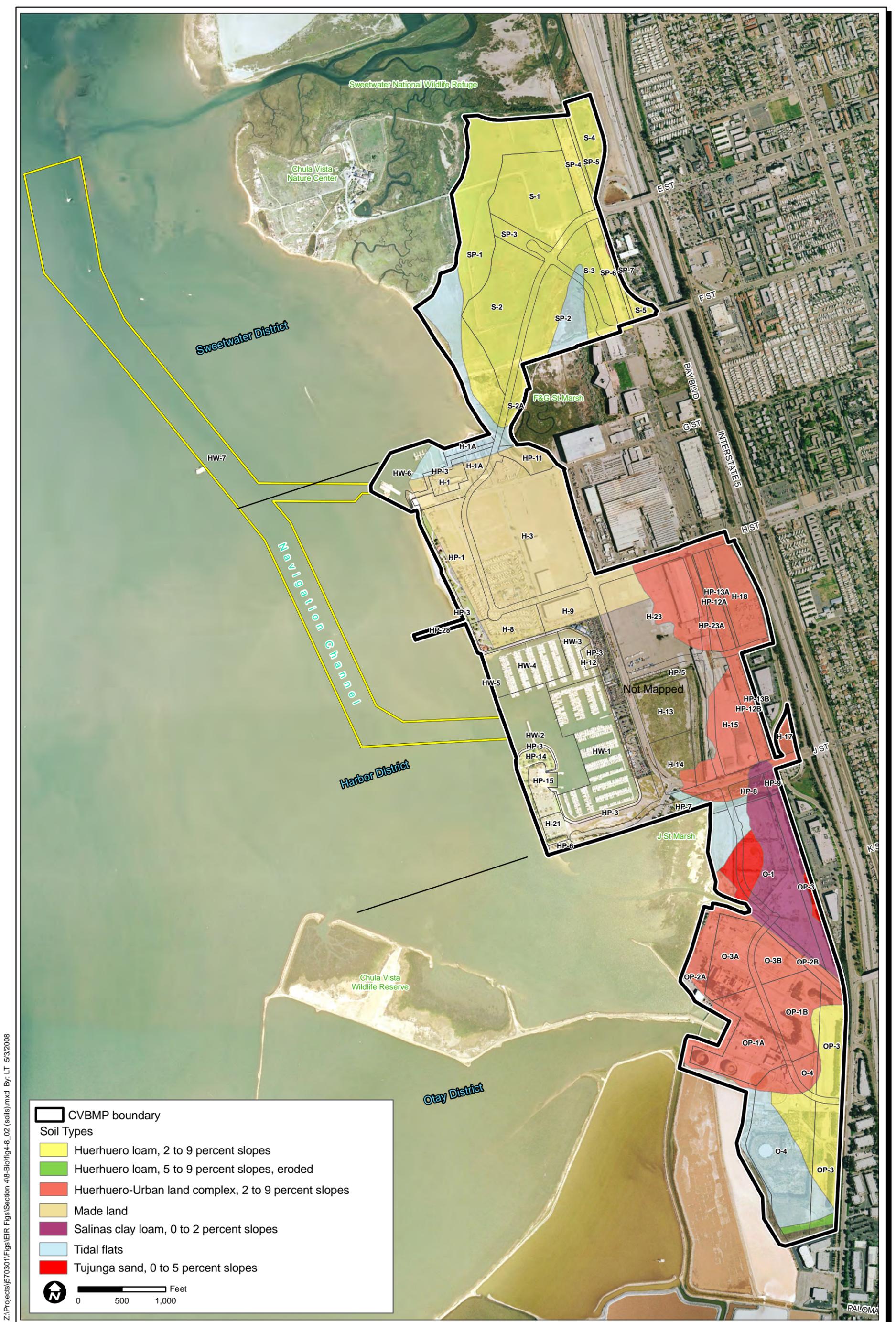
**Huerhuero urban land complex (2 to 9 percent slopes)** consists of marine terraces that have been cut and filled for use as building sites. The cuts are typically unconsolidated marine sediments, while the fills are a mixture of loams, clay loams, and sandy marine sediments. This soil type is located along the eastern half of the Harbor District within the project area.

**Tujunga sand (0 to 5 percent slopes)** has very rapid permeability and slow runoff. It is excessively drained, but short periods of flooding are probable. Small isolated patches of Tujunga soils are located in the Otay District within the project area.

**Salinas clay loam (0 to 2 percent slopes)** has a very slow runoff, and the permeability is moderately slow. Salinas clay loam soils are located within the northern portion of the Otay District within the project area.

**Tidal flat** soil occurs as level areas that are periodically covered with tidal water. Vegetation, if present, consists of highly salt-tolerant hydrophytic species, such as pickleweed (*Salicornia virginica*), saltgrass (*Distichlis spicata*), and others. The texture of tidal flat soils ranges from clay to very fine sand and contains an excess of soluble salts. Tidal flat soils occur along the western edge of the Sweetwater District and Otay District within the project area.

**Made land** consists of smooth, level areas that have been filled with excavated and transported soil material, paving material, and soil material dredged from lagoons, bays, and harbors. This soil type is located primarily within the Harbor District of the project area.



AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Soils in Survey Area

FIGURE  
4.8-29

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#### 4.8.1.4 Vegetation Communities

Thirteen vegetation communities and land cover types are present on site: disturbed Diegan coastal sage scrub, non-native grassland, eucalyptus woodland, ornamental vegetation, disturbed habitat, southern coastal salt marsh, mulefat scrub/riparian scrub, coastal brackish marsh, disturbed seasonal pond, disturbed riparian, disturbed wetland, bay, and urban/developed. These vegetation communities and land cover types are characterized below. The Holland Code (Holland 1986) is presented in parentheses. *Table 4.8-1A* summarizes the acreage of each vegetation community occurring on site within the respective jurisdictions of the Port and the City of Chula Vista for each district. *Table 4.8-1B* contains a parcel-by-parcel summary of these resources by phase and district. *Figure 4.8-3* illustrates the locations of each vegetation community and land cover type on site. These vegetation communities support 98 plant species within the project boundary (*Appendix 4.8-1*). Of this total, 38 (39 percent) are species native to Southern California, and 60 (61 percent) are introduced species.

##### a. Disturbed Diegan Coastal Sage Scrub (32500)

Diegan coastal sage scrub is the southern form of coastal sage scrub, a vegetation community composed of low-growing, aromatic, drought-deciduous soft-woody shrubs that have an average height of approximately 3 to 4 feet. This community is typically found on sites with low moisture availability: steep, xeric slopes or clay rich soils that are slow to release stored water. Diegan coastal sage scrub is found in coastal areas from Los Angeles County south into Baja California, Mexico (Holland 1986). The disturbed form of this vegetation community typically supports a high density of weeds or may be isolated from contiguous habitat.

The coastal sage scrub habitat on site is limited to a few locations in the Sweetwater District on an upland berm near the edge of the Sweetwater Marsh and in a few isolated patches scattered throughout the district. The dominant native plant species in this habitat is common encelia (*Encelia californica*). Note, however, that this habitat is greatly disturbed by the presence of crown daisy (*Chrysanthemum coronarium*), an invasive weed species. Other native species that occur (in low densities) within this community include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), black sage (*Salvia mellifera*), and laurel sumac (*Malosma laurina*). In all circumstances, the disturbed coastal sage scrub habitat is surrounded by disturbed habitat (see description below).

**TABLE 4.8-1A**  
**Existing Vegetation Communities And Land Cover Types by Jurisdiction and District**  
 (acres)

Vegetation Community/ Land Cover Type (Holland)	Port			Port Total	City			City Total	GRAND TOTAL
	Harbor District	Otay District	Sweetwater District		Harbor District	Otay District	Sweetwater District		
Bay (13120)	61.86	0.14	0.26	62.26	—	—	—	0.00	62.26
Coastal brackish marsh (52200)	—	—	3.40	3.40	—	—	—	0.00	3.40
Disturbed Diegan coastal sage scrub (32500)	—	—	7.64	7.64	—	—	0.25	0.25	7.89
Disturbed habitat (11300)	13.41	47.23	90.00	150.64	—	—	12.99	12.99	163.643
Disturbed riparian (63000)	—	—	3.09	3.09	—	—	—	0.00	3.09
Disturbed seasonal pond (11200)	0.00	9.13	—	9.13	—	—	—	0.00	9.13
Disturbed wetland (11200)	—	—	2.00	2.00	—	—	—	0.00	2.00
Eucalyptus woodland (11100)	—	2.23	0.45	2.68	—	—	—	0.00	2.68
Mulefat scrub (63310)	—	—	0.08	0.08	—	—	0.03	0.03	0.11
Nav. Channel HW-7	86.84	—	—	86.84	—	—	—	0.00	86.84
Non-native grassland (42200)	15.69	30.62	—	46.31	17.42	—	—	17.42	63.73
Ornamental vegetation (11000)	0.99	5.60	—	6.59	—	—	—	0.00	6.59
Southern coastal salt marsh (52120)	1.44	0.00	0.12	1.56	1.07	—	—	1.07	2.63
Urban/developed (12000)	156.14	49.39	4.63	210.16	14.00	—	4.56	18.56	228.72
<b>TOTAL</b>	<b>336.387</b>	<b>144.34</b>	<b>111.67</b>	<b>592.38</b>	<b>342.49</b>	<b>0.00</b>	<b>17.83</b>	<b>50.32</b>	<b>642.70</b>



AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Vegetation Communities and Land Cover Types

**FIGURE**  
4.8-33

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**TABLE 4.8-1B**  
**Existing Vegetation Communities And Land Cover Types by Parcel (acres)**

Parcel	Bay	CBM	dCSS	DH	dRIP	dSP	dWET	EUC	MFS	NNG	ORN	SCS	DEV	TOTAL
<b>Sweetwater District</b>														
Road	—	—	0.79	6.46	0.03	—	—	—	0.07	—	—	0.03	1.16	8.55
S-1	—	—	0.06	17.73	—	—	—	—	—	—	—	—	0.72	18.51
S-2	—	—	3.09	14.38	—	—	—	0.09	—	—	—	—	0.08	17.64
S-2A	—	—	0.27	1.29	—	—	—	—	—	—	—	0.04	1.04	2.65
S-3	—	—	—	6.15	—	—	—	—	—	—	—	—	0.01	6.16
S-4	—	—	—	4.98	—	—	—	—	—	—	—	—	1.10	6.08
S-5	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32
SP-1	0.26	—	3.33	34.85	—	—	2.00	0.36	—	—	—	0.04	0.24	41.09
SP-2	—	3.40	—	6.52	3.05	—	—	—	—	—	—	—	1.39	14.35
SP-3	—	—	0.11	2.62	—	—	—	—	—	—	—	—	—	2.73
SP-4	—	—	0.24	3.03	—	—	—	—	0.03	—	—	—	0.64	3.94
SP-5	—	—	0.01	0.56	—	—	—	—	—	—	—	—	0.53	1.10
SP-6	—	—	—	4.18	—	—	—	—	—	—	—	—	0.05	4.23
SP-7	—	—	—	0.24	—	—	—	—	—	—	—	—	0.91	1.15
<b>Harbor District</b>														
Road	—	—	—	0.75	—	—	—	—	—	2.14	0.09	0.10	29.21	32.29
H-1	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26
H-1A	0.03	—	—	—	—	—	—	—	—	—	—	—	5.28	5.31
H-3	—	—	—	0.26	—	—	—	—	—	6.11	—	—	32.83	39.19
H-8	—	—	—	—	—	—	—	—	—	—	—	—	6.05	6.05
H-9	—	—	—	—	—	—	—	—	—	—	—	—	8.59	8.59
H-12	0.77	—	—	—	—	—	—	—	—	—	—	—	0.04	0.81
H-13	—	—	—	—	—	—	—	—	—	7.97	—	—	—	7.97
H-14	—	—	—	—	—	—	—	—	—	4.83	—	—	1.36	6.19
H-15	—	—	—	—	—	—	—	—	—	—	—	—	9.44	9.44
H-17	—	—	—	—	—	—	—	—	—	1.72	—	—	0.07	1.79
H-18	—	—	—	8.69	—	—	—	—	—	—	—	—	0.23	8.92

TABLE 4.8-1B (Cont.)

Parcel	Bay	CBM	dCSS	DH	dRIP	dSP	dWET	EUC	MFS	NNG	ORN	SCS	DEV	TOTAL
H-21	—	—	—	—	—	—	—	—	—	3.88	—	—	6.23	10.11
H-23	—	—	—	—	—	—	—	—	—	—	—	—	24.42	24.42
HP-1	—	—	—	1.44	—	—	—	—	—	1.67	—	—	8.33	11.44
HP-3	1.33	—	—	—	—	—	—	—	—	0.07	—	—	7.06	8.46
HP-5	—	—	—	—	—	—	—	—	—	4.61	—	1.07	3.20	8.89
HP-6	—	—	—	—	—	—	—	—	—	—	—	—	1.26	1.26
HP-7	0.01	—	—	0.07	—	—	—	—	—	0.10	0.23	0.22	3.28	3.92
HP-8	—	—	—	0.24	—	—	—	—	—	—	0.48	0.47	1.34	2.53
HP-9	—	—	—	0.06	—	—	—	—	—	—	0.19	—	0.68	0.94
HP-11	—	—	—	1.90	—	—	—	—	—	—	—	0.47	0.78	3.15
HP-12A	—	—	—	—	—	—	—	—	—	—	—	—	4.03	4.03
HP-12B	—	—	—	—	—	—	—	—	—	—	—	—	4.35	4.35
HP-13A	—	—	—	—	—	—	—	—	—	—	—	—	1.08	1.08
HP-13B	—	—	—	—	—	—	—	—	—	—	—	—	1.16	1.16
HP-14	0.03	—	—	—	—	—	—	—	—	—	—	—	2.85	2.89
HP-15	0.38	—	—	—	—	—	—	—	—	—	—	—	3.16	3.54
HP-23A	—	—	—	—	—	—	—	—	—	—	—	—	1.26	1.26
HP-28	0.83	—	—	—	—	—	—	—	—	—	—	—	—	0.83
HW-1	21.78	—	—	—	—	—	—	—	—	—	—	0.06	0.10	21.94
HW-2	13.54	—	—	—	—	—	—	—	—	—	—	—	0.03	13.57
HW-3	3.95	—	—	—	—	—	—	—	—	—	—	0.12	0.11	4.17
HW-4	10.42	—	—	—	—	—	—	—	—	—	—	—	0.02	10.43
HW-5	0.33	—	—	—	—	—	—	—	—	—	—	—	—	0.33
HW-6	8.47	—	—	—	—	—	—	—	—	—	—	—	0.05	8.52
HW-7	86.84*	—	—	—	—	—	—	—	—	—	—	—	—	86.84
<b>Otay District</b>														
Road	—	—	—	3.65	—	0.63	—	0.13	—	0.04	—	—	2.37	6.82
O-1	—	—	—	15.45	—	2.65	—	—	—	—	0.23	—	—	18.33
O-3A	—	—	—	0.26	—	—	—	—	—	—	—	—	9.07	9.33

TABLE 4.8-1B (Cont.)

Parcel	Bay	CBM	dCSS	DH	dRIP	dSP	dWET	EUC	MFS	NNG	ORN	SCS	DEV	TOTAL
O-3B	—	—	—	0.99	—	—	—	—	—	—	—	—	3.68	4.67
O-4	—	—	—	2.18	—	2.05	—	—	—	16.56	0.22	—	6.13	27.14
OP-1A	—	—	—	1.27	—	—	—	0.43	—	—	—	—	11.86	13.56
OP-1B	—	—	—	7.07	—	—	—	1.40	—	—	—	—	2.40	10.87
OP-2A	0.14	—	—	4.13	—	3.65	—	—	—	4.12	0.36	—	11.61	24.01
OP-2B	—	—	—	1.90	—	—	—	—	—	0.15	—	—	1.41	3.46
OP-3	—	—	—	10.35	—	0.14	—	0.26	—	9.75	4.80	—	0.85	26.15

\*86.84 acres of Navigation Channel, Parcel HW-7.

Bay = Bay

CBM = Coastal brackish marsh

dCSS = Disturbed Diegan coastal sage scrub

DH = Disturbed habitat

dRIP = Disturbed riparian

dSP = Disturbed seasonal pond

dWET = Disturbed wetland

EUC = Eucalyptus woodland

MFS = Mulefat scrub

NNG = Non-native grassland

ORN = Ornamental vegetation

SCS = Southern coastal salt marsh

DEV = Urban/developed

**b. Non-Native Grassland (42200)**

Non-native grassland is dominated by annual, non-native grasses with various native wildflowers but may have some (less than 10 percent) native grasses. This vegetation community is typically found in areas of clay soils that may be waterlogged during the winter rainy season. Non-native grasslands occur throughout Southern California (Holland 1986).

Within the Proposed Project boundary, non-native grasslands are found in areas disturbed by grading and clearing activities and are dominated by Italian ryegrass (*Lolium multiflorum*), ripgut grass (*Bromus diandrus*), and foxtail chess (*Bromus madritensis* ssp. *rubens*). They also contain herbaceous annual species, such as black mustard (*Brassica nigra*), radish (*Raphanus sativa*), and tocolote (*Centaurea melitensis*). Non-native grassland habitat on site is sparse, is highly degraded, and occurs in vacant lots within the Harbor District and within undeveloped areas on the southern end of the Otay District (*Photograph 4.8-1*).

**c. Eucalyptus Woodland (11100)**

Eucalyptus trees are not native to the area and are considered invasive species because of their rapid growth rate, broad cover, and allelopathic chemicals contained in their leaf litter that prevent understory species from growing. Once established, eucalyptus groves often form dense canopies that displace native habitats over time.

A small patch of eucalyptus woodland is present in the southern portion of the Sweetwater District. In this community, eucalyptus (*Eucalyptus* spp.) forms the dominant tree species with scattered palm trees (*Washingtonia robusta* and *Phoenix canariensis*) and pepper trees (*Schinus* spp.) (*Photograph 4.8-2*). Stands of eucalyptus trees mixed with palm trees and other ornamental species, such as myoporum (*Myoporum laetum*), are also present in several small patches in the Otay District.

Eucalyptus Woodland is present in the Otay District west of Bay Boulevard within the SBPP site. This vegetation type is dominated by non-native ornamental species, such as pine trees (*Pinus ponderosa*), myoporum, and oleander (*Nerium oleander*).



PHOTOGRAPH 4.8-1  
Typical Non-native Grassland



PHOTOGRAPH 4.8-2  
Eucalyptus Woodland within the Sweetwater District

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d. Disturbed Habitat (11300)

There are two types of disturbed habitat mapped on site. In the Sweetwater District, the disturbed habitat consists of dense uniform patches of non-native invasive plant species, such as black mustard and crown daisy. A swale along the east side of the Sweetwater District is dominated by pampas grass (*Cortaderia selloana*) with scattered palm trees. In the Otay District, the disturbed habitat consists of areas of bare soil with little vegetation, including filaree (*Erodium botrys*) and various iceplant species (*Mesembryanthemum* spp. and *Carpobrotus* spp.). A representative photograph of the disturbed habitat in the Sweetwater District is provided in *Photograph 4.8-3*. The two disturbed areas within the Harbor District are previously graded lots that are now dominated by bare soil and low-growing non-native herbaceous weeds.

e. Southern Coastal Salt Marsh (52120)

Southern coastal salt marsh consists of salt-tolerant herbaceous plant species and occurs in bays, estuaries, and lagoons in California from Point Conception to the Mexican border. Southern coastal salt marshes are highly productive ecosystems that are driven by tidal cycles, which bring a daily influx of nutrients (Holland 1986).

Southern California salt marshes can be divided into distinctive zones based on vegetation patterns. The lower marsh is characterized by California cordgrass (*Spartina foliosa*), which may grow partly submerged grading into pickleweed, which is typically inundated only on the highest tides (USDN 2000). California cordgrass supports nesting of a sensitive bird species, the light-footed clapper rail (*Rallus longirostris levipes*; state and federal endangered), while pickleweed is the preferred nesting habitat for Belding's savannah sparrow (*Passerculus sandwichensis beldingi*; state endangered species), which also feeds on the plant. The midmarsh is characterized by saltwort (*Batis maritima*), pickleweed, sea-blite (*Suaeda* spp), and arrow grass (*Triglochin concinna*) (USDN 2000). The upper marsh, typified by golden bush (*Isocoma* spp.), prickly-pear (*Opuntia* spp.), glasswort (*Salicornia subterminalis*), California box thorn (*Lycium californicum*), saltgrass, and shoregrass (*Monanthochloe littoralis*), is also the habitat of the state and federal endangered plant species salt marsh bird's beak (*Cordylanthus maritimus maritimus*). Above the upper marsh, an upland marsh zone is typified by transitional species, including saltbush (*Atriplex* spp.), buckwheat (*Eriogonum* spp.), lemonadeberry (*Rhus integrifolia*), sage (*Salvia* spp.), and sagebrush (*Artemisia* spp.) (MBC 2005a).

Due to historical development activities, salt marsh habitat in San Diego Bay has been significantly reduced and is now found only in the South Bay. Currently, about 386 acres (156 hectares) of salt marsh habitat remains in South Bay (USDN 2000). Salt marsh is the driest of the intertidal habitats in the Bay and provides food and protection for fish and invertebrate species as well as many species of birds that feed, nest, and seek protection in marshes. This habitat type also includes the artificial habitat of dikes and ponds interspersed with mudflats and marsh found

at the Western Salt Works. Many shorebirds, seabirds, and waterfowl use the Western Salt Works, as it is one of the few large feeding, roosting, and nesting areas left along the Southern California coast (MBC 2005a).

Within the Proposed Project area, southern coastal salt marsh occurs in locations that are hydrologically connected to tidal cycling within San Diego Bay. Common plant species within the project site include pineapple weed (*Ambylopappus pusillus*), saltgrass, pickleweed, fleshy jaumea (*Jaumea carnosa*), and alkali heath (*Frankenia salina*). Other less common species include saltwort, woolly sea-blite (*Suaeda taxifolia*), and shoregrass. In the Otay District, southern coastal salt marsh occurs along the fringes of the two channels that bisect the parcel. In the Harbor District, several small patches of habitat occur along the fringe of the harbor, within a channel (the HP-5 drainage ditch) that runs along the perimeter of a vacant lot east of Marina Parkway, and in the northern tip of the district within the tidal inlet to the F & G Street Marsh (Photograph 4.8-4).

f. Mulefat Scrub/Riparian Scrub (63310)

Mulefat scrub is a tall, herbaceous riparian scrub strongly dominated by mulefat (*Baccharis salicifolia*). This early seral vegetation community occurs along drainages with a fairly coarse substrate and a moderately deep water table. Mulefat scrub is developed and maintained by flooding or other disturbances but, in the absence of disturbance, may change, through successional processes, to willow–cottonwood or sycamore-dominated riparian forest/woodland. Mulefat scrub typically occurs at elevations below 2,000 feet (Holland 1986).

Within the Sweetwater District, mulefat scrub occurs as a small isolated patch adjacent to the Chula Vista Nature Center visitor parking area. Patches of mulefat scrub also occur in and around the open water pond on the SBPP site located within the Otay District; however, these patches were considered too small to map and are included within the seasonal pond classification.

Mulefat scrub is synonymous with riparian scrub as described in Appendix B of the City's MSCP Subarea Plan.



PHOTOGRAPH 4.8-3  
Typical Disturbed Habitat Dominated by Crown Daisy



PHOTOGRAPH 4.8-4  
Southern Coastal Salt Marsh within the Harbor District

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g. Coastal Brackish Marsh (52200)

Coastal brackish marsh is similar to coastal salt marsh, but is influenced by the influx of freshwater. Plant species commonly associated with the brackish marsh on site include freshwater species, such as tall flatsedge (*Cyperus eragrostis*), giant bulrush (*Scirpus californicus*), bull tule (*S. robustus*), and mulefat. The marsh areas are slightly alkaline and therefore also contain halophytic species, such as pickleweed and saltgrass. Non-native species are common through the fringes of this habitat and include Bermuda grass (*Cynodon dactylon*), prickly lettuce (*Lactuca serriola*), mustards (*Brassica* spp.), and slender-leaved iceplant (*Mesembryanthemum nodiflorum*). Coastal brackish marsh habitat is located north of F Street, within the Sweetwater District. This would fall within the category of southern coastal salt marsh as described in Appendix B of the City's MSCP Subarea Plan.

h. Seasonal Pond (No Holland Code)

The seasonal ponds on site are located in the Otay District and are associated with urban stormwater runoff and/or the impoundment of water within bermed areas. The seasonal ponds are located in areas that have been previously developed and then abandoned, along roads, and within detention basins. These areas are typically seasonally saturated or ponded due to heavy rains, shallow groundwater, flat topography, and sediments that have been imported into these areas as pads were created for building purposes. The dominant plant species are non-native and include grass poly (*Lythrum hyssopifolium*), annual beardgrass (*Polypogon monspeliensis*), sand spurrey (*Spergularia* sp.), and perennial ryegrass (*Lolium perenne*). Saltcedar (*Tamarix* sp.) is scattered within the largest seasonal pond. This would fall within the category of disturbed wetland as described in Appendix B of the City's MSCP Subarea Plan.

i. Disturbed Riparian (63000)

Disturbed riparian classifies the fringes of the coastal brackish marsh habitat in the Sweetwater District north of F Street. This area is within the floodplain of the salt marsh and contains native pickleweed and saltgrass species, but it has been degraded by the presence of Bermuda grass and mustards. This would fall within the category of disturbed southern coastal salt marsh as described in Appendix B of the City's MSCP Subarea Plan.

j. Disturbed Wetland (11200)

A patch of disturbed wetland habitat (2.61 acres) occurs in the Sweetwater District along its western boundary with the Sweetwater Marsh NWR. The dominant plant species in the disturbed wetland community is pineapple weed. Other species include Australian saltbush (*Atriplex semibaccata*) and alkali heath. This meets the definition of disturbed wetland as described in Appendix B of the City's MSCP Subarea Plan.

#### k. Bay (13120)

The San Diego Bay areas consist of unvegetated open water below the mean high tide line. A majority of this habitat type is located in the harbor within the Harbor District and along the western edge of the project area. Smaller mapped areas of Bay are located in both the Sweetwater and Otay Districts.

#### l. Urban/Developed (12000)

Urban/developed lands on site include paved roads, parking lots, buildings, and parks. These features comprise a majority of both the Harbor District and Otay District, as these districts are highly developed. The Sweetwater District has a few small areas that may be classified as urban or developed land.

#### 4.8.1.5 General Wildlife

The wildlife species observed in the Proposed Project area are typical of native and disturbed habitats in coastal San Diego County. A complete list of the species detected is provided in *Appendix 4.8-2*. Marine wildlife species (other than birds) detected on site are addressed in *Section 4.9, Marine Biological Resources*. The wildlife discussion below addresses non-sensitive and sensitive species separately.

#### a. Butterflies

The distribution of butterflies is generally defined by the distribution of their larval food plants. Five butterfly species were observed in the project area. Species observed include California ringlet (*Coenonympha californica*), red admiral (*Vanessa atalanta rubria*), and mourning cloak (*Nymphalis antiopa antiopa*). Other common butterfly species expected to occur on site include pygmy blue (*Brephidium exile*), acmon blue (*Plebejus acmon*), and Behr's metalmark (*Apodemia mormo virgulti*).

#### b. Amphibians

Amphibians require moisture for at least a portion of their life cycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid desiccation by burrowing beneath the soil or leaf litter during the day and during the dry season.

Pacific treefrogs (*Pseudacris regilla*) were detected in the largest seasonal pond in the Otay District. Other amphibians, including garden slender salamanders (*Batrachoseps major major*)

and western spadefoot (*Spea hammondi*), have the potential to occur in and adjacent to water sources on site but were not observed during surveys.

#### c. Reptiles

The diversity and abundance of reptile species vary with habitat type. Many reptiles are restricted to certain vegetation communities and soil types, although some of these species would also forage in adjacent communities. Other species are more ubiquitous, using a variety of vegetation types for foraging and shelter.

Side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*) were observed throughout the site in native and disturbed habitats. Suitable habitat is present for San Diego gopher snake (*Pituophis melanoleucus*), southern Pacific rattlesnake (*Crotalus viridis*), and two-striped garter snake (*Thamnophis hammondi*), although none of these species was observed during wildlife surveys.

Green sea turtles (*Chelonia mydas*) are known to occur in the Bay, near the SBPP discharge channel (MBC 2005a). During the day, the reptiles have been observed in and around the discharge channel of the power plant, while at night they feed on eelgrass beds in the South Bay (Stinson 1984 as cited in MBC 2005a). As it is a marine animal, the green sea turtle is addressed in *Section 4.9, Marine Biological Resources* of this document.

#### d. Birds

San Diego Bay provides migratory birds the largest expanse of protected bay waters in Southern California along the Pacific Flyway, which is the corridor that birds use when flying between breeding grounds to the north and wintering sites to the south. The Pacific Flyway also serves as the northern range of some tropical species, including a number that breed and nest locally (USDN 2000). In the winter months, northern migrants dominate the area. The species mix changes, however, in the spring and summer, when different varieties of water birds visit San Diego Bay. Surveys for the Proposed Project were conducted in 2005/2006; in addition, bird-use surveys conducted in 1993/1994 (USDN 2000) were also reviewed. According to these latter studies, an estimated seven million bird-use days per year occurred in San Diego Bay, for an average of more than 19,000 birds per day (with substantial peaks and lows), based on the average number of sightings during survey days (USDN 2000).

Note also that 208 bird species inhabit the Sweetwater Marsh NWR to the north of the project site, many of which would forage on the Proposed Project site. *Appendix 4.8-3* is the bird checklist from the Sweetwater Marsh NWR (Chula Vista Nature Center 2003).

The diversity of bird species varies with respect to the character, quality, and diversity of the vegetation communities present. Although the site's upland habitats are of low quality, the prevalence of coastal fringe habitat, open water, urban parks, and vacant lots with scattered development provides habitat for a wide range of resident and migratory bird species. Overall, many birds prefer the shallower nearshore waters compared to deeper channel waters, due to higher fish concentrations present nearshore (Ogden 1994). Water-oriented birds in the Chula Vista Marina use the bulkhead, docks, and boats as resting or foraging habitat when there is limited human activity (MBC 2005a).

Distinguishing birds by their habitats and foraging customs offers a simplified way of looking at the species in the area. The following presents a summary of birds known to occur in the region as determined by Baird (1993) and confirmed during general surveys.

**Upland birds.** Species commonly observed in the site's upland habitats during on-site surveys include Anna's hummingbird (*Calypte anna*), house finch (*Carpodacus mexicanus frontalis*), Bewick's wren (*Thryomanes bewickii*), lesser goldfinch (*Carduelis psaltria hesperophilus*), and California towhee (*Pipilo crissalis*). White-crowned sparrows (*Zonotrichia leucophrys*) and yellow-rumped warblers (*Dendroica coronata*), which are winter migrants, were also observed. An osprey (*Pandion haliaetus carolinensis*) nest (including a pair of osprey and at least two fledglings) was observed on a light pole in the former Goodrich South Campus adjacent to Marina Boulevard. Other raptors observed on site include northern harrier (*Circus cyaneus hudsonius*) and red-tailed hawk (*Buteo jamaicensis*).

**Waterfowl.** Waterfowl species specialize in aquatic vegetation and feed on aquatic invertebrates, grain, or mollusks and crustaceans. As a group, they have a range of diet preferences and foraging behaviors. Waterfowl are common residents of bay waters. Overall, bird abundance and biomass is generally higher in winter, when large numbers of northern migrants are present (USDN 2000). Abundant waterfowl in the bay area include surf scoter (*Melanitta perspicillata*), eared grebe (*Podiceps nigricollis*) and western grebe (*Aechmophorus occidentalis*), lesser scaup (*Aythya affinis*) and greater scaup (*A. marila*), bufflehead (*Bucephala albeola*), and brant (*Branta bernicla*) (USDN 2000). During general surveys, mallards (*Anas platyrhynchos platyrhynchos*), northern pintails (*Anas acuta acuta*), and American coots (*Fulica americana americana*) were observed in the largest seasonal pond on the southern extent of the Otay District.

**Shorebirds.** Shorebirds in Southern California are present mainly in winter months, with many feeding in intertidal habitats, especially estuaries and beaches (Dailey et al. 1993). Some areas around the Bay are predictable for seeing shorebirds at low tide, but high-tide refuges are hard to predict as feeding areas. Their use of an area sometimes depends upon predator activities and human disturbance. Shorebirds normally redistribute themselves when feeding areas become scarce.

Shorebirds common in San Diego Bay include western sandpipers (*Calidris mauri*) and least sandpipers (*C. minutilla*), red-necked phalaropes (*Phalaropus lobatus*), marbled godwits (*Limosa fedoa*), willets (*Catoptrophorus semipalmatus*), black-bellied plovers (*Pluvialis squatarola*), long-billed dowitchers (*Limnodromus scolopaceus*), and short-billed dowitchers (*L. griseus*) (USDN 2000). Browning et al. (1973) reported over 26 species of shorebirds using the South Bay as a wintering ground. In the Bay, peak abundance of shorebirds is in August during the fall migration (USFWS 1994).

**Seabirds.** Seabirds spend at least a portion of their lives on or near offshore waters. Many of them are diving birds that pursue fish and other prey underwater; most of them commonly eat fishes, squid, and crustaceans (Baird 1993). Diving species of seabirds predominate in areas where certain processes maintain standing stocks of phytoplankton, making the water turbid (Briggs and Chu 1987). Many seabirds use artificial hard structures for roosting and the Western Salt Works dikes for roosting and nesting. Seabirds abundant in San Diego Bay that forage within the surface water habitats in the project area include California brown pelican (*Pelecanus occidentalis californicus*), elegant tern (*Sterna elegans*), Forster's tern (*S. forsteri*), Heermann's gull (*Larus heermanni*), western gull (*L. occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), Brandt's cormorant (*P. penicillatus*), and black skimmer (*Rynchops niger*) (USDN 2000).

**Marsh birds.** Salt marsh is the driest intertidal habitat, occurring in the upper intertidal zone above the mudflats. Salt marshes are regularly wet by tidal water and exposed at least once every 24 hours. Marsh birds often fly a short distance inland to roost and nest in groves of trees, but they return to the marsh every day to feed. Heron rookeries are known to exist at North Island Naval Air Station, Naval Station, and Submarine Base. Four species of marsh birds were observed during the three San Diego Bay surveys in 1993 and 1994: great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), great egret (*Ardea alba egretta*), and black-crowned night heron (*Nycticorax nycticorax*) (USDN 2000). All of these species were observed again during surveys in 2005/2006. In general, egrets and herons feed on fish, shrimp, insects, and other prey items. Black-crowned night herons are common in harbors, perching on masts and piers as hunting and/or roosting platforms. Great blue herons feed in shallow waters, on wetland shorelines, and on tide flats and sandbars (Dailey et al. 1993).

#### e. Mammals

Naturally vegetated areas provide cover and foraging opportunities for a variety of native mammal species. Disturbed and degraded habitats generally provide a lower quality of habitat. Most mammal species are nocturnal and are often detected by sign during daytime surveys.

California ground squirrels (*Spermophilus beecheyi*), desert cottontail rabbits (*Sylvilagus audubonii*), and southern pocket gopher (*Thomomys umbrinus*) were detected on site. Mammals

common to urban areas and expected to occur on site include opossum (*Didelphis virginiana*) and striped skunk (*Mephitis mephitis*); however, these species were not observed.

California sea lions (*Zalophus californianus*) and other marine mammals are known to occur in the Bay but are addressed in the marine technical report prepared by MBC (2005b) and in Section 4.9, *Marine Biological Resources* of this report.

#### 4.8.1.6 Sensitive Species and Habitats

##### a. Regulatory Framework

##### i. Determination of Sensitivity

Most of the Proposed Project area lies within the Port's planning jurisdiction, and project impacts to biological resources on Port lands are assessed in accordance with state and federal regulations. However, lands within the jurisdiction of the City of Chula Vista also occur within the Proposed Project area (see Figure 3.4 and Section 4.1, *Land Use* for further discussion). Therefore, biological impacts to these lands were assessed in accordance with the City of Chula Vista MSCP Subarea Plan (City of Chula Vista 2003a).

Local, state, and federal agencies regulate sensitive species and require project applicants to evaluate whether such species are present or have the potential to be present on site. Applicants must complete this evaluation prior to obtaining approval of any proposed development. All species listed by state or federal agencies as rare, threatened, endangered, or proposed for listing are considered sensitive biological resources. The habitat that supports a listed species is also a sensitive biological resource.

For purposes of this impact analysis, species are considered sensitive if they are: (1) listed or proposed for listing by state or federal agencies as threatened or endangered; (2) on List 1B (considered endangered throughout their range) or List 2 (considered endangered in California but more common elsewhere) of the California Native Plant Society's *Inventory of Rare and Endangered Plants of California* (CNPS 2001); (3) included on the City of Chula Vista's MSCP Subarea Plan list of species evaluated for coverage or list of narrow endemic plant species (City of Chula Vista 2003a; for lands within the City's jurisdiction); or (4) considered rare, endangered, or threatened by the Natural Diversity Database (NDDDB; State of California 2006a, 2006b, 2006c).

Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species (CNPS 2001; Reiser 2001) and species occurrence records from the NDDDB (State of California 2006c).

Sensitive habitat types are those identified by the MSCP Subarea Plan (City of Chula Vista 2003a), NDDDB (State of California 2006c), or Holland (1986).

Wetlands are considered sensitive biological resources, and impacts to these resources are regulated by the USACE, CDFG, RWQCB, and CCC. In addition, wetlands within the City of Chula Vista's planning boundary are regulated under the City of Chula Vista's Wetlands Protection Program.

ii. Applicable Federal Regulations

***Federal Endangered Species Act.*** The federal Endangered Species Act of 1973 (ESA), as amended, 16 U.S.C. 1531 et seq., provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed animal species. The ESA also prohibits all persons subject to U.S. jurisdiction from "taking" endangered species, which includes any harm or harassment. Section 7 of the ESA requires that federal agencies, prior to project approval, consult USFWS and/or the National Marine Fisheries Service (NMFS) to ensure adequate protection of listed species that may be affected by the project.

***Migratory Bird Treaty Act.*** The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed in 50 CFR 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species and includes any part, egg, or nest of such bird (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the ESA. The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

***Clean Water Act, 1972.*** The CWA provides a structure for regulating discharges into the waters of the U.S. Through this Act, the EPA is given the authority to implement pollution control programs. These include setting wastewater standards for industry and water quality standards for contaminants in surface waters. The discharge of any pollutant from a point source into navigable waters is illegal unless a permit under its provisions is acquired. In California, the State Water Resources Control Board (SWRCB) and the nine RWQCBs are responsible for implementing the CWA.

***Rivers and Harbors Act of 1899.*** Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.) requires authorization from USACE for the construction of any structure in or over any navigable water of the U.S., the excavation/dredging or deposition of material in these waters, or

any obstruction or alteration in a “navigable water.” The construction of structures or work outside the limits defined for navigable waters of the U.S. requires a Section 10 permit if the structure or work affects the course, location, condition, or capacity of the water body.

iii. Applicable State Regulations

**California Environmental Quality Act.** CEQA provides guidelines for defining impacts. Appendix G of the guidelines contains questions that local jurisdictions should evaluate when analyzing a project’s potential impacts. CEQA provides these guidelines so that local jurisdictions are able to determine what constitutes an “adverse effect” and a significant impact to a biological resource.

**California Endangered Species Act.** Similar to the federal ESA, the California ESA provides protection to species considered threatened or endangered by the State of California. The California ESA recognizes the importance of threatened and endangered fish, wildlife, and plant species and their habitats, and prohibits the taking of any endangered, threatened, or rare plant and/or animal species unless specifically permitted for education or management purposes.

**California Fish and Game Code, Section 1600.** Under Section 1602 of the Fish and Game Code, CDFG regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFG has jurisdiction over riparian habitats (e.g., southern willow scrub) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFG jurisdiction does not include tidal areas or isolated resources.

**California Fish and Game Code, Section 1700.** Section 1700 of the Fish and Game Code encourages the conservation, utilization, and maintenance of oceanic biological resources for the benefit of the public. The state would promote the development of local and distant-water fisheries in California under international law. Objectives include the maintenance of populations of all species of aquatic organisms to ensure their continued existence and support reasonable use.

**Porter-Cologne Water Quality Act.** The Act provides for statewide coordination of water quality regulations. The California SWRCB was established as the statewide authority, and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis.

**California Coastal Act of 1976 (California Public Resources Code 30000 et seq.).** This Act defines coastal wetlands as “lands within the coastal zone which may be covered periodically or permanently with shallow water” (California Public Resources Code Division 20, Section 30121). The California Coastal Commission was established to oversee and implement this Act.

Among other requirements, Section 30233 of the Coastal Act identifies eight allowable uses, requires that the Proposed Project be the least environmentally damaging feasible alternative, and, where applicable, requires feasible and appropriate mitigation.

iv. Applicable Local Regulations

**Chula Vista Subarea Plan.** The Chula Vista Subarea Plan was prepared pursuant to the MSCP Subregional Plan for southern San Diego, was approved by the City of Chula Vista in 2003, and permits were issued by the USFWS and CDFG in 2005. The Subarea Plan identifies lands that would conserve habitat for covered federal and state endangered, threatened, or sensitive species. The Subarea Plan also designates a Preserve and provides a regulatory framework for determining impacts to the Preserve and sensitive habitat throughout the City and identifies mitigation to reduce those impacts. *Figure 4.8-1* shows the location of the MSCP Preserve Lands in relation to the subject property. The Subarea Plan also provides a process that allows the City to convey take authorization under the federal and state ESAs for the incidental take of threatened and endangered species. The Subarea Plan authorizes take in two ways: (1) it establishes “Covered Projects” for which take is authorized and, (2) for projects located within mapped Development Areas that are outside of Covered Projects, take of covered species requires the issuance of a Habitat Loss and Incidental Take (HLIT) Permit. In addition, the Subarea Plan requires issuance of an HLIT permit for “all development within the City’s jurisdiction which is not located within the Development Areas of Covered Projects prior to issuance of any land development permit.” As stated in Section 17.35 of the Chula Vista Municipal Code:

In conjunction with the earliest decision on any entitlement related to a Project Area after June 9, 2005, the effective date of the ordinance such as Sectional Planning Area (SPA) Plan approval, Design Review approval, conditional use permit, variance, parcel map approval, tentative map approval, Land Development Permit, or a Clearing or Grubbing permit, the applicant shall obtain an HLIT permit in the following mapped areas identified in the Chula Vista MSCP Subarea Plan unless exempt pursuant to Section 17.35.050 of this Chapter.

1. 100 percent Conservation Areas;
2. 75-100 percent Conservation Areas; and
3. Development Areas outside of Covered Projects.

The Subarea Plan also provides guidelines to address Adjacency Management Issues, in order to address indirect impacts associated with development adjacent to the Preserve areas. All new development must adhere to these guidelines, which address potential drainage issues, overspill

of lighting and noise into the Preserve, use of non-invasive plant species, and limiting of public access in sensitive preserve areas.

b. Sensitive Species and Habitats on the Project Site

i. Sensitive Vegetation Communities

Disturbed Diegan coastal sage scrub, a Tier II habitat (uncommon uplands) under the City Subarea Plan, is considered a sensitive vegetation community based on rarity and ecological importance. Representative patches of this community on site are of low quality and contain few native species. The small patch in the Sweetwater District is a monoculture of California encelia surrounded by fields of black mustard. The patch in the Otay District is dominated by non-native weed species and is isolated. Mulefat scrub/riparian scrub, coastal brackish marsh, southern coastal salt marsh, seasonal ponds, disturbed riparian, and the Bay are considered sensitive wetland habitats. *Figure 4.8-3* illustrates the locations of these sensitive vegetation communities on site. Under the City's MSCP Wetlands Protection Program and the "no-net-loss" policy implemented by USACE and CDFG, impacts to wetland habitats must be avoided to the greatest extent practicable. In addition, as noted above, the California Coastal Act identifies coastal wetlands as sensitive and contains policies that require avoidance and minimization of impacts.

Non-native grassland is identified as a Tier III vegetation community ("common uplands") in the Chula Vista MSCP Subarea Plan and is considered a sensitive vegetation community within the City's jurisdiction because it provides foraging habitat for raptors. For purposes of this analysis, the Port also identifies the non-native grasslands within the project area as a sensitive vegetation community. The non-native grasslands occurring within the project area are of low quality and are primarily within vacant lots that have been subject to extensive disturbance.

ii. Sensitive Plant Species

**Observed**

Two sensitive plant species, woolly sea-blite and California box thorn, were detected on site during general surveys and are discussed below. Both species are on the CNPS List, but neither is covered in the Chula Vista MSCP Subarea Plan; these two species are not state or federally listed. *Appendix 4.8-4* summarizes the sensitive plants observed on site or with the potential to occur.

**Woolly sea-blite (*Suaeda taxifolia*) — CNPS List 4 species.** This hairy evergreen shrub in the goosefoot family (Chenopodiaceae) has gray-brown stems that grow up to 6 feet tall and can flower at any time of the year (Hickman 1993; CNPS 2001). Woolly sea-blite is found along the coast from San Luis Obispo County south to Baja California, Mexico, and on the Channel

Islands (CNPS 2001). It usually occurs along the margins of salt marshes but may also occasionally be found in coastal bluffs below 50 feet elevation (Hickman 1993; Reiser 2001). Woolly sea-blite has been reported in salt marshes along the coast and in the lagoons through the length of San Diego County (Reiser 2001).

Approximately 150 woolly sea-blite individuals were observed in the Sweetwater District (*Figure 4.8-4*). None were observed in the Harbor or Otay Districts.

**California box thorn (*Lycium californicum*) — CNPS List 4 species.** This shrub in the nightshade family (Solanaceae) has stiff, spiny branches; small fleshy leaves; and white, purple-tinged flowers that bloom from March to July (Munz 1974). California box thorn is distributed coastally, on the Channel Islands, and from Los Angeles County south to Baja California, Mexico (Munz 1974; Hickman 1993). The general habitat for this species is coastal bluff scrub and coastal sage scrub below 500 feet elevation; in San Diego County, it occupies upper coastal salt marshes and on sandstone steppes (Reiser 2001). California box thorn differs from all other plants in its genus because it has leaves that are more or less round in cross section and produces only two seeds per fruit (Hickman 1993).

Two California box thorn individuals were observed in a degraded patch of habitat along the fringes of the coastal salt marsh habitat in the Sweetwater District (see *Figure 4.8-4*). This species was not found elsewhere on the project site.

#### **Plant Species with Potential to Occur on Site but Not Observed**

*Appendix 4.8-4* summarizes the status, habitats, and likelihood of occurrence for other sensitive species that have the potential to occur on site but were not observed during focused rare plant or general biology surveys. A number of these species, such as shrubs or large cactus species, would have been easily observed during surveys *if* they occurred. That they were not observed indicates that they are “not expected to occur.” Some species have a low potential for occurrence because the Proposed Project area lacks the appropriate substrate or is out of the species’ range.

**San Diego ambrosia (*Ambrosia pumila*) — Federally listed as endangered, MSCP narrow endemic, CNPS List 1B species.** This perennial herb in the sunflower family (Asteraceae) emerges from rhizomes in spring and flowers from June to September. It is found at elevations below 500 feet in western Riverside and San Diego counties and in northern Baja California, Mexico. It may occur in disturbed areas in chaparral, coastal scrub, grassland, or vernal pool communities (CNPS 2001). Potential habitat in San Diego County is along creek beds, seasonally dry drainages, and floodplains along the edge of willow woodland, in river wash or sandy alluvial soils (Reiser 2001), from the San Luis Rey River south to the Sweetwater River (Beauchamp 1986).

San Diego ambrosia was not detected on site during focused surveys and is not expected to occur due to lack of suitable conditions and extensive disturbed nature of areas with suitable soils.

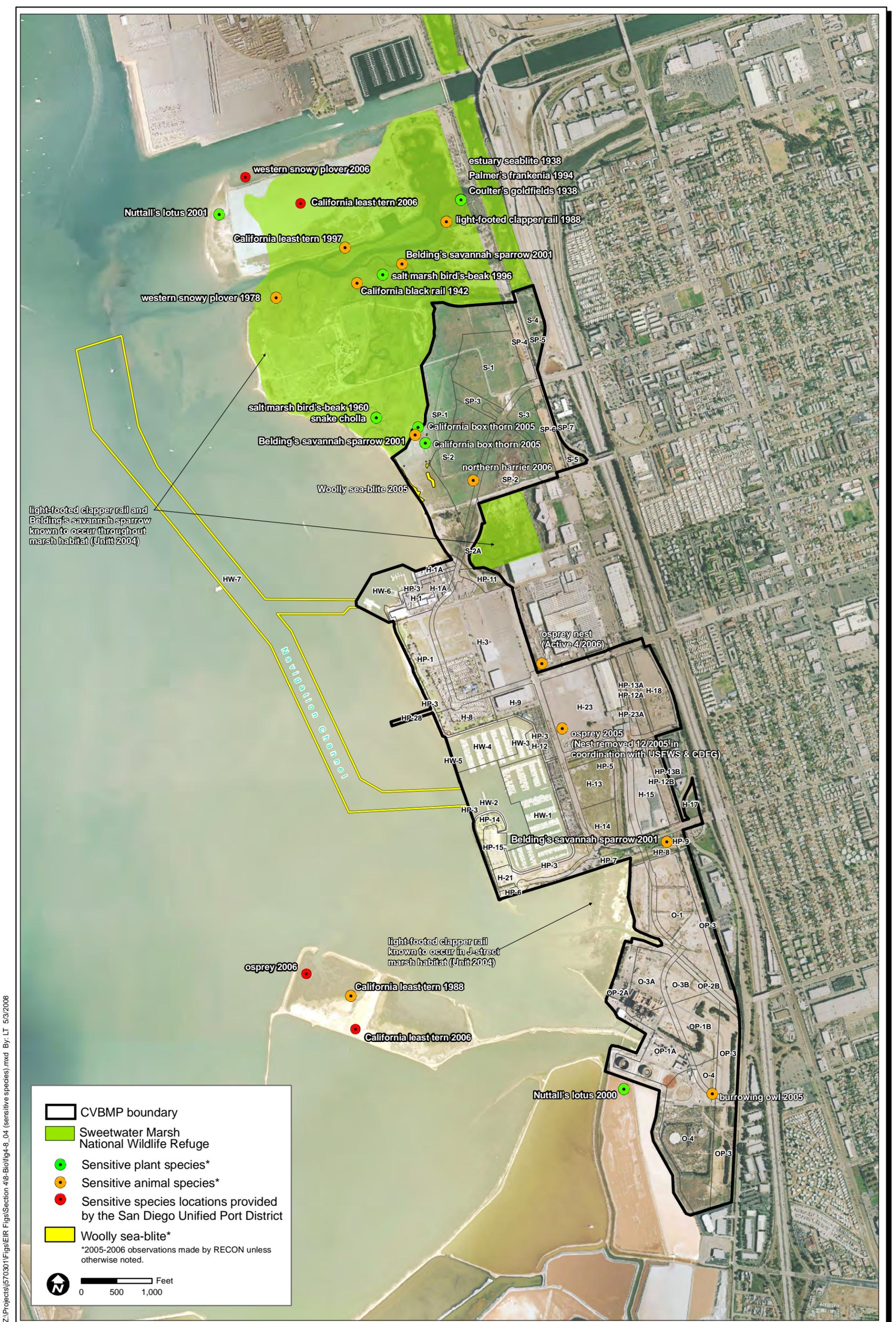
**Salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*)** — **State and federally listed endangered, CNPS List 1B species, MSCP narrow endemic.** Salt marsh bird's beak is a low-growing, semi-parasitic annual in the snapdragon family (Scrophulariaceae). It has gray-green leaves that are often tinged purple and encrusted with salt, and it produces small, white flowers from May to October. It is found coastally from San Luis Obispo County south to Baja California, Mexico, at elevations below 30 feet. It is found primarily in salt marshes, where it prefers to grow on hummocks, but may also occur in coastal dune and salt pan habitats. This species is hemiparasitic, relying on the roots of host plants to derive water and nutrition (USDN 2000). Abundance can vary from year to year, and success depends on availability of suitable hosts, proper salinity, open canopies, and other variable habitat characteristics. In San Diego County, it is known to occur in these habitats in Imperial Beach, Chula Vista, and Sweetwater River (Reiser 2001).

Salt marsh bird's beak is known to occur in the Sweetwater Marsh NWR north of the project area but was not detected on site during focused plant surveys (see *Figure 4.8-4*) and is not expected to occur on site, due to lack of suitable conditions within the small patches of coastal salt marsh on the project site.

**Palmer's frankenia (*Frankenia palmeri*)** — **CNPS List 2 species.** This low-growing shrub in the frankenia family (Frankeniaceae) grows to 8 inches and flowers from May to July. It is found coastally in southern San Diego County, and in Baja California and Sonora, Mexico. Palmer's frankenia occurs in coastal salt marsh, alkali flats, and coastal dunes (Hickman 1993) below 30 feet elevation (CNPS 2001). Palmer's frankenia can be distinguished from the widespread alkali heath by its shorter, narrower, less tightly rolled leaves and predominantly white (as opposed to pinkish) flowers (Hickman 1993). Historical habitats include the Tijuana Estuary (where it was re-introduced in a public garden) and Silver Strand State Beach.

Currently, the only known U.S. population occurs on distinctive mounds that rise above the remaining grade in Sweetwater Marsh NWR north of the project area. No Palmer's frankenia were observed on site during focused plant surveys.

**Nuttall's lotus (*Lotus nuttallianus*)** — **CNPS List 1B species, MSCP covered species.** This is a prostrate annual or perennial herb that occurs on coastal dunes and in sandy coastal scrub habitats from San Diego County southward into northern Baja California, Mexico. Nuttall's lotus typically flowers from March through June. The species is in serious decline in California and is now known to occur in fewer than 10 locations in the state.



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According to the NDDDB, this species occurs adjacent to the project area. Focused rare plant surveys were conducted in 2005 and 2006 and this species was not detected on site.

iii. Sensitive Wildlife

**Observed**

Sensitive wildlife species were detected on site during by RECON and MBC Applied Environmental Services. Species known to occur or with potential to occur are addressed below and include sensitivity status where applicable.

Green sea turtles and marine mammals are known to occur in the Bay and are addressed in *Section 4.9, Marine Biological Resources*. Other sensitive wildlife species, particularly resident and migratory birds, have the potential to occur on site due to the site's proximity to the Sweetwater Marsh NWR and the presence of suitable habitat within the project area. A list of sensitive species potentially occurring on site is provided in *Appendix 4.8-5*.

**Wildlife Species with Potential to Occur on Site**

**California brown pelican (*Pelecanus occidentalis californicus*)** — **State and federally listed endangered, CDFG fully protected, California species of special concern, MSCP covered species.** California brown pelicans have been observed foraging in the San Diego Bay and are known to forage and roost in the Sweetwater Marsh NWR; however, this species is not known to breed on site or in the vicinity.

**Western burrowing owl (*Athene cunicularia hypugaea*)** — **USFWS bird of conservation concern; CDFG species of special concern, MSCP covered species.** The western burrowing owl's range is generally restricted to the western United States and Mexico. The typical breeding season ranges from February 1 to August 31. Habitat for the western burrowing owl includes dry, open, shortgrass areas often associated with burrowing mammals (Haug et al. 1993). Its long legs and boldly spotted and barred plumage distinguish the small-sized (9 to 11 inches) western burrowing owl from other ground-dwelling owls. A year-round resident in San Diego County, this species ranges throughout the coastal lowlands in grasslands, agricultural areas, and coastal dunes (Unitt 2004). The burrowing owl is nocturnal and perches during daylight at the entrance to its burrow or on low posts. Nesting occurs from March through August. Burrowing owls form pair bonds for more than 1 year and exhibit high site fidelity, reusing the same burrow year after year (Haug et al. 1993). The female remains inside the burrow during most of the egg laying and incubation period and is fed by the male throughout brooding. Western burrowing owls are opportunistic feeders, consuming a diet that includes arthropods, small mammals, birds, and occasionally amphibians and reptiles (Haug et al. 1993). Urbanization has greatly reduced the amount of suitable habitat for this species. Owl populations have also declined due to the

poisoning of squirrels and prairie dogs, which reduces the number of burrows made by these species for the western burrowing owls to use. Automobile strikes also kill a number of western burrowing owls each year.

One western burrowing owl was observed in the disturbed habitat on the SBPP site within the Otay District in the Port's jurisdiction. This individual was observed during the breeding season (on March 8, 2005) occupying a small corrugated plastic pipe outfall, which indicates that it is breeding on site.

**Cooper's hawk (*Accipiter cooperi*)** — **Former CDFG species of special concern, MSCP covered species.** Cooper's hawk nesting sites are considered sensitive by CDFG. Although this species is no longer identified as a species of special concern according to the current *California Bird Species of Special Concern* (April 10, 2008), these species are still afforded protective measures per Sections 3503 and 3503.5 of the Fish and Game Code. The Cooper's hawk ranges year-round throughout most of the U.S.; its wintering range extends south to Central America, and its breeding range extends north to southern Canada (Rosenfeld and Bielefeldt 1993). A small hawk (14 to 20 inches), Cooper's hawk is characterized by short, rounded wings, a square tail, bluish-gray upper parts, and white and rufous under parts. This hawk mainly breeds in oak and willow riparian woodlands but would also use eucalyptus trees. Breeding occurs from March to July. This hawk forages primarily on medium-sized birds but is also known to eat small mammals, such as chipmunks and other rodents (Rosenfeld and Bielefeldt 1993).

A Cooper's hawk was observed flying over the site. Biologists searched suitable nesting trees for nests but none were found. There is the potential for Cooper's hawks to forage and nest on site.

**Northern harrier (*Circus cyaneus hudsonius*)** — **CDFG species of special concern, nesting sites protected by CDFG, MSCP covered species.** Northern harriers winter throughout most of North America from southern Canada to Central America and the Caribbean Islands (MacWhirter and Bildstein 1996). Their breeding range extends from Canada and Alaska to the northwestern U.S., with some year-round residents in coastal California and northern Baja California, Mexico. In San Diego County, the northern harrier is a fairly common migrant in the winter and a rare summer breeder (Unitt 1984). Northern harriers have slim bodies (17.5 to 24.0 inches) with long wings and tail and long slender legs, and they exhibit strong sexual dimorphism. Males are gray and females are dark brown. The northern harrier most commonly nests on the ground at the edge of marshes but would also nest on grasslands, fields, or in areas of sparse shrubs (MacWhirter and Bildstein 1996). The northern harrier hovers close to the ground while foraging in grasslands, agricultural fields, and coastal marshes. Its diet consists of small- and medium-sized rodents, birds, reptiles, and frogs. The range of this species has been reduced due to urbanization and agricultural development.

This species was commonly observed foraging on site, particularly in the disturbed habitat in the Sweetwater District. There is high potential that northern harriers nest on site, although no nests were observed during surveys.

**Osprey (*Pandion haliaetus carolinensis*)** — **Former CDFG species of special concern, nesting sites protected afforded protective measures by CDFG.** Although this species is no longer identified as a species of special concern according to the current *California Bird Species of Special Concern* (April 10, 2008), these species are still afforded protective measures per Sections 3503 and 3503.5 of the Fish and Game Code. This species ranges worldwide and is found along the coastline and around lakes of the coastal lowlands. Small numbers overwinter in San Diego County; they are most numerous in mid-September and November (Unitt 2004). Fewer are present in spring and summer during the breeding season. Individuals often take up residence at favored areas and remain there for several years. Ospreys are dark brown above and white below, with a white head and a prominent dark eye stripe; females have a necklace-like dark streak on their chest. A moderate-sized bird of prey (21.0 to 24.5 inches), osprey wingspan can reach 4.5 to 6.5 feet in length. They lay eggs on large platform nests made of sticks and lined with moss and grass. Nesting may occur in trees, on cliffs, or on human structures, and nests are usually built at a height of 5 to 200 feet above ground (Polite 1983). Breeding occurs from March through September. Their diet consists primarily of fish, but they would also prey on mammals, reptiles, amphibians, and invertebrates (Polite 1983). Ospreys forage by hovering over water, diving down, and catching fish in their talons. Severe reduction of the osprey's potential foraging habitat, as well as breeding failures due to the long-term effects of pesticides such as DDT, have combined to greatly reduce the number of osprey present in San Diego County.

A breeding pair of osprey had a nest in a utility pole at the former Goodrich South Campus, in an area that is adjacent to but outside of the Proposed Project boundary, adjacent to Marina Boulevard (*Photograph 4.8-5*). On April 20, 2005, biologists observed at least two fledglings in the nest with the parents nearby. The Port's biologist, in coordination with USFWS and CDFG, removed the nest from the site on December 2, 2005, outside the breeding season prior to the demolition of the former Goodrich South Campus. In March 2006, biologists observed a new osprey nest just off site, adjacent to the former Goodrich South Campus (see *Figure 4.8-4*). A pair of osprey and at least one nestling were observed at the nest. None occur on site.

**Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)** — **State listed endangered, MSCP covered species.** Year-round residents in San Diego County, Belding's savannah sparrows range along the coast from Morro Bay, California, south to El Rosario, Mexico (Wheelwright and Rising 1993). Belding's savannah sparrows nest in tidal salt marshes or around lagoons in low vegetation dominated by pickleweed. Nesting occurs in small, cuplike nests on or near the ground, concealed from above. The nesting period runs from mid-March through early July (Unitt 2004).

Foraging occurs in nearby mudflats, beaches, rocks, and low coastal strand vegetation. Belding's savannah sparrows feed on the ground, eating mostly seeds but also insects, spiders, small mollusks, and fruit (Wheelwright and Rising 1993). Development, including dredging of salt marsh habitats, has greatly reduced available habitat for Belding's savannah sparrow.

Approximately 93 Belding's savannah sparrows are known to occur in the Sweetwater Marsh (Unitt 2004). An additional nine have been documented at the F & G Street Marsh (Unitt 2004). This species is sedentary, and no population exchange has been recorded between the Belding's savannah sparrows at the F & G Street Marsh and those at the Sweetwater Marsh, even though the populations are separated by only a quarter-mile (Unitt 2004). According to the NDDDB, four pairs of Belding's savannah sparrow were observed in 2001 within the coastal salt marsh along the inland edge of the J Street Marsh (State of California 2006c). Within the project site, two savannah sparrows were observed April 2006 in the non-native grassland within Parcel H-13.

**Large-billed savannah sparrow (*Passerculus sandwichensis rostratus*)** — **CDFG species of special concern, MSCP covered species.** The large-billed savannah sparrow is a migratory species that breeds along the Gulf Coast of northeast Baja California and northwest Sonora, Mexico, and winters in California (Wheelwright and Rising 1993). Non-breeding populations of large-billed savannah sparrow formerly wintered in a variety of habitats in Southern California, including beaches, wharves, and city streets, in addition to marshes (Unitt 2004). Large-billed savannah sparrows nest in tidal salt marshes and coastal estuaries dominated by pickleweed. Breeding occurs from July through August. Large-billed savannah sparrows feed on the ground, eating mostly seeds but also insects, spiders, small mollusks, and fruit (Wheelwright and Rising 1993). Destruction of salt marsh habitats has greatly reduced available habitat for large-billed savannah sparrows.

This species is known to occur in the Sweetwater Marsh NWR and the F & G Street Marsh. Two savannah sparrows were observed April 2006 in the upland area adjacent to the southern coastal salt marsh in the HP-5 drainage ditch. Due to the similarities in markings between the Belding's and large-billed savannah sparrow subspecies, these birds were not identified to subspecies. Given the population of Belding's savannah sparrows in the J Street Marsh, which is across the street from the HP-5 drainage ditch, there is high potential that these were Belding's savannah sparrows.



PHOTOGRAPH 4.8-5  
Osprey Nest with Osprey within the Abandoned Goodrich  
Parking Lot Adjacent to Marina Parkway

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**Light-footed clapper rail (*Rallus longirostris levipes*)** — **State and federally listed endangered, CDFG fully protected, MSCP covered species.** Historically, this species ranged from Santa Barbara County south to San Quintin, Baja California, Mexico. In San Diego County, light-footed clapper rails are an uncommon and localized resident found in tidal salt marshes where cordgrass dominates (Unitt 2004). Although this is its preferred habitat, it has also been found in virtually all marsh-like habitats, including pickleweed stands and freshwater marsh. The clapper rail feeds mostly on crabs, small fish, snails, insects, and other invertebrates in shallow water or mudflats. Nesting activity usually begins in March and ends by August. Threats to the light-footed clapper rail include predation by mammals and destruction and degradation of habitat (Unitt 2004).

The light-footed clapper rail is known to breed in the Sweetwater Marsh NWR (USFWS 2005) and may be found on the fringes of the Sweetwater Marsh adjacent to upland habitats. Spring censuses of this species' occurrence in the U.S. have been led by Richard Zembal annually since 1980; therefore, there is a fairly exhaustive inventory available (Unitt 2004). In the Sweetwater Marsh (including the F & G Street Marsh), a maximum of 17 pairs of clapper rail were recorded in 1984 and a minimum of 2 pairs were recorded in 1990 (Unitt 2004). One pair has been documented in the J Street Marsh in 1981 and 2000 (Unitt 2004).

Although it is known to occur on adjacent lands, this species was not observed and has not been documented within the Proposed Project area. There is low potential for the clapper rail to use the inlet at the F & G Street Marsh, which is located within the project boundary. The habitat within the inlet itself, however, is disturbed and low-growing, and does not provide typical breeding habitat for the light-footed clapper rail. It is not expected to occur in the limited patches of coastal salt marsh habitat (e.g., the HP-5 drainage ditch) in other areas of the site, due to a lack of cordgrass and isolation from contiguous habitat.

**Raptor Species.** American kestrels (*Falco sparverius*), Cooper's hawks, and red-tailed hawks, which nest in tall trees, were observed on site. Northern harriers, which nest on the ground, were also observed on site. Other raptors, including the red-shouldered hawk (*Buteo lineatus elegans*), have limited potential to forage and nest within the project area but were not observed. Active raptor nests are protected under the California Fish and Game Code Section 3503.5 (CDFG 1991). Nesting season occurs from January 15 to July 31 (City of Chula Vista 2003a).

**Egrets and Herons.** Egrets and herons, such as the great blue heron (*Ardea herodias*), great egret (*Ardea alba egretta*), and black-crowned night heron (*Nycticorax nycticorax*), nest in large colonies called rookeries. Rookeries consist of a large number of permanent nests located in tall trees, such as eucalyptus. These nest sites are protected under the California Fish and Game Code Section 3503 (CDFG 1991) and the federal MBTA. During project surveys, potential nesting trees within the project area were searched for heron and egret nests in March 2006, but

no evidence of any rookery was found. The trees are routinely thinned and maintained by park staff. No rookery sites are expected to occur on site.

**Migratory Birds.** There are a number of birds included in the list of migratory birds regulated by the MBTA that have the potential to nest on site (USFWS 2006). This includes but is not limited to American crow (*Corvus brachyrhynchos hesperis*), belted kingfisher (*Ceryle alcyon*), Anna's hummingbird (*Calypte anna*), Cassin's kingbird (*Tyrannus vociferans vociferans*), western meadowlark (*Sturnella neglecta*), and black phoebe (*Sayornis nigricans semiatra*).

### **Wildlife Species Not Observed but with the Potential to Occur**

#### ***Butterflies***

**Salt marsh (wandering) skipper (*Panoquina errans*) — MSCP covered species.** The salt marsh skipper butterfly is considered sensitive by conservation agencies and local specialists and is an MSCP covered species. This species is found in coastal salt marshes near its host plant, saltgrass. It ranges from Santa Barbara, California to the tip of Baja California, Mexico. The salt marsh skipper is yellow-brown with cream-colored spots on the hindwing and pale yellow veins on the wings. There are populations in all of the marshes within San Diego County; the populations north of Peñasquitos Slough appear to be stable (Faulkner and Klein 2001). Adults fly from July to September. The primary threats to this species include habitat destruction and fragmentation.

There is the potential for the salt marsh skipper to occur in the coastal brackish marsh and southern coastal salt marsh habitat on site, but it has not been observed.

#### ***Reptiles***

**Orange-throated whiptail (*Aspidoscelis [Cnemidophorus] hyperythrus beldingi*) — CDFG species of special concern, MSCP covered species.** Orange-throated whiptail is a CDFG species of special concern and is an MSCP covered species. This lizard occurs from southwestern San Bernardino County south into Baja California at elevations from sea level to 3,500 feet. Orange-throated whiptail frequents areas of open coastal sage scrub, chaparral, and streamside growth with loose sandy soils (Stebbins 1985). Orange-throated whiptail typically hibernates during winter, emerging in February or March, but can be active year-round, providing temperatures are warm (Jennings and Hayes 1994). Breeding occurs from May through July. Orange-throated whiptails feed primarily on insects, such as termites (*Reticulitermes* sp.). The decline of this species is attributed to the loss of coastal sage scrub in Southern California.

This species was not observed on site. There is only low potential for it to occur, due to the degraded nature of the habitat on site.

### ***Birds***

**Short-eared owl (*Asio flammeus*) — CDFG species of special concern.** Short-eared owls are medium sized and have buffy brown plumage with dark streaks on the chest, belly, and back. In flight, the dark “wrist” on the underwing is the key field mark. Short-eared owls are generally diurnal but most are active at dusk and also at night. Outside breeding season, they may gather in flocks. Short-eared owls inhabit marshes and grassland habitats. Short-eared owls eat mainly small mammals but sometimes take birds. Birds probably are more important when short-eared owls hunt in marshes and along coastal areas, where they can target shorebirds, terns, and small gulls and seabirds. This species is regularly observed wintering in small numbers in the South Bay and the Tijuana River estuary.

Short-eared owls were not observed on -site; however, there is the potential for this species to forage on site during the winter months. It is not expected to breed on site.

**Western snowy plover (*Charadrius alexandrinus nivosus*) — Federally listed threatened, CDFG species of special concern, MSCP covered species.** The winter range of the western snowy plover is along the west coast of the U.S. and the Baja California, Mexico coast. Its summer range includes the California and Nevada desert areas, in addition to California coastal areas and islands. It inhabits sandy ocean beaches and the drying margins of lagoons. It also inhabits tidal mudflats during migration and in winter. The western snowy plover also opportunistically uses sinks, playas, and receding lakeshores in desert regions.

Snowy plovers were not detected on site; however, they are known to breed at Naval Air Station North Island, Lindbergh Field, and the Coronado Cays. There is the potential for western snowy plovers to forage in the Bay adjacent to the Proposed Project area and to nest at the D Street Fill and the Salt Works, north and south of the site, respectively. Western snowy plovers are not expected to breed on site, due to lack of suitable habitat; however, there is the potential for them to forage on and adjacent to the site.

**White-tailed kite (*Elanus leucurus*) — California fully protected.** This raptor occurs in coastal lowland areas from Oregon to northern Baja California, Mexico (Unitt 2004). Nesting occurs in riparian woodlands, oaks, or sycamore groves that border grassland or open fields (Unitt 2004). This species is known to roost in large communal groups (Unitt 2004). The white-tailed kite forages over open areas and grasslands feeding primarily on small rodents and insects (National Geographic Society 1987). White-tailed kite populations in Southern California have declined due to the loss of nesting and foraging habitat.

White-tailed kites were not observed on site. This species is not expected to breed on site due to a lack of suitable habitat but may forage on site.

**California horned lark (*Eremophila alpestris actia*)** — **Former CDFG species of special concern.** Although this species is no longer identified as a species of special concern according to the current *California Bird Species of Special Concern* (April 10, 2008), these species are still afforded protective measures per Sections 3503 and 3503.5 of the Fish and Game Code.

The California horned lark's range is limited to the coastal slopes of California from Sonoma County to San Diego County, which includes most of the San Joaquin Valley, at elevations from sea level to 8,500 feet. It can occur as high as 11,500 feet in the San Bernardino Mountains (Small 1994). The California horned lark typically inhabits areas with sparse vegetation, including sandy shores, grasslands, mesas, and agricultural lands. A large brown ground passerine (song bird), 7 to 8 inches in height, the California horned lark has black sideburns, two small black horns, and a black breast splotch. Breeding occurs during the months of March through July, with peak activity occurring in May. California horned larks forage by walking and running on the ground, and they eat a diet of spiders, insects and insect larvae, snails, buds, berries, waste grains, and seeds from grasses, weeds, and forbs (Green 1990). California horned larks usually forage in flocks, except during nesting. Decline of this species is generally attributed to loss of habitat, urbanization, and human disturbance.

There is moderate potential for this species to occur on site, but it has not been observed during field surveys.

**American peregrine falcon (*Falco peregrinus anatum*)** — **State listed endangered, California fully protected, MSCP covered species.** This former federally listed species was delisted in 1999 (USFWS 1999). The federal ESA requires that USFWS, in cooperation with state agencies, implement a monitoring program for not less than 5 years following a delisting. The monitoring plan was developed in cooperation with state resource agencies, representatives from each USFWS Region, and the Divisions of Migratory Birds, Endangered Species, and other specialists. Should monitoring reveal that the American peregrine falcon could become endangered, the species could be listed again under the ESA. The monitoring plan designates 6 geographic survey regions in 40 states where American peregrine falcons breed, and it calls for nests to be monitored 5 times at 3-year intervals. Monitoring began in 2003 and would end in 2015. The plan calls for counting the number of American peregrine falcons returning to nesting sites, determining whether they nest successfully, and counting the number of young produced. The decline of the peregrine falcon is attributed to widespread use of the pesticide DDT, which caused the birds to lay eggs that were too thin to withstand incubation (Zeiner et al. 1990). DDT was banned in the early 1970s, and a recovery program for the species began soon after.

Peregrine falcons inhabit open coastal areas and mudflats near cliffs. Peregrine falcons forage on a variety of birds, including pigeons, ducks, grebes, coots, sandpipers, other raptors, and songbirds. They would also forage on small mammals, fish, and insects. Nesting sites are traditionally located on high cliffs, but the species has adapted to tall man-made structures, such as buildings, bridges, and construction cranes (Unitt 2004). The same nest site may be used for many years.

The American peregrine falcon ranges along the West Coast of the United States into Mexico. Confirmed nesting sites in San Diego County include the San Diego Bay Bridge (historic), the cliffs of Point Loma, a construction crane in National City (historic), the U.S. Grant Hotel in downtown San Diego, and along the Santa Margarita River. An active nest within the Western Salt Works area was removed several years ago, and the adults were relocated. No nests have historically been known from the Proposed Project area, and this species is not expected to currently be breeding within the project area. However, there is low potential for this species to forage on and adjacent to the site. It was not observed during project surveys.

**Common loon (*Gavia immer*) — CDFG species of special concern.** The common loon is red-eyed, with distinctive black and white markings, and has a dagger-like beak that is perfect for its long underwater fishing trips, diving to depths of over 90 feet. The loon is most closely related to primitive birds, and its soliloquy of cries can sound eerily prehistoric. This bird is an excellent swimmer and can stay underwater for long periods. The loon is extremely awkward and most vulnerable on land; as a result, the loon nests as close to the water as possible, nearly throwing itself out of the nest and into the water. Their size, solid bone structure, and weight distribution result in thrashing water take-offs that can last hundreds of feet.

Common loons are a fairly common winter visitor in San Diego County, widespread along the coast both on the ocean near shore and in tidal bays and estuaries, but the number of individuals wintering rarely exceeds 150 (Unitt 2004). There is the potential for common loons to forage in the waters adjacent to the site during the winter, but this species is not expected to breed on site.

**Loggerhead shrike (*Lanius ludovicianus*) — CDFG species of special concern.** This species inhabits most of the continental U.S. and Mexico and is a year-round resident of Southern California (Unitt 2004). This large songbird (9 to 10 inches in height) is distinguished by bluish-gray plumage, black tail and wing feathers, white wing bars, and a black mask that extends above its eye and bill. The loggerhead shrike prefers open habitat with perches for hunting and fairly dense shrubs for nesting (Yosef 1996). In Southern California, loggerhead shrikes inhabit grasslands, agricultural fields, chaparral, and desert scrub (Unitt 1984). Loggerhead shrikes are highly territorial and usually live in pairs in permanent territories (Yosef 1996). Loggerhead shrikes feed on small reptiles, mammals, amphibians, and insects that they often impale on sticks

or thorns before eating. Loggerhead shrike populations are declining, partially due to urbanization and loss of habitat, and, to a lesser degree, pesticide use (Yosef 1996).

Although this species was not detected on site, there is the potential for loggerhead shrikes to occur.

**California gull (*Larus californicus*) — CDFG species of special concern; nesting colonies are considered sensitive.** California gulls are of moderate size (20 to 23 inches in height) and have a dark gray mantle, white head, dark eyes, yellow bill with black and red spots, and gray-green legs. This gull winters along the entire West Coast from Vancouver to central Mexico, and in the Gulf of California and the Imperial Valley. In spring, the California gull migrates to inland nesting grounds (Dailey et al. 1993). Concern for this species is based on impacts to the Mono Lake nesting colony, which is the main contributor to the California population. Colonial nests occur clustered within 2 to 3 feet of each other. Nests are made of sticks, weeds, grasses, and bits of trash on the ground. The California gull feeds on insects, worms, rodents, other birds and their eggs, and garbage. In winter, the gull may take crabs and fish but mostly follows fishing boats for scraps and scavenges at the dumps (Ehrlich et al. 1988).

The California gull is a common migrant and winter visitor in San Diego County. This species is the most widely occurring gull in San Diego, being found at the ocean, bays, estuaries and lagoons, garbage dumps, agricultural fields, freshwater ponds, and lakes as far inland as Lake Cuyamaca (Unitt 2004). Although the site would not be used as breeding habitat, this species is expected to forage on and adjacent to the site.

**Long-billed curlew (*Numenius americanus*) — USFWS bird of conservation concern; CDFG species of special concern, MSCP covered species.** Long-billed curlews winter mainly along the coast of California and mainland Mexico, and they can be found in small numbers along portions of the northwest Pacific, Gulf, and Atlantic coasts. Breeding occurs in the northwestern U.S. from southern Canada south to northwestern New Mexico (Dugger and Dugger 2002). This large shorebird (20 to 26 inches) is characterized by long legs, a very long decurved bill, and buffy cinnamon-pink plumage. Long-billed curlews are found in tidal mudflats and salt marshes during winter, and they would nest in short-grass or mixed-prairie habitat with rolling topography (Dugger and Dugger 2002). This species consistently frequents San Diego Bay in the winter (Unitt 1984). Breeding occurs from April through July. Long-billed curlews are entirely carnivorous, consuming terrestrial insects, marine crustaceans, and benthic invertebrates (Dugger and Dugger 2002). This species is threatened by loss of suitable habitat and fire suppression activities in grassland habitats. Long-billed curlew is a winter visitor species preferring coastal estuaries with pickleweed vegetation.

Long-billed curlews were not observed during the current surveys but are commonly observed in the marshes and mudflats in the South Bay area during the winter and are expected to occur on and adjacent to the site.

**Double-crested cormorant (*Phalacrocorax auritus albociliatus*)** — **Former CDFG species of special concern.** Although this species is no longer identified as a species of special concern according to the current *California Bird Species of Special Concern* (April 10, 2008), these species are still afforded protective measures per Sections 3503 and 3503.5 of the Fish and Game Code. The double-crested cormorant breeds in isolated colonies along the coast and the interior from Alaska to northern Belize (Hatch and Weseloh 1999). A large water bird (30 to 36 inches in height), this cormorant is characterized by a large, orange, rounded throat and a double crest of two tufts curving back from behind the eyes. This species is a common non-breeding visitor on bays, lagoons, and estuaries in San Diego County (Unitt 1984). Its diet consists primarily of schooling fish species, but expands to aquatic insects, crustaceans, and amphibians (Hatch and Weseloh 1999). The double-crested cormorant suffered a population decline in the 1960s and early 1970s, due to DDT residues in marine food chains. Since the suspension of DDT use, population recovery has been hampered by the disappearance of the California sardine (*Sardina caerulea*) and a reduction in anchovy populations (Small 1994). This species swims underwater to capture fish and prefers open water areas of the Bay for foraging.

Double crested cormorants were not observed and are not expected to breed on site, but they would forage in the San Diego Bay in and adjacent to the site. They would roost on the piers and artificial structures in the marina and rest at the Salt Works.

**Coastal California gnatcatcher (*Polioptila californica californica*)** — **Federally listed threatened, CDFG species of special concern, MSCP covered species.** This resident bird occurs below the 2,000-foot elevation level in the coastal slopes of Southern California from Ventura County south to Baja California, Mexico (Atwood 1980; Jones and Ramirez 1995). The coastal California gnatcatcher is strongly associated with coastal sage scrub but would occasionally use chaparral and maritime succulent scrub. Coastal California gnatcatcher territories range from 2 to 40 acres, depending on habitat quality and location, with birds near the coast requiring smaller territories (USFWS 1993).

According to the California Department of Fish and Game (CDFG), the species has been observed in upland habitat on the Sweetwater Marsh Unit of the SDBNWR; however, Coastal California gnatcatchers were not detected on site during surveys, and have not been reported from the project vicinity. As described above, the patches of disturbed Diegan coastal sage scrub on site are too small and isolated to support a pair of gnatcatchers, and the species composition is dominated by non-native weed species or by a native plant monoculture (e.g., California encelia)

that is not typically known or expected to support coastal California gnatcatchers. Because of the lack of appropriate habitat, this species is not expected to nest on site.

**Black skimmer (*Rynchops niger*) — CDFG species of special concern.** Black skimmers are found along the eastern and gulf coasts of the United States, the Salton Sea, and the Gulf of California. A long-winged coastal bird (16 to 20 inches in height), the black skimmer is characterized by a black-tipped orange bill with a longer lower mandible, a black back and crown, white under parts, and red legs. This species frequents beaches, sandbars, shell banks, islands, and marshes. At the Salton Sea, black skimmers inhabit gravel bars, low islands, and dikes. Black skimmers are regular breeders in Orange County. Black skimmers nest colonially, occasionally with terns, gulls, and plovers (Ehrlich et al. 1988). Their nests consist of four to five eggs laid in an unlined scrape in the sand or among shells. Black skimmers are tactile hunters, rapidly flying low over water, locating prey by sight, and skimming the surface with the lower mandible, consuming a diet that consists of fish and crustaceans (Ehrlich et al. 1988; Stokes and Stokes 1996). The primary threat to black skimmers is habitat disturbance, which can significantly reduce breeding colony reproductive success (Stokes and Stokes 1996; Ehrlich et al. 1988).

Black skimmers are increasing in Southern California, as nesting colonies have been re-established at various locations. Black skimmers are known to forage in San Diego Bay south of the Chula Vista Marina mouth, adjacent to the project area (Peugh pers. obs. 2005 in MBC 2005a). This species is also known to nest at the Salt Works but was not observed and is not expected to nest on site, due to lack of appropriate habitat.

**California least tern (*Sterna antillarum browni*) — Federal and state listed endangered, MSCP covered species, CDFG fully protected.** The California least tern was listed as an endangered species in 1970 under the federal Endangered Species Conservation Act of 1969, then obtained protection under the ESA after it was adopted in 1973. The California least tern's breeding range extends from San Francisco Bay into Baja California, Mexico. In the late spring and summer, this species migrates north from wintering areas in Central and South America to Southern California coastal areas to nest and raise its young (USFWS 1993). They generally occur in and around San Diego Bay between April 1 and September 15.

California least terns nest colonially along the coast. Originally, they preferred colony sites located on barrier dunes at river mouths, at lagoon entrances, and along sandy strips of sparse coastal strand vegetation. However, human encroachment into these areas has forced the birds to seek alternative colony sites and to nest wherever they can find fairly flat, sandy ground with little or no vegetation cover. Most colonies are now found on dry mudflats, alluvial sand, or fill land created with dredge spoil (Unitt 1984). They prefer to return year after year to the same nest site where they have had previous success and have been known to nest well away from salt

water. Colony sites may be abandoned if they become too overgrown with vegetation, if they are flooded by high tides or fresh water, if predation on chicks and adults is high, or if humans encroach. Currently, nesting colonies in southern San Diego County are located on Naval Air Station North Island, Naval Amphibious Base Coronado, Lindbergh Field (San Diego International Airport), Sweetwater Marsh NWR, the levees at the Western Salt Works, the Chula Vista Wildlife Reserve, and the D Street Fill in Chula Vista adjacent to the Bayfront project area.

California least terns are expected to forage in the Bay in and adjacent to the site, but they are not expected to nest on site because suitable nesting habitat is not present.

**Caspian tern (*Sterna caspia*) — USFWS bird of conservation concern.** A large, stocky tern, the Caspian tern is distinguished by its body size (19 to 23 inches in height) and thick orange red bill; the male acquires a black cap during the breeding season. This species is found in coastal waters, estuaries, and freshwater lakes throughout most of North America, southward to Venezuela in winter. Caspian terns are abundant fall transients at the Salton Sea. They breed on flat sand or gravel beaches, shell banks, and occasionally in marshes. Nests are concealed in rocks, driftwood, shells, and rubbish (Ehrlich et al. 1988). Caspian terns feed on fish and crustaceans. This species is threatened by development and loss of breeding habitat.

Caspian terns are known to nest in the Salt Works at the south part of San Diego Bay. Suitable nesting habitat does not occur on site; however, Caspian terns are expected to forage in the Bay in and adjacent to the site.

**Elegant tern (*Sterna elegans*) — USFWS bird of conservation concern; former CDFG species of special concern, MSCP covered species. Although this species is no longer identified as a species of special concern according to the current *California Bird Species of Special Concern* (April 10, 2008), these species are still afforded protective measures per Sections 3503 and 3503.5 of the Fish and Game Code. Elegant terns occur only in inshore coastal waters on the western coast of Mexico, along Baja California, Mexico, and the Southern California coast, on sand beaches and salt marsh dikes. A moderate-sized water bird (16 to 17 inches in height), the species is distinguished by a long, thin, reddish-orange bill, with pale plumage; a black crown and nape; and a black crest. The elegant tern breeds mostly in Mexico, with only one known colony in the United States located in the South Bay, established in 1959. Colonial nests are made by preparing a shallow scrape in the sand, often within 20 yards of the water. A clutch consists of one to two eggs. Elegant terns are highly dependent on anchovies for feeding chicks; reproductive success is strongly correlated with anchovy abundance (Ehrlich et al. 1988). The elegant tern plunge-dives for small fish from the air, often hovering before diving. This species is also known to scavenge for food. Elegant terns are threatened by coastal development, loss of breeding habitat, and depletion of the anchovy population.**

In San Diego, the elegant tern is known to breed almost exclusively within the Salt Works south of the Proposed Project site (Unitt 2004). This species is not expected to breed on site due to lack of suitable habitat but is expected to forage in the Bay in and adjacent to the site.

**Forster's tern (*Sterna forsteri*) — Nesting colonies are considered regionally sensitive.** Forster's terns are distributed throughout the continental United States and Mexico, where they inhabit inshore coastal waters, estuaries, harbors, and marshy borders of lakes and ponds. A moderate-sized tern (14 to 15 inches in height), Forster's tern has snow-white and pale-gray plumage; orange bill, legs, and feet; and dark eye patches. The male develops a black cap during breeding. Nesting colonies are found on low islands and dikes in deeply hollowed, well-rounded, matted reed beds or in depressions in mud and sand or grass and soil, lined with shells and grass. Nests are usually large, elaborate, and well built (Ehrlich et al. 1988). Forster's terns eat frogs, plunge dive to catch fish, and forage for insects while flying over marshes. Throughout their range, Forster's tern populations are increasing, but breeding grounds are very susceptible to human disturbance (Stokes and Stokes 1996).

Forster's terns are known to nest at the south end of the San Diego Bay in the Salt Works and at the Chula Vista Wildlife Reserve. No suitable nesting habitats occur on site, but this species is expected to forage on and adjacent to the site within the Bay.

**Gull-billed tern (*Sterna nilotica*) — USFWS bird of conservation concern, CDFG species of special concern.** The gull-billed tern is a medium-sized tern with a black cap, a stubby black bill, and black legs. The mantle is gray, and the under parts are white. Gull-billed terns nest on barrier beaches, natural islands or shoals, and dredged-material islands. Colony substrate is usually sand or a mixture of sand and shell. Colony sites are usually devoid of vegetation or are very sparsely covered with low herbaceous plants. Unlike other tern species, gull-billed terns feed largely on terrestrial prey. Food consists primarily of insects and crustaceans but occasionally may include reptiles, amphibians, birds, and small rodents. Gull-billed terns are one of the several tern species known to nest in the Western Salt Works area of the South Bay (USDN 2000). This recently formed colony is known to host 8 to 30 nests and is one of only a few known breeding areas for the subspecies (Cooper 2004).

No suitable nesting habitat occurs on site but, due to the proximity of the nesting colony in the Western Salt Works south of the site, this species is expected to forage on and adjacent to the site.

#### 4.8.1.7 Wildlife Movement Corridors

##### a. Terrestrial Wildlife Species

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations. Wildlife movement corridors are considered sensitive by the City of Chula Vista and resource and conservation agencies.

The Proposed Project area does not function as a significant wildlife movement corridor for terrestrial species. Development occurs throughout the site and includes the SBPP site, commercial and industrial buildings, and large urban parks. Therefore, the quality of the site as a wildlife movement corridor is diminished for terrestrial species.

##### b. Avian Species

The Proposed Project area is within the Pacific Flyway, one of the six major migration routes for waterfowl in the United States, Canada, and Mexico (Pryde 2006)—another reason for the abundant presence of bird species. The Pacific Flyway links breeding grounds in the north to more southerly wintering areas. In the United States, the Pacific Flyway includes Alaska, Arizona, California, Idaho, Nevada, Oregon, Utah, Washington, and those portions of Colorado, Montana, New Mexico, and Wyoming west of the Continental Divide. The routes followed by migratory birds are numerous and, while some of them are simple and easily traced, others are extremely complicated. Differences in distance traveled, in start time, speed of flight, geographic position, in the latitude of the breeding and wintering grounds, and other factors all contribute to great diversity. No two species follow exactly the same path from beginning to end; geographic groups of species with an almost continental distribution may travel different routes. Bird migration is generally thought of as a north-and-south movement, with the lanes of heavier concentration following the coasts, mountain ranges, and principal river valleys. The Proposed Project is located along the coast of the Pacific Ocean, which is a migratory feature for birds along the Pacific Flyway, and the immediate vicinity still retains several large open areas that support native habitat, including the Sweetwater Marsh NWR, the J Street Marsh, and the Western Salt Works, among others. In addition, the mudflats located due west of the Sweetwater Marsh and north of the Harbor District provide foraging and resting areas for migratory birds along the Pacific Flyway. The preserved areas provide large areas of habitat to attract and support the resource needs of migratory birds using this major route of migration.

#### 4.8.1.8 Wetland Resources Defined

Wetland resources at the Proposed Project site are regulated by USACE (with assistance from the USFWS), CDFG, the California Coastal Commission (CCC), and the City's MSCP Wetlands Protection Program. This section discusses the respective role each agency plays with respect to the project's wetland resources.

a. U.S. Army Corps of Engineers

i. Regulatory Definition of Jurisdictional Waters

**Clean Water Act.** In accordance with Section 404 of the CWA, USACE regulates the discharge of dredged or fill material into waters of the U.S. The term "waters of the United States" is defined as:

- All waters currently used, or used in the past, or that may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide
- All interstate waters including interstate wetlands
- All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation, or destruction of which could affect foreign commerce including any such waters: (1) which could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are, or could be taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industries in interstate commerce
- All other impoundments of waters otherwise as defined as waters of the United States under the definition
- Tributaries of waters identified above
- The territorial seas
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the paragraphs above (33 CFR Part 328.3(a)).

As stated in the federal regulations for the CWA, wetlands are defined as (EPA, 40 CFR 230.3 and CE, 33 CFR 328.3)

Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal

circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions.

***Rivers and Harbors Act of 1899.*** Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.) requires authorization from USACE for the construction of any structure in or over any navigable water of the U.S., the excavation/dredging or deposition of material in these waters, or any obstruction or alteration in a “navigable water.” The construction of structures or work outside the limits defined for navigable waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, condition, or capacity of the water body.

***Isolated Waters.*** Federal regulatory authority only extends to activities that affect interstate commerce pursuant to Article 1, Section 8 of the U.S. Constitution. This would appear to preclude USACE jurisdiction over isolated (intrastate) waters, such as ponds or vernal pools lacking connection to waters of the U.S. In fact, USACE’s right to exercise jurisdiction over such waters has been legally challenged and found not to exist in certain circumstances. On the other hand, USACE’s authority to regulate wetlands has been routinely upheld in a variety of contexts. In light of these legal uncertainties, the Port, for purposes of this report, has assumed that USACE has potential jurisdiction over the wetlands on the project site, except where they are hydrologically disconnected to adjacent waters of the U.S.

ii. Wetland Parameters

Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to USACE, indicators for all three parameters must be present to qualify as a wetland.

***Hydrophytic Vegetation.*** Hydrophytic vegetation is defined as “the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (USACE 1987).

The hydrophytic vegetation criterion is satisfied where more than 50 percent of the dominant plant species present at a given location have a wetland indicator status of obligate (OBL), facultative-wet (FACW), or facultative (FAC) (USACE 1987). An OBL indicator status refers to plants that have a 99 percent probability of occurring in wetlands under natural conditions. An FACW indicator status refers to plants that occur in wetlands (67 to 99 percent probability) but are occasionally found in non-wetlands. An FAC indicator status refers to plants that are equally likely to occur in wetlands or non-wetlands (estimated probability 34 to 66 percent).

***Wetland Hydrology.*** The wetland hydrology criterion is met when field observations indicate that the area in question has a high probability of being periodically inundated or has soils

saturated to the surface at some time during the growing season, thus creating anaerobic (low-oxygen) conditions in the surface soil environment, especially the root zone (USACE 1987).

**Hydric Soils.** A hydric soil is a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (USACE 1987). The hydric soil criterion is satisfied if soils in the area under review display evidence of high groundwater table, prolonged soil saturation, or a long-term oxygen-reducing (anaerobic) environment in the upper 18 inches of the soil profile.

iii. Non-Wetland Jurisdictional Waters

USACE also requires that non-wetland jurisdictional waters be delineated. These waters must have strong hydrology indicators such as the presence of seasonal flows and an ordinary high water mark. An ordinary high water mark is defined as (33 CFR Part 328.3)

That line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Areas delineated as non-wetland jurisdictional waters may lack wetland vegetation or hydric soil characteristics. For example, topographic position may preclude ponding and subsequent development of hydric soils. Absence of wetland vegetation can result from frequent scouring due to rapid water flow. These types of jurisdictional waters are delineated by the lateral and upstream/downstream extent of the ordinary high water mark of the particular drainage or depression.

iv. Atypical Situations/Problem Areas

The definition of a wetland includes the phrase “under normal circumstances,” because there are situations in which the vegetation of a wetland has been removed or altered as a result of recent natural events or human activities (USACE 1987).

To describe these conditions, USACE uses definitions for atypical situations and problem areas. They are as follows (USACE 1987):

Atypical situation: . . . refers to areas in which one or more parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter.

Problem areas: . . . wetland types in which wetland indicators of one or more parameters may be periodically lacking due to normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events. Representative examples of problem areas include seasonal wetlands, wetlands on drumlins, prairie potholes, and vegetated flats.

Atypical situations and problem areas may lack one or more of the three criteria and still be considered wetlands, provided background information on the previous condition of the area and field observations indicate that the missing wetland criteria were present before the disturbance and would occur at the site under normal circumstances. Additional delineation procedures would be employed, if normal circumstances did not occur on a site.

While no “atypical situations” exist within the Proposed Project area, the site does include a number of wetland “problem areas,” as defined above. For example, seasonal ponds were found on the Otay District, many of which support hydrophytic vegetation. During surveys conducted in March 2005, RECON observed inundation of these areas, a condition later confirmed by recent aerial photographs. The seasonal ponds are located on fill soil, and hydric soil field indicators were not evident at many of these locations. The fill was placed on site approximately 50 years ago, prior to the inception of the CWA, and the present condition is considered the Normal Circumstance. In this situation, USACE may rely on strong indicators of the other two parameters to define the ponds as wetlands. In accordance with the criteria of a hydric soil as defined in the Field Guide for Wetland Delineation (Wetland Training Institute 2001), a hydric soil is a soil that is “frequently ponded for long duration or very long duration during the growing season.”

These ponded areas were delineated as potential USACE wetland sites. As the March 2005 field work was conducted after a record rainfall year, a subsequent visit in December 2005 was conducted when the site was dry. During this dry season visit, the mapping was refined, resulting in elimination of some of the formerly inundated areas because there was no longer a prevalence of hydrophytic vegetation.

#### b. California Department of Fish and Game

Under Section 1602 of the Fish and Game Code, CDFG regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFG has jurisdiction over riparian habitats (e.g., southern willow scrub) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFG jurisdiction does not include tidal areas or isolated resources.

c. Regional Water Quality Control Board

The RWQCB has jurisdiction over all waters of the U.S and isolated waters of the state as mandated by both the federal CWA and the California Porter-Cologne Water Quality Control Act.

d. California Coastal Commission

The CCC administers the California Coastal Act of 1976 (California Public Resources Code 30000 et seq.), which defines wetlands as “lands within the coastal zone which may be covered periodically or permanently with shallow water” (California Public Resources Code Division 20, Section 30121).

Among other requirements, Section 30233 of the Coastal Act identifies eight situations where coastal zone wetlands may be disturbed. This section also recommends that the Proposed Project be the least environmentally damaging feasible alternative, and that feasible and appropriate mitigation measures be imposed. In addition to these eight situations that are explicitly outlined in Section 30233, the Coastal Act also allows for balancing of policies that may conflict with one another. For example, policies that are put in place to ensure public access to coastal resources are often balanced against prohibition of impacts on coastal wetland resources. Therefore, roads, trails, and other access features that are not otherwise specifically identified as allowable activities that may impact coastal wetlands may be permitted impacts, in order to further public access objectives.

e. Chula Vista MSCP Wetlands Protection Program

Incorporated in the Chula Vista Subarea Plan is the Wetlands Protection Program, which provides wetlands protection through project entitlement reviews and the CEQA process. This process provides an evaluation of wetlands avoidance and minimization and ensures compensatory mitigation for unavoidable impacts to wetlands in order to achieve a no-net-loss of wetland functions or values. Impacts to wetlands must be avoided or minimized to the maximum extent practicable pursuant to the City’s MSCP Wetlands Protection Program, Section 5.2.4 of the Subarea Plan.

#### 4.8.2 Results of Wetland Field Data

This section describes the major wetland vegetation units observed, soil types encountered, and discusses the local hydrology of the Proposed Project area. Copies of the field data forms summarizing information on vegetation, soils, and hydrology observed at each sample site are provided in *Appendix 4.8-6*.

In addition to field surveys, aerial photographs of the site from 1928 and 1953 as well as USGS maps were used to determine the areas' history and to find out when they were filled for development. The 1928 photograph shows the entire Otay District as being agricultural land behind levees and Telegraph Canyon Creek as an unrestricted stream intercepted at its terminus by a salt pond. The 1953 aerial photograph also shows the Otay District as being agricultural land but Telegraph Canyon Creek as having been confined to a channel. According to the USGS map (*Figure 4.8-5*), the land which now supports the HP-5 drainage ditch in the Harbor District was filled sometime after 1975.

#### **4.8.2.1 Hydrophytic Vegetation**

Thirteen vegetation communities and land cover types occur in the project area (see *Table 4.8-1*; see *Figure 4.8-3*). Hydrophytic vegetation was found on site associated with the following vegetation communities: southern coastal salt marsh, coastal brackish marsh, mulefat scrub/riparian scrub, seasonal ponds, and disturbed riparian. These vegetation communities are described in detail above.

#### **4.8.2.2 Wetland Hydrology**

The wetland resources within the project area receive hydrologic inputs from direct precipitation, surface runoff from on-site and off-site sources, tidal water, drainages, and shallow groundwater. Tidal waters back up through the culverts located beneath F Street into the coastal brackish marsh and via the culvert beneath Marina Parkway east of the Chula Vista Harbor. The high tide lines within these channels are clearly visible, due to drift lines created by fluctuating water levels.

Several drainages pass through the project area including the concrete-lined terminal end of Telegraph Canyon Creek, which empties out into San Diego Bay (*Photograph 4.8-6*). The drainages entering the project area are highly urbanized and pass through several culverts prior to entering the site. Several other drainage ditches have been created within developed areas to convey surface runoff to the Bay or are directed towards a detention basin.

In areas delineated as seasonal ponds on the south part of the site, surface runoff and direct precipitation become trapped in shallow depressions and behind berms, resulting in prolonged but localized water retention. Ponding also occurs at a large detention basin and old tank sites occur in the Otay District. The abundance of rainfall during the 2004/2005 rainy season has resulted in more prolonged periods of ponding and saturation compared to recent years. Historical aerial photographs were reviewed dating back to 1963. Pondered water is visible at these locations periodically, particularly during the 1997/1998 El Niño rain season and during the normal rain year of 2002/2003.

### 4.8.2.3 *Hydric Soils*

Six soil types as mapped by USDA (1973) occur in the project area: Huerhuero loam (2 to 9 percent slopes), Huerhuero urban land (2 to 9 percent slopes), made land, tidal flats, Tujunga sand (0 to 5 percent slopes), and Salinas clay loam (0 to 2 percent slopes). *Figure 4.8-2* depicts the location of each soil series as it occurs on site, and a summary of each soil type is provided in *Section 4.8.1.3*.

Three soil types, Huerhuero loam (2 to 9 percent slopes), tidal flats, and Tujunga sand (0 to 5 percent slopes), are listed on the local hydric soils list (USDA–Soil Conservation Service 1992). Hydric soil characters identified in the field at various test pits include mottling, low chroma soil colors, and sulfidic odors.

## 4.8.3 Wetland Delineation Results

### 4.8.3.1 *USACE Jurisdiction*

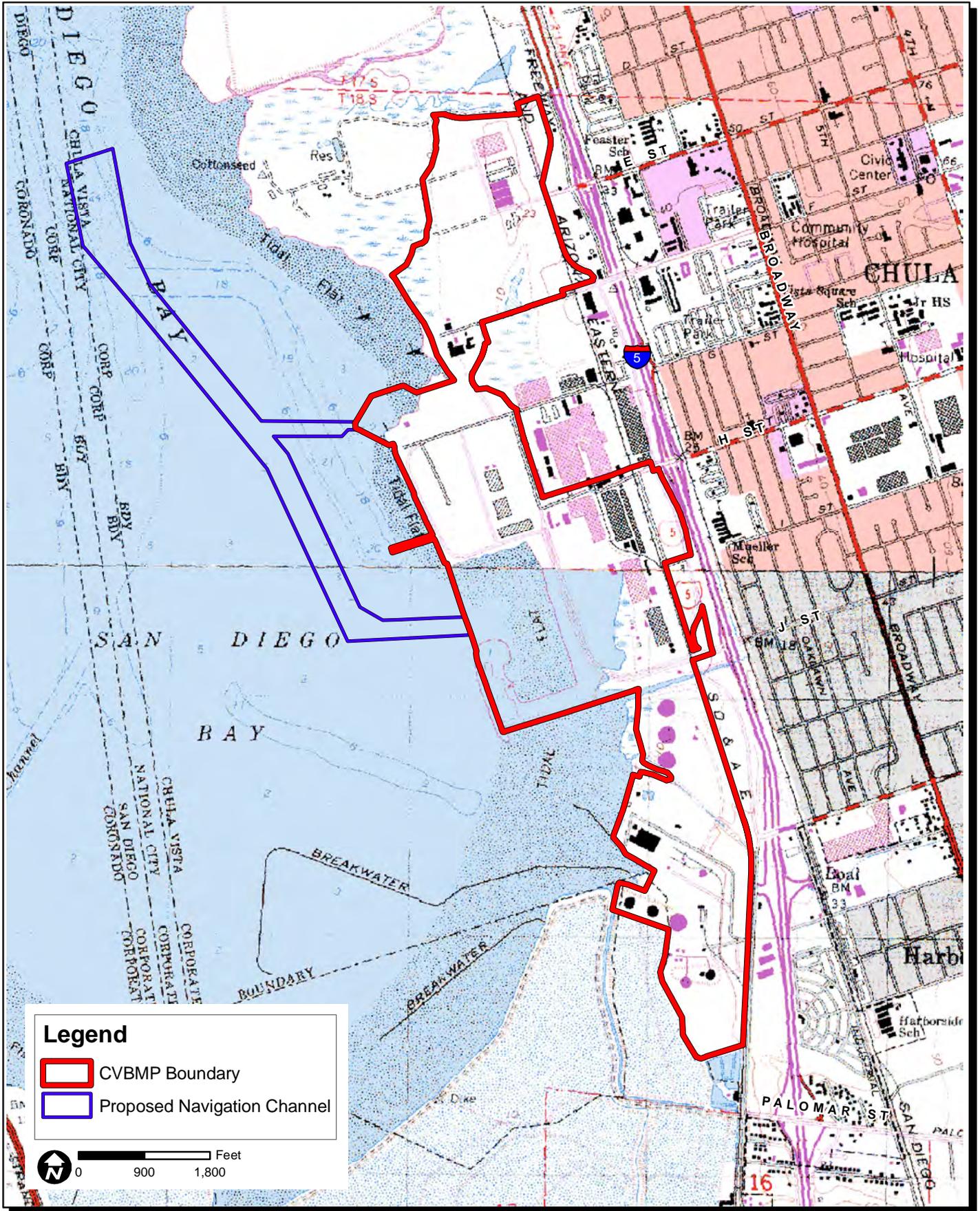
#### a. Resources

There are a total of 71.3 acres of USACE resources on site, which includes 7.8 acres of wetlands and 63.6 acres of non-wetland waters of the U.S. As addressed below, a total of 9.2 acres of isolated waters were considered exempt from jurisdiction. The locations of USACE wetland resources and non-wetland waters of the U.S. are depicted on *Figures 4.8-6* through *4.8-9*. *Table 4.8-2* summarizes the acreage of wetland resources by Port and City jurisdiction as well as by district.

#### i. Wetlands

In the Proposed Project area, a total of 7.8 acres of jurisdictional wetlands were delineated. Positive indicators of hydrophytic vegetation, wetland hydrology, and hydric soils were evident at these locations. Wetlands are located primarily on the Sweetwater District in the marsh habitat. Smaller channels in the Harbor District and Otay District were also classified as wetlands. These channels support pickleweed and fleshy jaumea, both obligate wetland species.

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Project Location on USGS Map

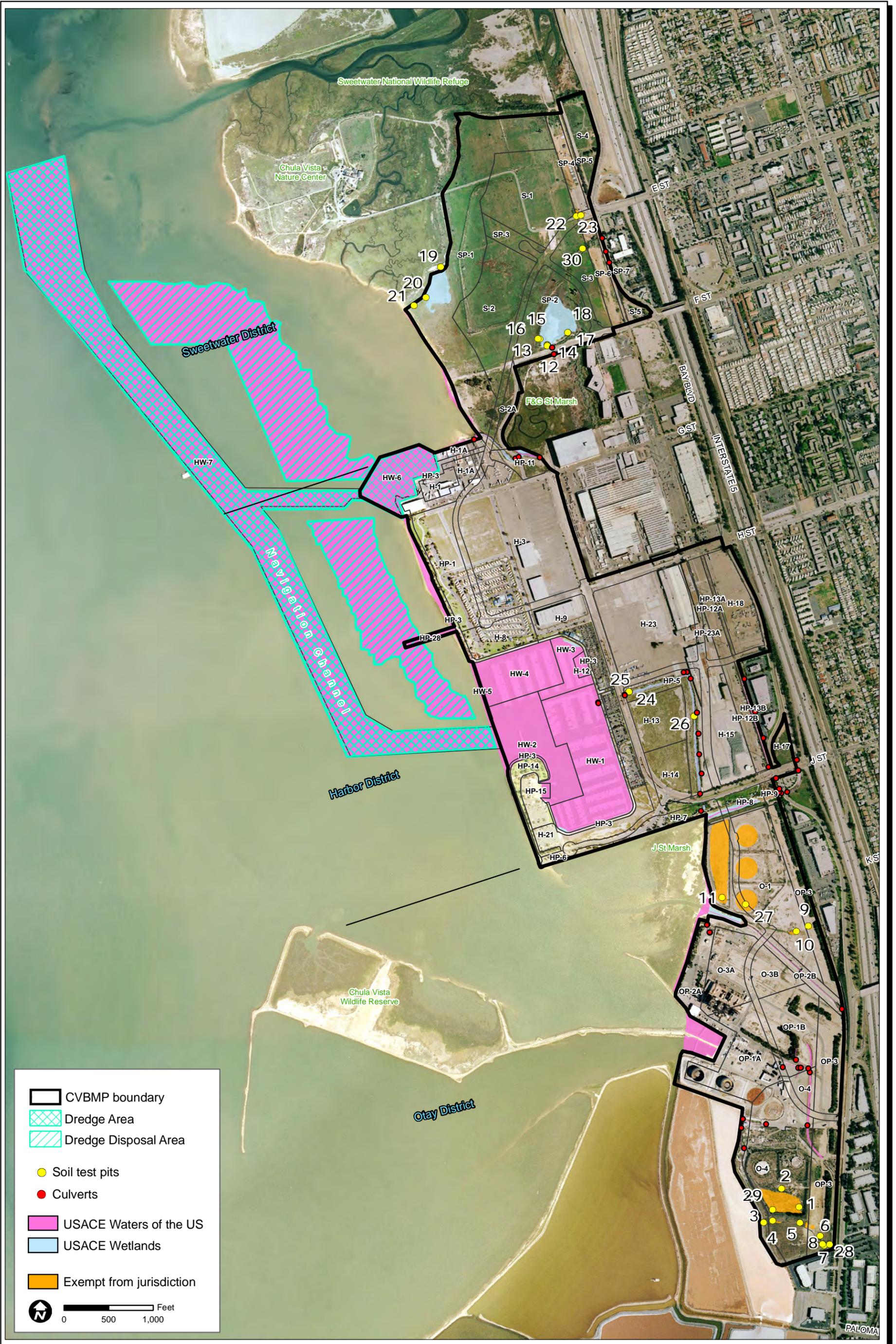
**FIGURE**  
4.8-3  
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PHOTOGRAPH 4.8-6  
Terminal End of Telegraph Canyon Creek that Empties into San Diego Bay

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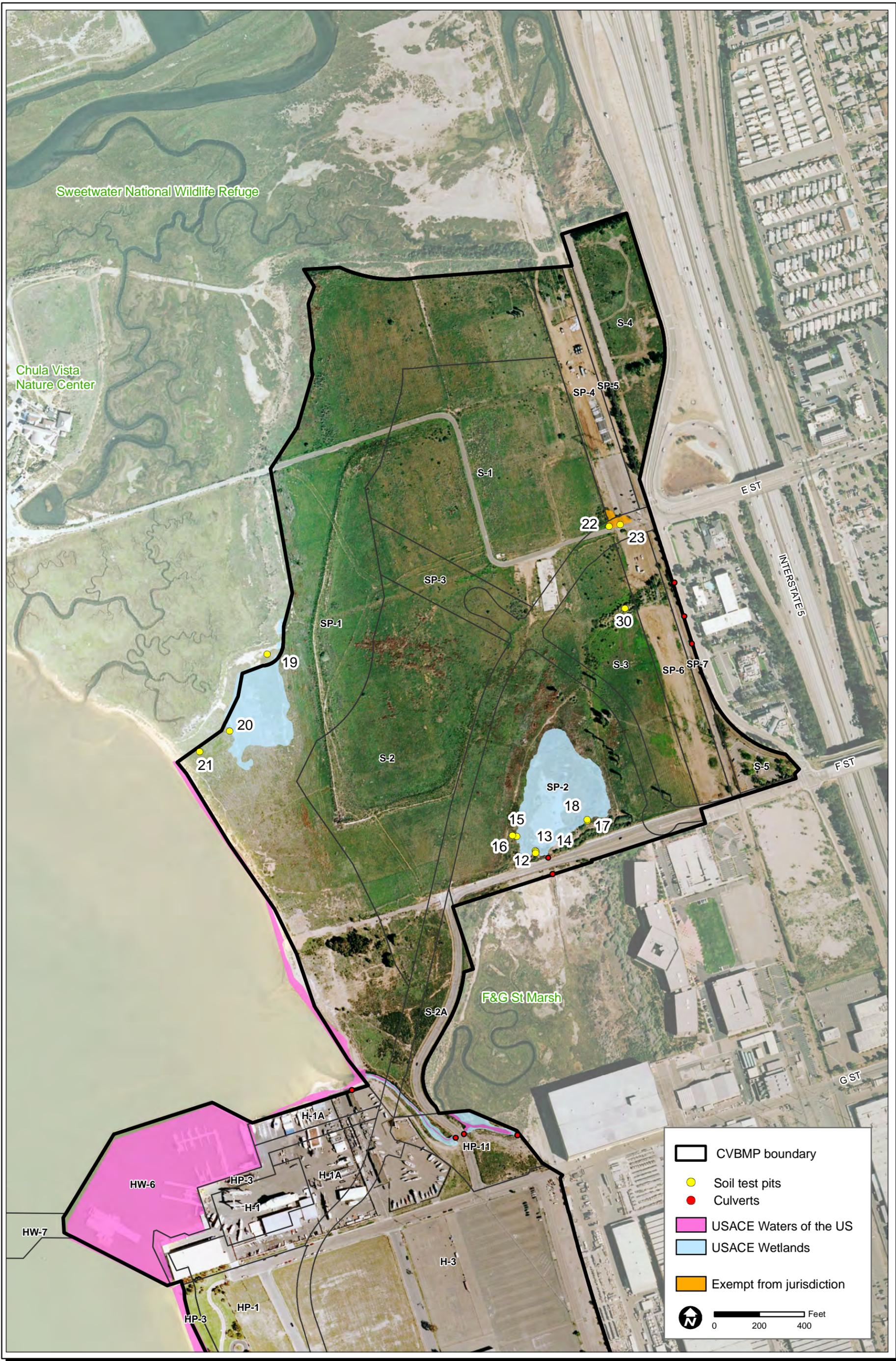
Z:\Projects\57030\Figs\EIR\Figs\Section 4.8-Bio\fig4-8\_06 (USACE Overview).mxd

AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Overview of USACE Jurisdictional Resources**

**FIGURE**  
**4.8-6**

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**USACE Jurisdictional Resources in Sweetwater District**

**FIGURE**  
**4.8-769**

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**USACE Jurisdictional Resources in Otay District**

**FIGURE**  
**4.8-73**

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**TABLE 4.8-2**  
**Existing Jurisdictional Wetland Resources (acres)**

	Harbor District	Otay District	Sweetwater District	Total
<b>USACE*</b>				
Non-wetland waters of the U.S.	62.1	1.1	0.3	63.6
Wetlands	2.3	0.0	5.5	7.8
<b>USACE TOTAL</b>	<b>64.5</b>	<b>1.1</b>	<b>5.8</b>	<b>71.3</b>
Isolated wetland – USACE exempt**	—	9.1	0.1	9.2
<b>CDFG TOTAL</b>	<b>0.1</b>	<b>1.0</b>	<b>6.5</b>	<b>7.6</b>
<b>CCC</b>				
CCC	3.0	0.6	5.9	9.5
Potential CCC**	—	9.6	—	9.6
<b>CCC TOTAL</b>	<b>3.0</b>	<b>10.2</b>	<b>5.9</b>	<b>19.1</b>

\*Also includes City of Chula Vista defined wetlands, which are consistent with USACE definitions.

\*\*Includes former Industrial Areas (areas of questionable CCC jurisdiction).

The RWQCB has identified a number of areas on or near the former Goodrich South Campus that are contaminated with hazardous materials. Pursuant to a Clean-Up and Abatement Order issued by the RWQCB, Goodrich and the Port (in coordination with regulatory agencies) are currently working to remediate these contamination sites. This work would affect the wetland marsh habitat delineated in the ditch near Soil Test Pits 24 to 26.

ii. Non-Wetland Waters of the U.S.

Approximately 63.6 acres of non-wetland waters of the U.S. occur on site. Several drainage courses traverse the project area within disturbed, developed, and unaltered areas. Several of these drainage courses consist of manufactured earthen-bottom ditches created to carry storm flows away from developed areas. These ditches are culverted several times as they pass beneath roadways; they receive flows only during and immediately following storm events.

A major drainage, Telegraph Canyon Creek, passes through the southern portion of the project area and consists of a concrete-lined ditch that empties into San Diego Bay. Aside from Telegraph Canyon Creek, four drainage courses within the project area receive tidal flows. These areas display an ordinary high water mark and are considered non-wetland jurisdictional waters. The open water habitat of San Diego Bay has also been classified as non-wetland waters of the U.S. (See *Figure 4.8-6*)

b. Resources Exempt from USACE Jurisdiction

Seasonal ponds and old tank sites with an overflow detention basin (totaling 9.1 acres) were delineated in the Otay District within the SBPP. During the heavy rainy season of 2005, large ponded areas were observed. These support hydrophytic vegetation, mainly grass poly. The

seasonal ponds are located on fill soil, and hydric soil field indicators were not evident at many of these locations. These ponds, however, appear to be disconnected hydrologically from adjacent waters and are assumed to be exempt from USACE jurisdiction.

The detention basin near Soil Test Pit 11 (see *Figure 4.8-6*) previously acted as an overflow for the adjacent tank sites. There are pipes leading from each of the tank sites to the detention basin. The detention basin outlet works on a valve system and must be opened and closed manually. Unless opened, this detention basin is not connected hydrologically to the adjacent waters. For this reason, the detention basin and associated tank sites are considered exempt from jurisdiction. Moreover, contamination is present on site and remediation actions are currently being conducted under a Clean-Up and Abatement Order as discussed in *Section 4.12, Hazards and Hazardous Material/Public Safety*.

In addition, 0.1 acre of isolated wetland habitat occurs in a corner of the parking lot for the Chula Vista Nature Center. This patch of habitat exhibited all three wetland criteria but is disconnected hydrologically from adjacent waters and, therefore, is assumed to be exempt from USACE jurisdiction.

This delineation and associated jurisdictional determination would be verified by USACE during the permit process.

#### **4.8.3.2 CDFG Jurisdiction**

The CDFG jurisdictional areas total 7.6 acres, which include all USACE non-tidal wetlands and additional riparian habitat outside the ordinary high water mark. *Figures 4.8-10 through 4.8-13* depict the CDFG jurisdictional resources on site. *Table 4.8-2* summarizes the acreage of wetland resources by district.



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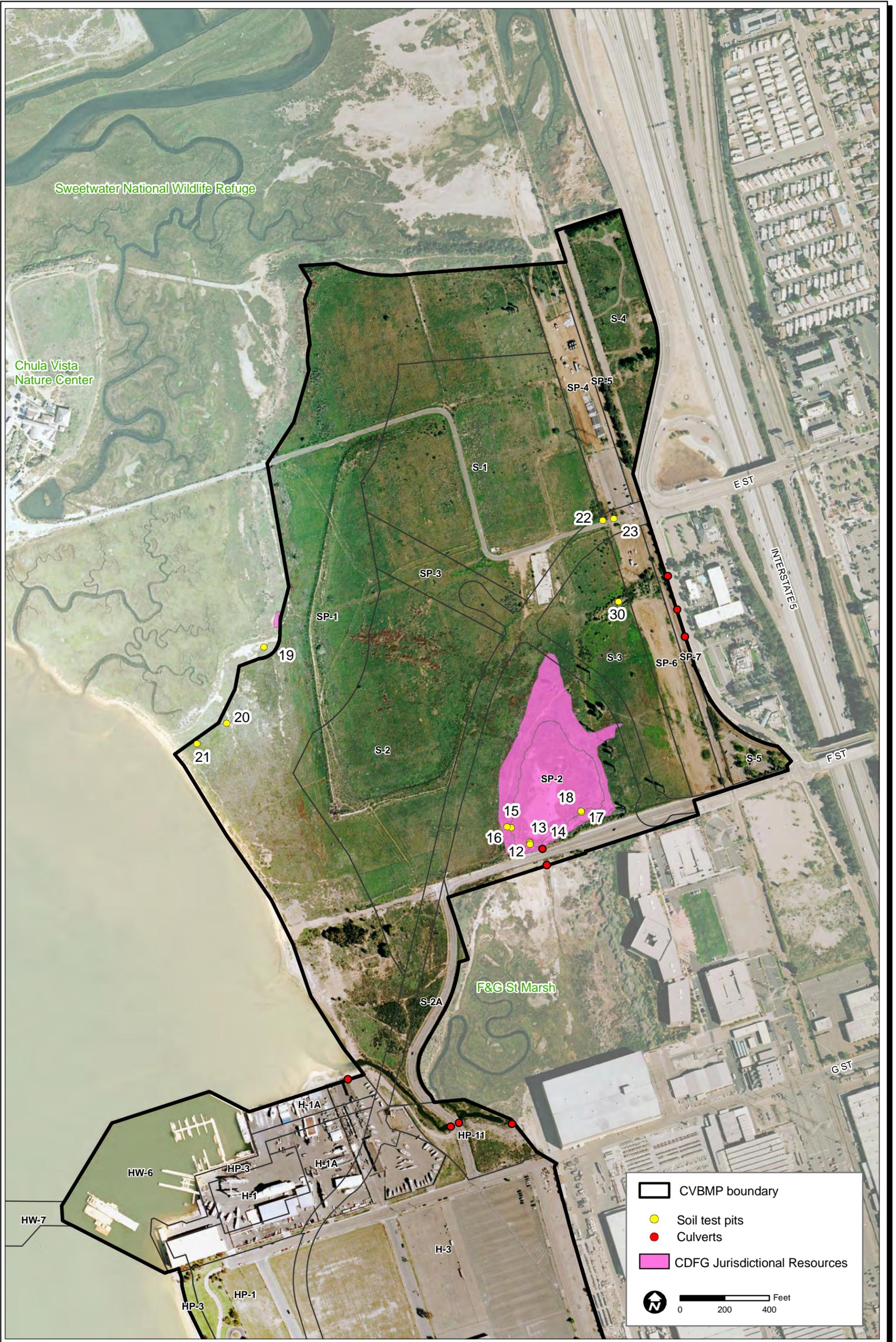
AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 Overview of CDFG Jurisdictional Resources

**FIGURE**  
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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
CDFG Jurisdictional Resources in Sweetwater District

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 CDFG Jurisdictional Resources in Otay District

FIGURE  
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The old tank sites and overflow detention basins are not mapped as CDFG jurisdictional resources, as they are considered isolated and part of an industrial facility. Additional isolated seasonal ponds on the southernmost portion of the Otay District were also excluded from CDFG jurisdiction because they are isolated from adjacent waters. The unvegetated waters of the San Diego Bay and the southern coastal salt marsh with tidal influence are also outside CDFG jurisdiction.

CDFG would verify this delineation and jurisdictional determination during the permit process.

#### **4.8.3.3 California Coastal Commission**

There are approximately 19.1 acres of land mapped as CCC wetlands, areas that are potential CCC jurisdiction, and former industrial areas in the process of remediation. CCC wetlands occur primarily within salt marsh and coastal brackish marsh habitats. Four areas in the Sweetwater District, one drainage area known as the HP-5 drainage ditch (Parcel HP-5) in the Harbor District, and four small seasonal ponds in the Otay District have been identified as CCC wetlands (*Figures 4.8-14 through 4.8-17*). The potential CCC wetland consists of one drainage area in the Otay District. The former industrial sites associated with the SBPP and the SDG&E facility located in the Otay District consist of stormwater basins and old tank sites that are artificial basins with little wildlife value. These areas total approximately 9.6 acres. However, because these areas meet the technical definition of a CCC wetland, the CCC would make the final determination during the permit process.

The northern area of the Otay District, including proposed Parcels O-1, OP2-A and Streets A and B, is the location of a former Industrial Facility that was part of the SBPP site. Tanks 4, 5, and 6, as identified on the site plan for the SDG&E and SBPP facilities (Haley & Aldrich, Inc. 2005), existed at this location. A depressed area exists that acted as an overflow detention basin for the adjacent tanks. The tanks have been removed but the overflow detention basin remains. Prior to removal of the tanks, each of the three fuel oil tanks held a capacity of 375,000 barrels of stored No. 6 fuel oil. The facilities were entirely within a bermed area. Approximately 21,000 cubic yards of soil have been excavated and removed since removal of the tanks and piping, as part of a decommissioning and remediation process (see *Section 4.12, Hazards and Hazardous Materials/Public Safety*).

The detention basin that previously acted as an overflow for the adjacent tank sites is identified near Soil Test Pit 11 on *Figure 4.8-14*. This site is an artificial basin with little wildlife value; however, during the extreme rainy season of 2005 (which received 12 inches more than average), large ponded areas were observed. The area supports small patches of hydrophytic vegetation, mainly grass poly. These seasonally ponded areas exist on fill soil.

There are pipes leading from each of the tank sites to the detention basin. The detention basin outlet works on a valve system and must be opened and closed manually. Unless opened, this detention basin is not connected hydrologically to the adjacent waters. Moreover, contamination is present on site and remediation actions will occur.

In addition to the work conducted by RECON, CH2M Hill evaluated the biological resources in the same areas within the Otay District for a California Energy Commission (CEC) Application that was prepared by LS Power for a replacement power plant. CH2M Hill identified the same areas in the Otay District as poorly drained depressions not subject to USACE jurisdiction. CH2M Hill noted that the soils typically contained small gravel, rocks, and marine snail shells (indicating fill material from the Bay). CH2M Hill concluded that, although the depressions pond water some years and contain marginal wetland plant species, they do not have distinct boundaries (except the depression outlined by dirt roads) or an ordinary high water mark, and do not connect to natural water bodies (bay or creeks) through swales or sheet flow. Furthermore, CH2M Hill noted that the 2004–2005 wet season was extraordinarily high, with approximately 22 inches and, although standing water was observed during extremely high rainfall in 2004–2005, CH2M Hill observed little in November 2005 and only for a short period.

The work of RECON and the work of CH2M Hill both reflect similar observations. The differences in observation stem, in part, from the fact that RECON's investigation was completed during one of the wettest years on record, while CH2M Hill's analysis was done during a dry year.

As noted above, because the former tank sites and detention basin are not connected hydrologically to the adjacent waters and it is a previously developed site, the detention basin and associated tank sites are considered exempt from USACE jurisdiction. For these reasons, the former industrial facility site is also likely not subject to CCC jurisdiction.

*Table 4.8-2* summarizes the acreage of wetland resources by Port and City jurisdiction, as well as by district and project phase.

#### **4.8.3.4 Chula Vista Wetlands Protection Program**

All wetland vegetation communities identified on site within the City's jurisdiction are covered under the City's MSCP Wetlands Protection Program. Mulefat scrub/riparian scrub, southern coastal salt marsh, disturbed riparian, and disturbed seasonal pond meet wetland category definitions presented in Appendix B of the City's MSCP Subarea Plan and as clarified in *Section 4.8.1.4* above. A total of 1.07 acres of City-defined wetlands are present within the lands under the City's jurisdiction within Parcel HP-5 (see *Figure 4.8-3*).

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**Legend**

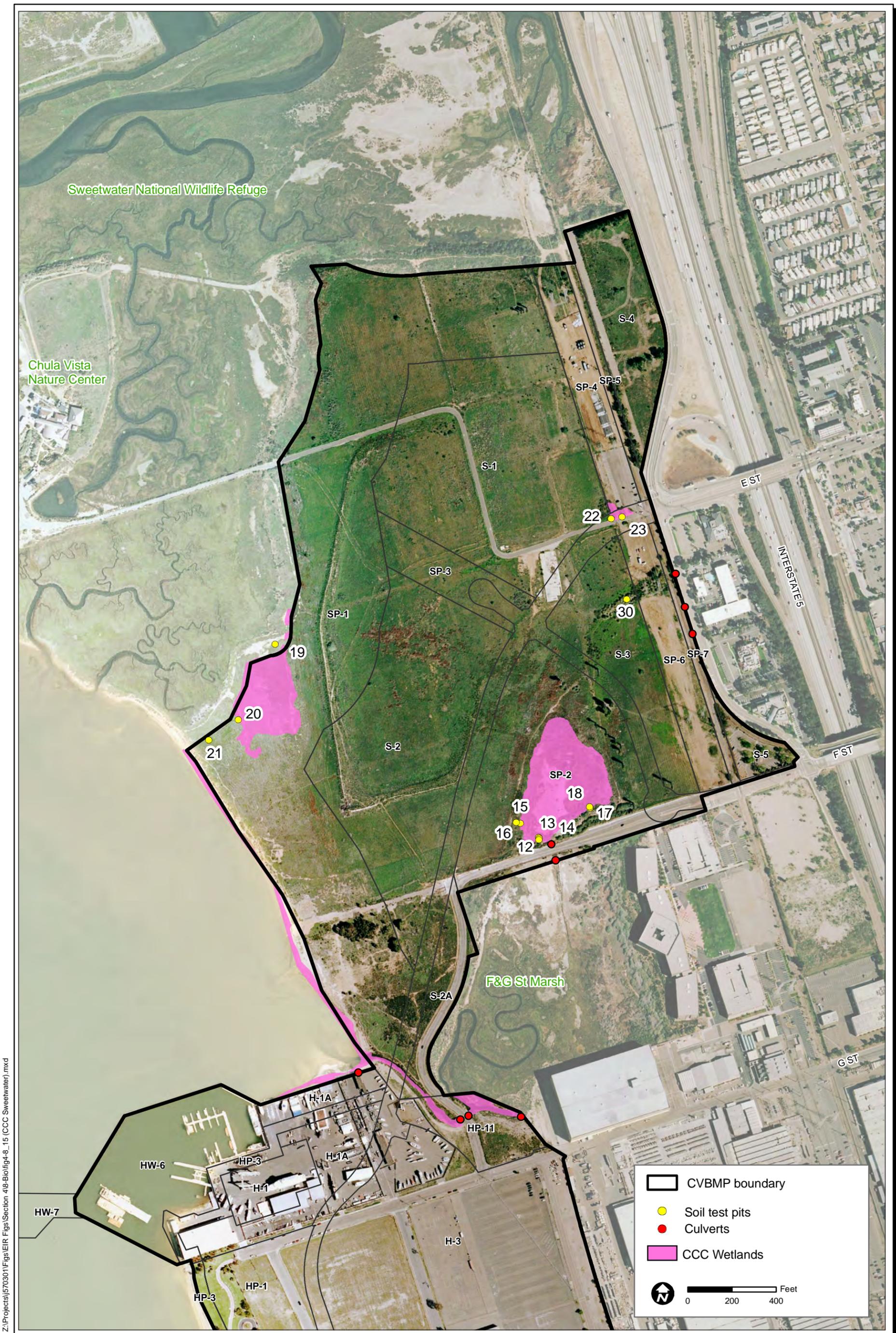
- CVBMP boundary
- CCC Wetlands
- Former Industrial Areas in Process of Remediation
- Potential CCC Wetlands
- Soil test pits
- Culverts

0 500 1,000 Feet

AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Overview of CCC Jurisdictional Resources **FIGURE 4.8-19**

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 CCC Jurisdictional Resources in Sweetwater District

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 CCC Jurisdictional Resources in Otay District

**FIGURE**  
 4.8-1<sub>93</sub>

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#### 4.8.4 Impact Significance Criteria

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact to terrestrial biological resources if:

1. It has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS
2. It has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG or USFWS
3. It has a substantial adverse effect on federally protected wetlands as defined by Sections 401 and 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.), and Section 1600 of the CDFG Code through direct removal, filling, hydrologic interruption, or other means
4. It interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites
5. It conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
6. It conflicts with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

#### 4.8.5 Impact Analysis

In general, most components of the Proposed Project would be constructed on land that is already disturbed, resulting in reduced impacts to sensitive and high-value biological resources. The off-site utility improvements constructed for the project would be placed within existing streets and developed rights-of-way and will not impact any biological resources. Other areas have been avoided or placed within ecological buffer zones, as described in *Chapter 3.0, Project Description*. However, not all impacts to such resources can be avoided. These impacts are discussed below.

To provide a “worst-case scenario,” the impact analysis assumed the largest potential development footprint. To eliminate confusion, the impact assessment was divided into (1) permanent development impacts and (2) temporary impacts associated with the restoration of ecological buffers and potential mitigation sites for impacts per each development phase and the entire project. There are four phases of development. Grading of the land within the Sweetwater and Harbor Districts planned for development during Phase I would generally occur at the same

time. Grading for remaining phases (program-level elements) would occur at a later date. The impact analysis is further divided by City and Port jurisdiction.

The reconfiguration of the harbor water area and improvements to the navigation channel proposed are addressed in *Section 4.9, Marine Biological Resources*.

**1. The Proposed Project would have a significant impact if it has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.**

a. Direct Impacts to Sensitive Wildlife: Port and City Jurisdiction

i. Phase I (Project-Level and Program-Level Impacts)

**Raptors.** There is the potential for raptors to nest on site during the nesting season of January 15 to July 31 within all districts, during all phases of construction. All active raptor nests, regardless of state or federal listing status, are protected under the California Fish and Game Code Section 3503.5. Direct impacts to nesting raptors due to the removal of an active nest would be significant (**Significant Impact 4.8-1**).

**Western Burrowing Owl.** Impacts to the western burrowing owl or any burrowing owl burrows may occur during implementation of program-level components in the Otay District on parcels in both the Port's and City's jurisdiction (*Figure 4.8-18*). The impacts would consist of the loss of burrowing owls and/or their nests which may result from grading and construction activities during development of the Otay District. The potential loss of western burrowing owls and/or their nests would be a significant impact (**Significant Impact 4.8-2**). Although the City has coverage for this species under the MSCP, the MSCP Subarea Plan requires additional protective measures.

**Birds Protected by the MBTA.** There is the potential for a number of birds protected by the MBTA to nest within the open space and trees in the Port's and City's jurisdiction. Destruction or removal of active nests during the breeding season could occur during construction or grading activities. These impacts would be significant (**Significant Impact 4.8-3**). The MSCP Subarea Plan provides coverage to projects within the City's jurisdiction for impacts to migratory birds that are also covered species.



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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Project Impacts to Sensitive Species**

**FIGURE**  
**4.8-19**

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ii. Project-Level Impacts

***Light-Footed Clapper Rail.*** During Phase I of the Proposed Project, impacts would occur to the inlet of the F & G Street Marsh as a result of the construction of the extension of E Street. In addition, development of the Sweetwater Park could directly affect the light-footed clapper rail through loss of foraging habitat. Direct impacts to the light-footed clapper rail and loss of foraging habitat for the species could occur (see *Figure 4.8-18*). The mouth of the marsh, located within the Sweetwater and Harbor Districts, falls within both the Port's and City's jurisdiction. Construction activity within the inlet would potentially impact clapper rails directly if circumstances prevented the birds from escaping back to the protected marsh habitat during construction. Therefore, impacts to the inlet would reduce the amount of available foraging habitat and could directly impact the light-footed clapper rail (**Significant Impact 4.8-4**).

***Belding's Savannah Sparrow.*** There are no direct impacts anticipated for the Belding's savannah sparrow, because no identified occupied habitat areas would be impacted by the project.

b. Direct Impacts to Sensitive Wildlife: City Jurisdiction

i. Phase I (Project-Level and Program-Level Impacts)

Project construction would potentially impact the following MSCP-covered species within the City's jurisdiction during all phases of development: salt marsh skipper, orange-throated whiptail, northern harrier, Cooper's hawk, peregrine falcon, light-footed clapper rail, long-billed curlew, western burrowing owl, and Belding's savannah sparrow. Of these species, only the northern harrier, Cooper's hawk, and western burrowing owl were observed on or directly adjacent to City jurisdiction during the current surveys. The remaining species are either known from the vicinity or have potential to occur, due to presence of suitable habitat. Impacts to northern harrier, Cooper's hawk, and western burrowing owl would be significant (**Significant Impact 4.8-5**).

c. Direct Impacts to Sensitive Plants: Port and City Jurisdiction

i. Project/Program-Level Impacts

The woolly sea-blite population is located on Parcel SP-1 in the Sweetwater District of the Port's jurisdiction, which is identified as an ecological buffer. A portion of the population is located in the limited use area and would potentially be impacted through creation of trails, overlooks, or placement of benches during Phase I. This species is a CNPS List 4 species, and impacts would be less than significant as impacts to these plants would not substantially reduce the regional population.

The two California box thorn individuals identified are located within the Sweetwater District of the Port's jurisdiction. These individuals are located on the edge of a disturbed wetland which would not be impacted by the Proposed Project.

There are no sensitive plants within the City's jurisdiction that will be impacted during Phase I of the Proposed Project.

~~ii. ii. Program Level Impacts~~ No sensitive plants will be impacted by the Phases II through IV program-level components because none were identified within the Phase II through IV development areas.

d. Indirect Impacts to Sensitive Birds: Port and City Jurisdictions

The Proposed Project could result in indirect impacts to all sensitive birds located within the project boundary, as well as the adjacent marshes and the City's designated Preserve lands. Potential construction and operation impacts would occur during all phases of the project within the City's and the Port's jurisdictions. These include impacts to breeding birds from construction noise and lighting, impacts to sensitive birds through a potential increase in perches for raptors that prey on birds, impacts to the birds and their habitat from post-development lighting and operational noise, intrusion into the habitat by pets and humans (public access), increased drainage, and exposure to additional toxins from runoff from streets and landscaping.

Tall perching structures are not common in the relatively treeless marshlands of the coastal region. Thus, power-line structures and buildings can give raptors a competitive advantage over grassland and marsh prey species. This is of greatest concern where special-status bird species are present and constitute prey of raptors. This artificially provided perch advantage can lead to higher than normal raptor numbers in the area, resulting in increased predation pressure (Oles 2007). Large structures also enable the encroachment of traditional tree-nesting and perch-hunting raptors, such as the red-tailed hawk (*Buteo jamaicensis*). Because of these effects, projects that provide such additional perch features can fragment the open habitat and possibly contribute to lower populations of special-status prey species (Oles 2007).

Raptor perch-deterrent devices have long been used by power companies to discourage raptors from using dangerous parts of power structures. However, they have not traditionally been used to prevent perching on entire structures to reduce secondary effects on prey species.

Because of the proximity of the Proposed Project to the F & G Street Marsh and the Sweetwater Marsh NWR, there is the potential for impact to special-status bird species, including California least tern, light-footed clapper rail, and western snowy plover. This impact could result from the man-made creation of potential perch sites for raptors that could prey on bird species native to the wetlands. Although predation on these species by raptors is a naturally occurring event, the

artificial increase in perches for predators has the potential to alter the relationship between the species. Increased predation on special-status bird species as a result of the creation of perch sites in areas that do not naturally contain such vantage points is a significant impact. Areas of concern are light posts, palm trees, building parapets, decorative eaves, and other projecting architectural elements, especially on the north side of the buildings proposed within Parcel H-3, which faces the marsh habitat.

Indirect effects would be significant because they would potentially result in increased predation, abandonment of nests, or degradation of nesting and foraging habitat for the light-footed clapper rail, Belding's savannah sparrow, all raptor species, and migratory birds, which can ultimately cause a drop in population numbers of these species (**Significant Impact 4.8-6**).

e. Preserve Adjacency Issues: City Jurisdiction

The City MSCP Subarea Plan addresses Adjacency Management Issues in order to reduce indirect impacts associated with development adjacent to the Preserve areas. As described in *Chapter 3.0, Project Description*, a 400-foot-wide ecological buffer would be established within the Sweetwater District, and a 170- to 200-foot-wide ecological buffer would be established in the Otay District as part of the Proposed Project design. In the eastern portion of the buffers, a foot path would be provided for pedestrian use. A series of staggered berms within the Sweetwater District would serve as a barrier between the human users of recreation facilities and the sensitive wildlife in the nearby marsh habitat. The berms within the ecological buffers would also serve to reduce the amount of noise that may be disruptive to the sensitive species within the marshes.

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. This No Use Zone would be off limits to pedestrians, with signs posted stating that access into the sensitive habitat areas is prohibited and trespassing laws will be strictly enforced.

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. To protect the wetlands and resources within the Refuge, the SP-1 buffer would be established 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 Harbor Police to report trespassing within the sensitive areas.

In order to discourage human and domestic animals from crossing over the berms into the native habitat and preserve areas, permanent fencing would be strategically placed in areas around at Parcels SP-1 and OP-2A where human activity may encroach on the preserves. ~~In areas where there is no fencing, stands of native cacti, such as shore cactus (*Opuntia littoralis*) and cholla (*O. prolifer*), would be planted on portions of the top slopes and west-facing slopes of the berms.~~ In addition, appropriate signage would prohibit access into the sensitive habitat and would direct public access to appropriate locations and ensure that native habitat and restoration areas are not disturbed.

All new development must adhere to the guidelines provided in the MSCP Subarea Plan, which address six issues associated with potential indirect impacts on the Preserve from lighting, noise, drainage, use of invasives, toxic substances, and public access. The Proposed Project includes design features and regulatory compliance that reduce potential impacts on the adjacent preserve from drainage. However, impacts from lighting, noise, invasives, toxic substances, and public access would be significant and are discussed below (**Significant Impact 4.8-7**).

#### A. Lighting

Lighting associated with construction and operation of the Proposed Project may result in indirect impacts to the wildlife located adjacent to Sweetwater, F & G Street, and J Street marshes. Artificial lighting at night could illuminate nearby roost sites and nests, thus increasing the potential for disruption to breeding patterns and detection by nocturnal predators. In addition, artificial lighting and reflective glare may contribute to bird strikes against buildings. These impacts would be significant. This impact is identified as part of **Significant Impact 4.8-7**.

#### B. Noise

Construction Noise. Noise from heavy construction equipment would adversely affect birds nesting and foraging in the Preserve areas. As discussed in *Section 4.7*, construction noise adjacent to the F & G Street Marsh would exceed 60 dB(A) and therefore could have adverse effects on nesting birds within the marsh. Loud noises may cause nesting birds to flush from their nests and draw attention to their nesting location, thereby increasing the potential of predation on eggs and young. Construction noise may also decrease the use of the area by foraging bird species. These impacts would be significant. This impact is identified as part of **Significant Impact 4.8-7**.

Operational Noise. As discussed in *Section 4.7*, traffic noise along E Street, adjacent to the Sweetwater Marsh and the F & G Street Marsh, would exceed 60 dB(A) and therefore could have adverse effects on nesting birds within the marsh. This impact is identified as part of **Significant Impact 4.8-7**.

### C. Drainage.

Urban runoff and drainage can be harmful to the Preserve if not appropriately treated and managed. Potential problems include increased erosion and transfer of toxic substances and exotic plant material into the Preserve from the adjacent development. The Proposed Project would be required to comply with and implement the NPDES permit, City grading ordinances, and other relevant BMPs and codes during the planning, construction, and maintenance phases of the project and would reduce water quality impacts associated with runoff. These various ordinances and regulations assure that water quality impacts associated with runoff, erosion, and sedimentation would be minimized by the preparation and implementation of an SWPPP, an urban runoff management plan, and a monitoring program. Therefore, impacts would be less than significant. This impact is identified as part of **Significant Impact 4.8-7**.

### D. Invasives

Planting non-native, invasive species adjacent to the Preserve (F & G Street Marsh) and the Sweetwater Marsh NWR may impact the native habitats in the Preserve if the invasive species begin to encroach upon the Preserve. This impact would be significant. This impact is identified as part of **Significant Impact 4.8-7**.

### E. Toxic Substances

The release of toxins, chemicals, petroleum products, and other elements that might degrade can be harmful to the natural environment and can degrade the natural ecosystem processes within the preserve. This impact is identified as part of **Significant Impact 4.8-7**.

### F. Public Access

Public access into the open space and Preserve areas would potentially result in indirect impacts to sensitive biological resources. People and pet intrusion could disrupt nesting behaviors of sensitive wildlife. A higher incidence of trash or trampling of vegetation along the edges of the sensitive habitats could also result in degradation of the habitat, which would be a significant impact. This impact is identified as part of **Significant Impact 4.8-7**.

f. Surface Water Foraging Habitat: Port Jurisdiction

i. Program-Level Impacts

Foraging birds use their vision to locate and capture prey. Surface water habitats are used for foraging by terns, pelicans, and skimmers. Any loss of surface water habitat would be a significant impact, based on the USFWS policy of no-net-loss of habitat.

Within the Port's jurisdiction, the construction of the H Street Pier could reduce surface water foraging habitat in the Bay by approximately 36,000 square feet, or 0.8 acre, which would result in the reduction of foraging area for birds. This impact would be significant based on the USFWS policy of no-net-loss of habitat (**Significant Impact 4.8-8**).

Modification of the Marina at the existing South Bay Boatyard (Parcel HW-6) to include 200 new boat slips to the existing 50 boat slips would result in the loss of approximately 41,700 square feet, or 0.96 acre, of surface water foraging habitat.

Several related program-level components on Parcels HW-1, HW-3, HW-4, and H-12—the removal of 14,400 square feet of riprap, installation of 540 square feet of bulkhead, and development of a 35,284 square foot ferry terminal—would result in a net loss of approximately 19,424 square feet, or 0.45 acre, of surface water foraging habitat in the Marina.

In addition, the project proposes to increase the dock area in the Marina, which would result in a net loss of approximately 6,740 square feet (or 0.2 acre) of surface water foraging habitat.

Detailed plans are not available for program-level components, such as reconfiguration of the marinas, or for dredging and filling of the navigation channels. Removal of some existing facilities and construction of new facilities would result in changes to existing surface water habitat. Proposed new development would be expected to result in impacts to surface water foraging habitat. Once design plans are available and prior to any development of proposed program-level uses, additional project-level environmental review pursuant to CEQA Guidelines, Section 15168, would be required to identify specific impacts and mitigation. The impacts to surface water foraging habitat for sight foraging birds would be similar to those identified for Phase I. Prior to commencement of work for program-level in-water components, appropriate location and acreage for mitigation would be identified for short-term construction and long-term direct and indirect impacts of these later phases.

The above impacts from program-level components would result in a total net loss of approximately 1.61 acres of surface water foraging habitat and would be significant based on the USFWS policy of no-net-loss (**Significant Impact 4.8-9**).

In addition, bulkhead placement on Parcel HW-3 would result in the loss of about 1,200 square feet (0.03 acre) of intertidal mudflat inside the Marina. Any loss of this foraging habitat would be offset by a proposed increase of intertidal flat along the San Diego Bay (see Mitigation Measure 4.9-5, *Section 4.9, Marine Biological Resources*). No permanent significant impacts as a result of loss of intertidal flat habitat are anticipated.

g. **Surface Water Foraging Habitat: City Jurisdiction**

There is no surface water foraging habitat within the jurisdiction of the City, therefore, there is no impact on any surface water foraging habitat during any phase of the Proposed Project.

h. **Indirect Impacts from Building Shading: Port and City Jurisdiction**

Construction of tall buildings adjacent to sensitive habitat areas have the potential to result in indirect impacts resulting from building shading. An analysis of building shading was conducted for summer and winter solstice periods, in morning, mid-afternoon and late afternoon conditions. The analysis indicated that no sensitive habitats would be affected by the ~~Gaylord Resort and Convention Center~~RCC. The Pacifica Residential and Retail project would result in shading during portions of the day on portions of the wetlands identified within Parcel HP-5. However, impacts would not result in substantial reduction in solar radiation and are not anticipated to substantially affect the functions and values of the habitat.

**2. The Proposed Project would have a significant impact if it has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG or USFWS.**

Project impacts to vegetation communities and land cover types are depicted in *Figure 4.8-19*. *Table 4.8-3A* summarizes the proposed vegetation communities for each development phase for the Port and the City areas of jurisdiction. *Table 4.8-3B* contains a parcel-by-parcel summary of these impacts on the project level, and *Tables 4.8-3C and 4.8-3D* contains a parcel-by-parcel summary of these impacts on the program level.

a. **Port Jurisdiction**

i. **Project-Level Impacts**

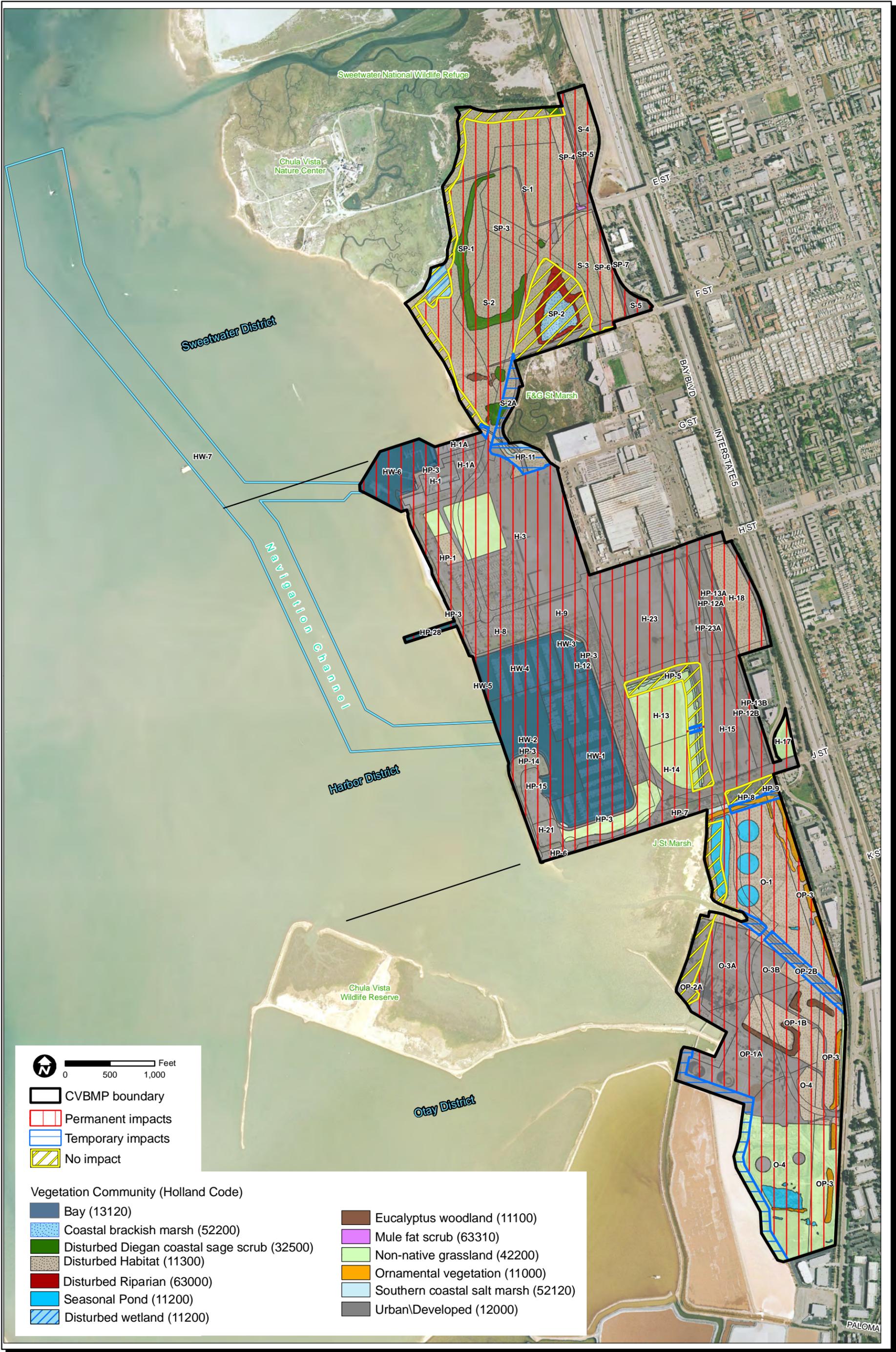
The grading for project-level Phase I elements within the Port jurisdiction would impact ~~4.20~~<sup>4.79</sup> acres of disturbed coastal sage, ~~11.92~~<sup>14</sup> acres of non-native grassland, 0.07 acre of mulefat scrub/riparian scrub, and 0.03 acre of southern coastal salt marsh associated with road impacts. These impacts are significant. (**Significant Impact 4.8-10**).

ii. **Program-Level Impacts**

The grading for Phase I program-level components within the Port jurisdiction would impact 3.44 acres of disturbed coastal sage and 8.02 acres of non-native grassland. Phases II through IV program-level impacts include approximately 3.42 acres of disturbed coastal sage scrub, 34.44 acres of non-native grassland, and 3.098 acres of disturbed riparian. Approximately 9.132 acres of disturbed seasonal pond would be impacted by the grading within the Otay District on the program level. These impacts are significant. (**Significant Impact 4.8-11**).

Approximately 1.52 acres of southern coastal salt marsh would be impacted during program-level activities. These impacts are significant (**Significant Impact 4.8-12**).

Impacts to disturbed habitat, eucalyptus woodland, ornamental vegetation, and impacts to urban/developed habitat within the Port's jurisdiction would not be significant because they are not considered sensitive habitats.



Z:\Projects\57030\Figs\EIR\Figs\Section 4\8-Bio\fig4-8\_19 (landcover impacts).mxd

AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Project Impacts to Vegetation Communities and Land Cover Types**

**FIGURE 4.8-19**

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**TABLE 4.8-3A  
Proposed Impacts to Vegetation Communities and Land Cover Types by Jurisdiction**

Vegetation Community/ Land Cover Types (Holland)	Port					Port Total	City				City Total	GRAND TOTAL
	Project-Level (Phase I)		Program-Level				Project-Level (Phase I)		Program-Level			
	Harbor District	Sweetwater District	Harbor District	Otay District	Sweetwater District		Harbor District	Sweetwater District	Harbor District	Sweetwater District		
Bay (13120)*	0.53		61.8733	0.14	0.26	62.267						62.267
Coastal brackish marsh (52200)					3.40	3.40						3.40
Disturbed Diegan coastal sage scrub (32500)		4.230.79			3.416.86	7.645			0.25	0.25		7.8990
Disturbed habitat (11300)	11.090.70	24.055.03	2.3212.70	47.253	65.9584.96	150.64			12.99	12.99		163.643
Disturbed riparian (63000)					3.098	3.098						3.098
Disturbed seasonal Pond (11200)				9.132		9.1312						9.132
Disturbed wetland (11200)					2.00	2.00						2.00
Eucalyptus woodland (11100)		0.09		2.232	0.3645	2.687						2.687
Mulefat scrub (63310)		0.07				0.087			0.03	0.03		0.110
Nav channel HW-7			86.84			86.84						86.84
Non-native grassland (42200)	11.882.14		3.8211.84	30.62		464.3160	17.4219.13				17.4219.13	63.73
Ornamental vegetation (11000)			0.99	5.601		6.5960						6.5960
Southern coastal salt marsh (52120)		0.03	1.44		0.08	1.565	0.031.07				0.031.07	1.592.62
Urban/developed (12000)	84.6527.02	1.080.97	71.49129.06	49.398	3.5685	210.116	4.8763	0.01	9.1445	4.547	18.5665	228.726
<b>TOTAL</b>	<b>108.1529.86</b>	<b>29.556.89</b>	<b>228.23304.74</b>	<b>144.34</b>	<b>82.11101.37</b>	<b>592.38587.20</b>	<b>22.32 24.83</b>	<b>0.01</b>	<b>9.45.14</b>	<b>17.840</b>	<b>50.3252.12</b>	<b>463.60639.32</b>

\*All Bay impacts are addressed in Section 4.9, Marine Biological Resources.

**TABLE 4.8-3B  
Phase I Project-Level Impacts by Parcel**

Parcel	Bay	CBM	dCSS	DH	dRIP	dSP	dWET	EUC	MFS	NNG	ORN	SCS	DEV	TOTAL
<b>Sweetwater District</b>														
Road			0.79	5.03					0.07			0.03	0.97	6.89
<b>TOTAL</b>			<b>0.79</b>	<b>5.03</b>					<b>0.07</b>			<b>0.03</b>	<b>0.97</b>	<b>6.89</b>
<b>Harbor District</b>														
Road				0.70						2.14			27.02	29.86
H-13										7.97				7.97
H-14										4.83			1.36	6.19
HP-5										4.61		1.07	3.20	8.88
H-17										1.72			0.07	1.79
<b>TOTAL</b>				<b>0.70</b>						<b>21.27</b>		<b>1.07</b>	<b>31.65</b>	<b>54.69</b>

**TABLE 4.8-3CB**  
**Phase I Project Program-Level Impacts by Parcel**

Parcel	Bay	CBM	dCSS	DH	dRIP	dSP	dWET	EUC	MFS	NNG	ORN	SCS	DEV	TOTAL
<b>Sweetwater District</b>														
Road			0.79	5.03					0.07			0.03	0.97	6.89
S-1				0.18									0.04	0.22
S-2			3.09	14.38				0.09					0.08	17.64
S-3				0.04										0.045
SP-1			0.24	1.79										2.03
SP-2														0.00
SP-3			0.11	2.62										2.73
SP-4													0.01	0.01
SP-6													0.01	0.01
<b>TOTAL</b>			<b>3.444.23</b>	<b>19.0124.04</b>				<b>0.09</b>	<b>0.07</b>			<b>0.03</b>	<b>1.140.14</b>	<b>292.658</b>
<b>Harbor District</b>														
Road				0.70						2.14			27.02	29.86
H-3				0.26						6.11			32.83	39.2019
H-8													6.05	6.05
H-9													4.63	4.63
H-13										7.97				7.97
H-14										4.83			1.36	6.19
H-15													0.31	0.31
H-18				8.69									0.23	8.92
H-21										0.19			0.06	0.25
H-23													0.44	0.44
HP-1				1.44						1.67			8.33	11.44
HP-3	0.53												2.57	3.0910
HP-5										4.61		1.07	3.20	8.89
HP-6													0.03	0.03
HP-7										0.05			0.11	0.16
HP-11														0.00
HP-12A													0.01	0.01
HP-12B													0.01	0.01
HP-13A														0.00
HP-13B														0.00
HP-23A													1.26	1.26
HP-28														0.00
H-17										1.72			0.07	1.79
H-1A													1.01	1.01
<b>TOTAL</b>	<b>0.53</b>			<b>11.0910.39</b>						<b>8.0229.29</b>		<b>1.07</b>	<b>589.5357.88</b>	<b>131.5476.82</b>

Bay = Bay  
 CBM = Coastal brackish marsh  
 dCSS = Disturbed Diegan coastal sage scrub  
 DH = Disturbed habitat  
 dRIP = Disturbed riparian  
 dSP = Disturbed seasonal pond  
 dWET = Disturbed wetland

EUC = Eucalyptus woodland  
 MFS = Mulefat scrub  
 NNG = Non-native grassland  
 ORN = Ornamental vegetation  
 SCS = Southern coastal salt marsh  
 DEV = Urban/developed

**TABLE 4.8-3C**  
**Phases II through IV – Program-Level Impacts by Parcel**

Parcel	Bay	CBM	dCSS	DH	dRIP	dSP	dWET	EUC	MFS	NNG	ORN	SCS	DEV	TOTAL
<b>Sweetwater District</b>														
Roads				1.43	0.03								0.20	1.66
S-1			0.06	17.54									0.69	18.29
S-2A			0.27	1.29								0.04	1.04	2.654
S-3				6.11										6.121
S-4				4.98									1.10	6.08
S-5													1.32	1.32
SP-1	0.26		3.09	33.06			2.00	0.36				0.04	0.24	39.05
SP-2		3.40		6.52	3.05								1.39	14.356
SP-4			0.24	3.03					0.03				0.64	3.934
SP-5			0.01	0.56									0.53	1.10
SP-6				4.18									0.05	4.223
SP-7				0.24									0.91	1.15
<b>TOTAL</b>	<b>0.26</b>	<b>3.400</b>	<b>3.67</b>	<b>78.94</b>	<b>3.08</b>		<b>2.00</b>	<b>0.36</b>	<b>0.03</b>			<b>0.08</b>	<b>8.11</b>	<b>996.5923</b>
<b>Harbor District</b>														
Roads				0.04							0.09	0.10	2.20	2.43
H-1													2.26	2.26
H-12	0.77												0.04	0.81
H-15													9.14	9.14
H-1A	0.03												4.27	4.30
H-21										3.69			6.17	9.86
H-23													23.98	23.98
H-9													3.97	3.97
HP-11				1.90								0.47	0.78	3.15
HP12A													4.02	4.02
HP-12B													4.34	4.34
HP-13A													1.07	1.07
HP-13B													1.16	1.16
HP-14	0.03												2.85	2.898
HP-15	0.38												3.16	3.54
HP-28	0.83													0.83
HP-3	0.80									0.07			4.50	5.37
HP-6													1.22	1.22
HP-7	0.01			0.07						0.06	0.23	0.22	3.17	3.76
HP-8				0.24							0.48	0.47	1.34	2.53
HP-9				0.06							0.19		0.68	0.943
HW-1	21.78											0.06	0.10	21.94
HW-2	13.54												0.03	13.57
HW-3	3.95											0.12	0.11	4.178
HW-4	10.42												0.02	10.434
HW-5	0.33													0.33
HW-6	8.47												0.05	8.52
HW-7	86.84*													86.84
<b>TOTAL</b>	<b>148.18</b>			<b>2.31</b>						<b>3.82</b>	<b>0.909</b>	<b>1.44</b>	<b>80.63</b>	<b>237.37</b>

TABLE 4.8-3CD (Cont.)

Parcel	Bay	CBM	dCSS	DH	dRIP	dSP	dWET	EUC	MFS	NNG	ORN	SCS	DEV	TOTAL
<b>Otay District</b>														
Road				3.65		0.63		0.13		0.04			2.37	6.82
O-1				15.45		2.65					0.23			18.33
O-3A				0.26									9.07	9.33
O-3B				0.99									3.68	4.67
O-4				2.18		2.05				16.56	0.22		6.13	27.14
OP-1A				1.27				0.43					11.86	13.56
OP-1B				7.07				1.40					2.40	10.87
OP-2A	0.14			4.13		3.65				4.12	0.36		11.61	24.01
OP-2B				1.90						0.15			1.41	3.46
OP-3				10.35		0.14		0.26		9.75	4.80		0.85	26.15
<b>TOTAL</b>	<b>0.14</b>			<b>47.25</b>		<b>9.12</b>		<b>2.22</b>		<b>30.62</b>	<b>5.61</b>		<b>49.38</b>	<b>144.34</b>

\*86.84 acres of impact to Nav Channel HW-7.

Bay = Bay

CBM = Coastal brackish marsh

dCSS = Disturbed Diegan coastal sage scrub

DH = Disturbed habitat

dRIP = Disturbed riparian

dSP = Disturbed seasonal pond

dWET = Disturbed wetland

EUC = Eucalyptus woodland

MFS = Mulefat scrub

NNG = Non-native grassland

ORN = Ornamental vegetation

SCS = Southern coastal salt marsh

DEV = Urban/developed

b. City Jurisdiction

i. Project Level

Approximately ~~17.42~~19.13 acres of non-native grassland would be impacted in the Harbor District during Phase I project-level activities. These impacts are significant (**Significant Impact 4.8-13**). Approximately ~~0.03~~1.07 acre of southern coastal salt marsh would be permanently impacted within the ~~Sweetwater District~~Harbor District during project-level activities. These impacts are significant (**Significant Impact 4.8-14**).

ii. Program Level

Approximately 0.03 acre of mulefat scrub/riparian scrub would be permanently impacted within the Sweetwater District during program-level activities. The Proposed Project would permanently impact a total of 0.25 acre of disturbed coastal sage scrub (Tier II – uncommon uplands) in program-level activities of the Sweetwater District.

Impacts to mulefat scrub/riparian scrub and disturbed coastal sage scrub would be significant. Grading and construction activities during development of the Proposed Project will directly remove these sensitive vegetation communities (**Significant Impact 4.8-15**).

Impacts to disturbed habitat, eucalyptus woodland, ornamental vegetation, and urban/developed habitat within the City of Chula Vista's jurisdiction would not be significant and do not require mitigation under the Subarea Plan. These vegetation communities are not considered sensitive and do not support sensitive species.

**3. The Proposed Project would have a significant impact if it has a substantial adverse effect on federally or state protected wetlands as defined by Sections 401 and 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.), and Section 1600 of the CDFG Code through direct removal, filling, hydrologic interruption, or other means.**

*Figures 4.8-20, 4.8-21, and 4.8-22 show impacts to USACE, CDFG, and CCC wetland resources. Table 4.8-4 presents the acreage of impacts for each development phase for the Port and the City of Chula Vista by district.*

a. USACE Jurisdictional Resources

The Proposed Project would impact a total of 64.34 acres of USACE jurisdictional waters within all three districts and both the Port and City of Chula Vista's jurisdiction. The majority of that impact would occur during program-level activities when wetlands and non-wetland waters of

the U.S. would be permanently impacted by the proposed redesign of the marina within the Harbor District.

bi. Port Jurisdiction

i. *Project Level*

The circulation roads and bridges proposed in the Sweetwater and Harbor Districts would permanently impact 0.55 acre of USACE wetlands and non-wetland waters of the U.S.- Impacts would be significant (**Significant Impact 4.8-16**).

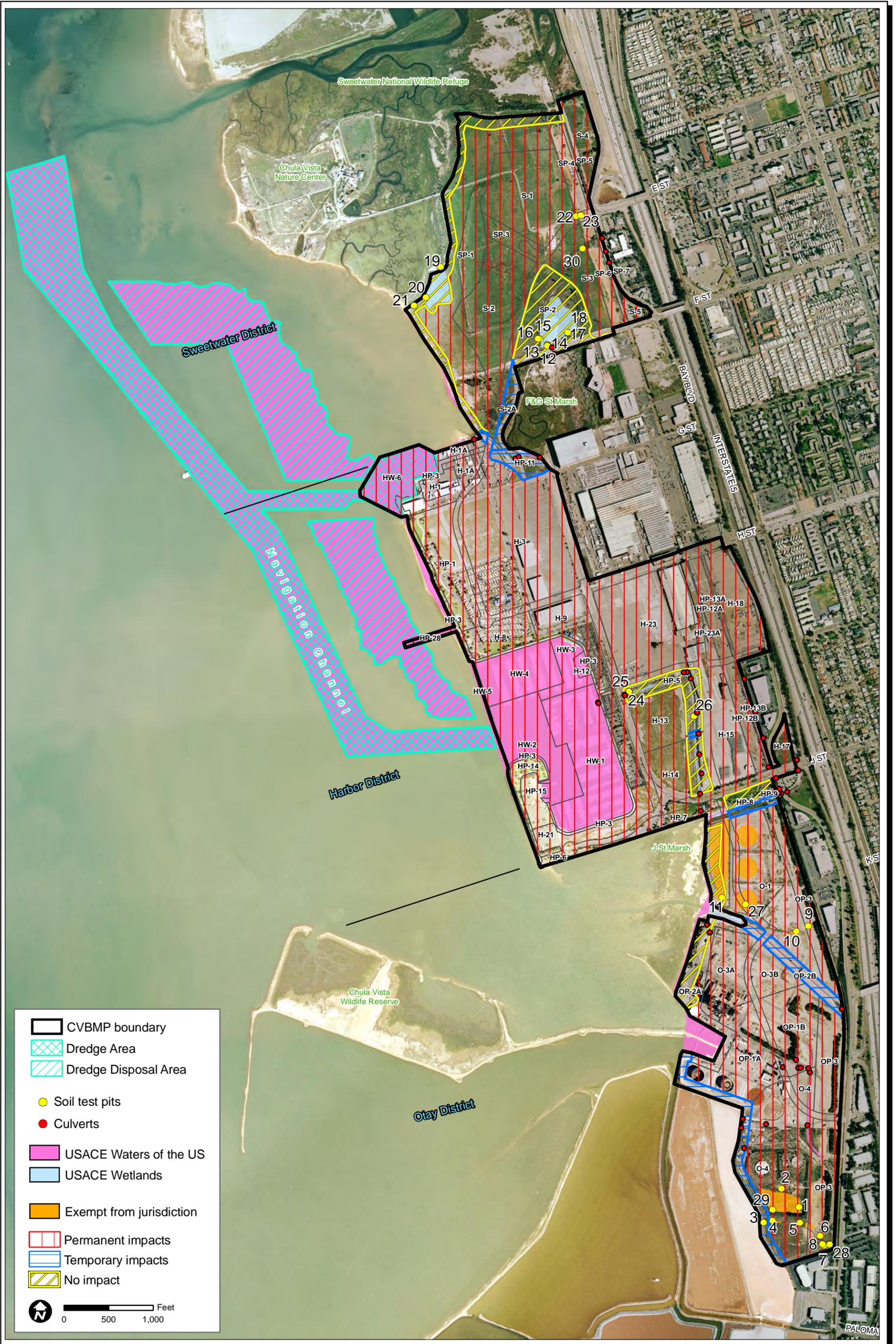
ii. *Program Level*

Program-level development would disturb a total of 1.2417 acres of non-wetland waters of the U.S. and would impact 0.42 acre of USACE wetlands. These impacts would be significant (**Significant Impact 4.8-17**).

**TABLE 4.8-4**  
**Proposed Impacts to Jurisdictional Wetland Resources**  
(acres)

	Harbor District	Otay District	Sweetwater District	Total
<b>USACE*</b>				
Non-wetland waters of the U.S.	61.96*	1.10	0.03	63.09
Wetlands	1.16	—	0.09	1.25
<b>USACE TOTAL</b>	63.12	1.10	0.12	64.34
Isolated wetland – USACE exempt**	—	6.96	0.11	7.08
<b>CDFG TOTAL</b>	0.14	0.95	0.03	1.13
<b>CCC</b>				
CCC	1.55	0.49	0.23	2.26
Potential CCC**	—	7.43	—	7.43
<b>CCC TOTAL</b>	1.55	7.92	0.23	9.69

- \*Includes Bay Impacts
- \*\*CCC will make final determination of the jurisdiction of the potential wetlands and the resources within the area formerly occupied by an industrial facility that are potentially exempt from CCC jurisdiction.



AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 Project Impacts to USACE Jurisdictional Resources

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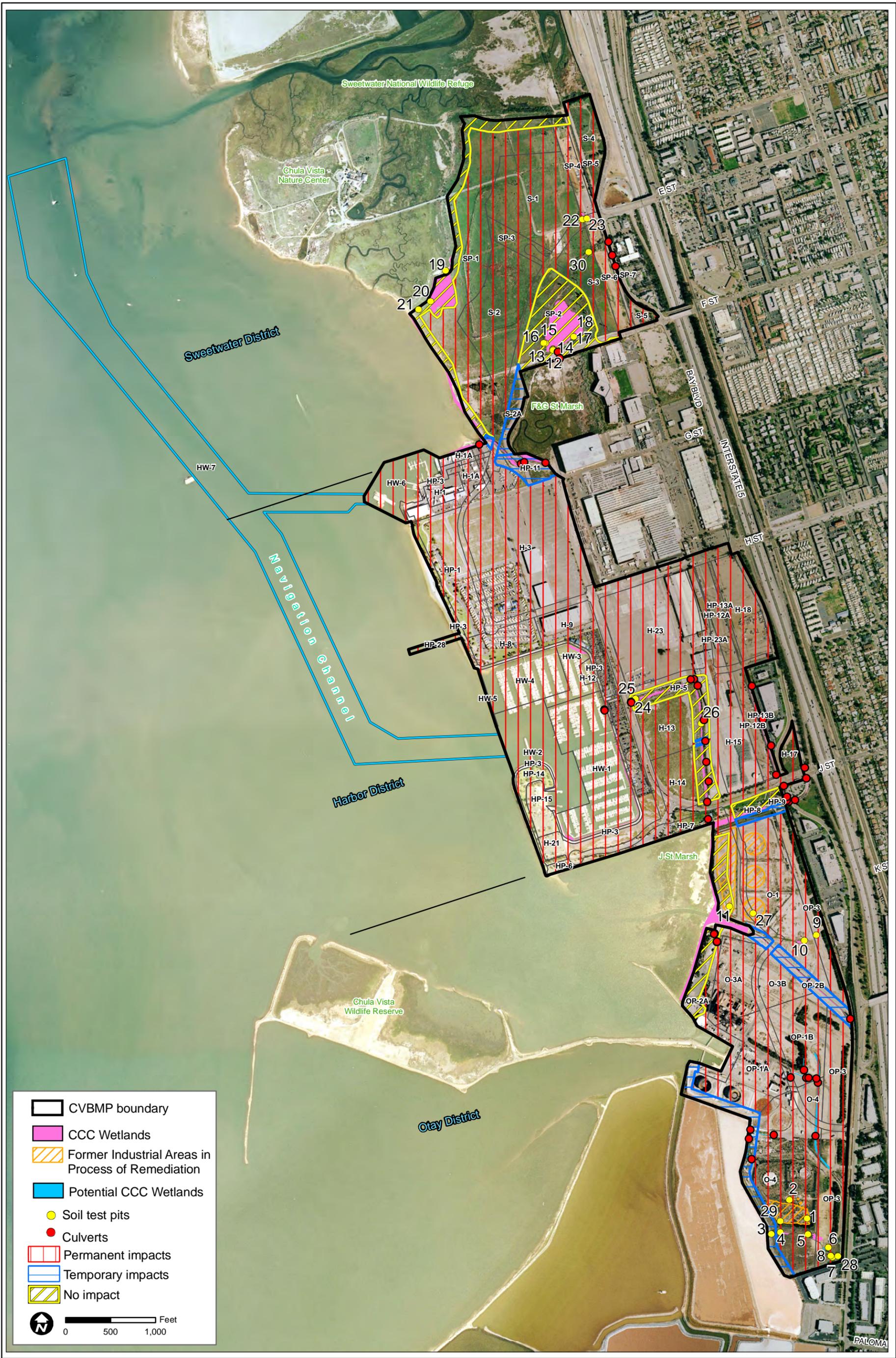


AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Project Impacts to CDFG Jurisdictional Resources

FIGURE  
4.8-21

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 Project Impacts to CCC Jurisdictional Resources

**FIGURE**  
 4.8-5562  
 449

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The establishment of an ecological buffer on Parcel OP-2A would result in temporary impacts to 0.03 acre of non-wetland waters of the U.S. through restoration activities (**Significant Impact 4.8-18**).

The reconfiguration of the harbor and marina could impact an additional 61.96 acres of USACE jurisdictional waters within the Harbor District during program-level activities. This impact would be significant (**Significant Impact 4.8-19**).

An additional 7.08 acres of permanent and temporary impacts would occur to seasonal ponds and isolated patches of mulefat scrub/riparian scrub in the Sweetwater and Otay Districts within the Port's jurisdiction. These are exempt from USACE jurisdiction, as they are isolated resources and impacts would not be significant.

ejj. City Jurisdiction

i. *Project Level*

The bridges proposed on Parcel HP-5 in the Harbor District would permanently impact 0.02 acre of USACE non-wetland waters of the U.S. This impact would be significant (**Significant Impact 4.8-20**).

ii. *Program Level*

There are expected to be no significant impacts to USACE Jurisdictional Resources at the program level within the City's jurisdiction.

An additional 0.07 acre of impacts would occur to an isolated patch of mulefat scrub/riparian scrub in the Sweetwater District within the City's jurisdiction. This is exempt from USACE jurisdiction, as it is an isolated resource and impacts would not be significant.

USACE has a mandate to demonstrate that impacts within their jurisdiction have been avoided, minimized, and mitigated. Avoidance and minimization has been accomplished in both the Port's and City's jurisdictions through the following design measures: (1) ecological buffers in the Sweetwater District were expanded to incorporate several of the larger wetlands (e.g., coastal salt marsh and disturbed riparian), (2) some of the circulation roadways were redesigned to avoid wetland resources, and (3) several bridges have been incorporated into the project design to avoid direct impacts to resources, specifically at the F & G Street Marsh inlet and the HP-5 drainage ditch. All unavoidable impacts are appropriately mitigated as detailed below in *Section 4.8.6, Mitigation Measures*.

db. CDFG Jurisdictional Resources: Port Jurisdiction

i. Project Level

No CDFG Jurisdictional Resources are located within the Phase I project area. Therefore, no significant impacts would result.

ii. Program Level

The Proposed Project would disturb a total of 1.1 acres of CDFG streambed and associated riparian habitat during program-level activities in the Harbor and Otay Districts within the Port's jurisdiction. This includes permanent impacts to 0.14 acre within the Harbor District and permanent (0.72 acre) and temporary (0.23 acre) impacts in the Otay District. Permanent and temporary removal of riparian habitat is a significant impact (**Significant Impact 4.8-21**).

ec. CDFG Jurisdictional Resources: City Jurisdiction

There are no CDFG Jurisdictional Resources identified within any of the phases of work within the City's jurisdiction. Therefore, no significant impacts would result.

fd. CCC Jurisdictional Resources

Impacts to CCC wetlands have been avoided to the maximum extent practicable. As noted below under **Significant Impacts 4.8-23**, **4.8-24**, and **4.8-33**, the project would extend and realign E Street, resulting in removal of mulefat scrub at the existing terminus of E Street, and would also indirectly impact the inlet channel to the F & G Street Marsh through shading caused by a proposed bridge crossing. These impacts are not feasibly avoided, due to the location and configuration of the tie-in location to the existing E Street and due to the fact that a crossing of the inlet channel is necessary to connect E Street to the Marina area. As noted in *Section 4.8.1*, Coastal Act policies provide for the balancing of potentially conflicting policy provisions. In this case, although the E Street Extension results in impacts on CCC jurisdictional wetlands, the extension of the road provides for improved public access and pedestrian facilities to the shoreline. Currently, access to the Marina and its associated parks and shoreline access, from F Street is constrained by an existing 2-lane road with no curb, gutter, sidewalk or bike lane. The proposed E Street Extension would provide pedestrian and bicycle access from F Street and Bay Boulevard to the Marina, and public coastal access points. In addition, the proposed bridge over the F & G Street Marsh inlet would remove an existing culvert crossing and would widen and restore the inlet such that improved tidal flushing would be provided to the F & G Street Marsh. Therefore, while significant impacts are identified, mitigation measures are provided and additional public and environmental benefits are proposed that provide support for balancing of Coastal Act policies.

Some of the mapped waterways have been identified as potential CCC wetlands that may be under the jurisdiction of the Coastal Commission. Identification of these areas as CCC wetlands requires documentation of ponding for a minimum of 7 consecutive days, and there is currently no indication that ponding of that duration occurs; therefore, identification of CCC jurisdiction has not been made. In addition, the Otay District contains areas formerly occupied by an industrial facility that may be exempt from CCC jurisdiction. These areas are discussed in more detail below. The CCC has jurisdiction to make determination of these areas regarding project impacts.

g.i. Port Jurisdiction

*i.——Project Level*

The E Street road improvements proposed in the Sweetwater District would directly and permanently impact 0.07 acre of CCC wetland located within the road easement and Parcel S-1 adjacent to the roadway at Bay Boulevard and E Street (near Soil Test Pits 22 and 23). This wetland is composed of mulefat scrub. Development at this location would result in a significant impact (**Significant Impact 4.8-22**). The Port would also construct a bridge on E Street over the inlet to the F & G Street Marsh as part of the circulation element. The bridge would span the wetland and would indirectly impact approximately 0.01 acre of CCC wetland through shading. This impact would be significant (**Significant Impact 4.8-23**).

*ii.——Program Level*

During implementation of program-level components, the Port/City would construct two additional bridges in the Otay District. This includes the Street A Bridge over the J Street Channel and the Street B Bridge over the Telegraph Canyon Channel. These bridges would result in indirect permanent impacts from shading to 0.05 acre of CCC wetland. These impacts would be significant (**Significant Impact 4.8-24**).

The riprap removal and bulkhead placement proposed as a component to the Chula Vista Marina improvements would permanently impact approximately 0.46 acre of CCC wetlands on Parcels HW-1, HW-3, and H-12 within the Harbor District. Impacting CCC wetlands for the purpose of improving navigation and harbor access would be consistent with the Coastal Act; however, the biological impacts would be significant (**Significant Impact 4.8-25**).

The Telegraph Canyon Channel in the Otay District would be re-channelized within the program-level phases of development. This would temporarily impact 0.16 acre of CCC wetland. This would be significant (**Significant Impact 4.8-26**). This temporary impact to re-contour a pre-existing channelized drainage would be allowed under the Coastal Act.

The establishment of an ecological buffer on Parcel OP-2A would result in temporary impacts to 0.05 acre of CCC wetland, 0.04 acre of potential CCC wetlands, and 1.50 acres of former industrial areas in the process of remediation. Impacts to the 0.05 acre of CCC wetlands would be significant. The impacts to the 1.54 acres of areas of former industrial areas in the process of remediation would only be significant if the CCC asserts jurisdiction (**Significant Impact 4.8-27**). Impacts for restoration purposes are allowed under the Coastal Act.

Additional road extensions are proposed in the Otay District. This includes Street A improvements, which would permanently impact 0.55 acre of the former industrial site in the process of remediation, and Street B improvements, which would impact 0.03 acre of potential CCC wetland. If CCC claims jurisdiction over these two areas, impacts would be significant (**Significant Impact 4.8-28**). If CCC does not assert jurisdiction over these areas, these impacts would not be significant.

The Port could impact 0.14 acre of CCC wetland on Parcel HP-13B, through construction within the Coronado Railroad right-of-way (ROW), and 0.02 acre of CCC wetland on HP-7. These impacts would be significant (**Significant Impact 4.8-29**).

The development of a park on Parcel OP-1B would impact 0.16 acre of a drainage that has been mapped as a CCC potential wetland site. If the Coastal Commission asserts jurisdiction, the development proposed on Parcel OP-1B in the Otay District would be significant (**Significant Impact 4.8-30**).

There is a small (0.14 acre) seasonal pond that is considered a CCC wetland, and there is a drainage (0.13 acre) that is a potential CCC wetland located on Parcels OP-3 and O-1 in the Otay District near Soil Test Pits 9 and 10 (*Figure 4.8-14*). These features are located within an SDG&E ROW. Program component development could result in significant impacts to the 0.14-acre pond. Impacts to the 0.13-acre potential wetland would only be significant if CCC asserts jurisdiction over the drainage. There is also a previously developed area located on Parcel O-4, the proposed Industrial Business Park site near Soil Test Pits 29, 2, and 1 identified on *Figure 4.8-14*. There is a small 0.10-acre pond that is mapped as a CCC wetland. There is also a 1.95-acre depressed area that exists where the Liquefied Natural Gas (LNG) plant was formerly located. This area experiences the ponding of water during periods of heavy rainfall. Like the former tank sites and detention basin located in the northern area of the Otay District, the site is not connected hydrologically to the adjacent waters and it is a previously developed site. For these same reasons, this area may also not be subject to CCC jurisdiction. In addition there is 0.42 acre of small potential CCC wetlands in the southeast corner of this parcel. Program component development on Parcel O-4 could result in significant impacts to the 0.10-acre pond. Impacts to the 2.37-acre potential wetland would only be significant if CCC asserts jurisdiction. (**Significant Impact 4.8-31**).

hij. City Jurisdiction

~~i.~~ *Project Level*

There would be 0.03 acre of permanent impacts in the Sweetwater District during Phase I from improvements to the existing E Street along the road easement and Parcel SP-4. These impacts would be significant (**Significant Impact 4.8-32**).

A bridge is proposed to cross the HP-5 drainage ditch in the Harbor District. This development would result in a permanent indirect impact from bridge shading to 0.03 acre within the City's jurisdiction. This impact would be significant (**Significant Impact 4.8-33**).

~~ii.~~ *Program Level*

There are no program-level components within the City's jurisdiction that would impact CCC jurisdictional wetlands.

je. RWQCB Wetlands: Port and City Jurisdiction

RWQCB has jurisdiction over all waters of the U.S and isolated waters of the state as mandated by both the federal CWA and the California Porter-Cologne Water Quality Control Act. RWQCB will verify the extent of area under their jurisdiction as part of the permitting process. Impacts to waters under the jurisdiction of RWQCB are significant (**Significant Impact 4.8-34**).

kf. City of Chula Vista Wetlands Protection Program: City Jurisdiction

Impacts to wetland communities within the City of Chula Vista's jurisdiction are subject to the City's Wetlands Protection Program, which (1) evaluates the project's wetlands avoidance and minimization measures, and (2) ensures compensatory mitigation for unavoidable impacts consistent with a "no-net-loss to wetlands" policy. This process provides for an evaluation of wetlands avoidance and minimization and ensures compensatory mitigation for unavoidable impacts to wetlands in order to achieve a no-net-loss of wetland functions or values. Impacts to wetlands will be avoided or minimized to the maximum extent practicable pursuant to the Wetlands Protection Program, Section 5.2.4 of the Subarea Plan, as discussed previously. Implementation of the Wetlands Protection Program would be achieved through the HLIT process.

i. Project Level

The bridge proposed to cross the HP-5 drainage ditch in the Harbor District would result in 0.03 acre of permanent indirect impacts to southern coastal salt marsh. This impact would be significant. There would be 0.11 acre of permanent impacts in the Sweetwater District during

Phase I from improvements to the existing E Street. This consists of impacts to 0.06 acre of mulefat/riparian scrub and 0.02 acre of southern coastal salt marsh from development within the road easement and 0.02 acre of mulefat/riparian scrub on Parcel SP-4. These impacts would be significant (**Significant Impact 4.8-35**).

**4. The Proposed Project would have a significant impact if it interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.**

**a. Wildlife Movement Corridors: Port and City Jurisdiction**

No significant direct impacts would occur to wildlife movement corridors for use by terrestrial wildlife, such as small mammal species, as the site does not function as a movement corridor for terrestrial species, due to the developed nature of the site.

**i. Bird Air Strike**

Numerous studies have documented extensive avian collision mortality associated with buildings and similar structures, including smokestacks and monuments, and typically these fatalities are a result of collisions with tall buildings or with windows located in the structure (Erickson et al. 2005). These studies provide information that can be used as a basis for evaluating potential effects of bird collisions from new development. However, little research is available for the particular conditions of the project site; specifically, no studies were identified from west coast cities in North America. However, information from available published literature is presented in this discussion. The number of bird collisions with buildings per year is estimated to comprise over 50 percent of the total annual bird mortality (Erickson et al. 2005). Tall structures (greater than 400 feet in height) appear to be especially susceptible to resulting in bird strikes.

The City of Toronto's Fatal Lights Awareness Program indicates that nighttime collisions seem to stem from night migrants that become confused by buildings or towers that are lit at night, especially with red light. Red light has been suspected of interfering with the night-migrating birds' ability to track geomagnetic cues (City of Toronto 2007; O'Connell 2001). Other evidence from tall night-lit towers indicates that birds are attracted to the lit areas on cloudy nights regardless of the light color (Avery et al. 1976). The collisions with tall buildings appear to be predominantly migratory birds, and the mortalities show peaks during both spring and fall. Although many species of migrants have been documented to migrate at high altitudes, from 500 to 2000 feet (Williams 1950), most migrants flying over or near the ocean migrate at lower altitude, below 300 feet (Huppopp et al. 2006). Birds migrating over terrestrial locations appear to migrate at higher altitudes, but do not frequently exceed 1,500 feet (Cooper and Ritchie 1995).

Buildings close to waterfront areas on important migration pathways can be especially problematic to nocturnal migrant birds.

Daytime collisions or “strikes” occur with both tall buildings and low structures, including residential homes. In general, lower buildings are less likely to cause fatal bird strikes than taller buildings, but there is little specific research that establishes specific bird collision incidents at varied building heights to validate this assumption (Erickson et al. 2005). The daytime strikes at tall buildings can occur from daytime migrants or local residents striking reflective glass, because birds cannot interpret that the images observed in glass are reflections and thus fly into windows that they think are trees or sky. Collisions with lower height buildings or homes appear to be associated with birds using feeders or with resident and migrant birds colliding with windows that reflect the surrounding landscape (Klem 1990). These collisions are greatest at ground level and at heights above 10 feet (Klem 1989). Reflection of vegetation within windows provides a cue to birds that they can pass through the area. As the distance of the vegetation or other bird attractant exceeds 30 feet from the windows, birds are able to obtain enough speed in flight to result in a fatal strike if they hit the window (Klem 1990). For glass on a structure positioned above the height of or remote from vegetation, there is no evidence of significant bird collision issues (Klem 1989). The presence of permanent water also may serve as an attractant for birds during migration and, in combination with mirrored glass exteriors and a forested corridor, shows increases in fatal collisions (O’Connell 2001). The primary condition of concern with daytime collisions is caused by exterior landscaping or other bird attractants that are located 30 feet or more from reflective glass surfaces (Klem et al. 2004).

Thus the factors involved in potentially fatal bird strikes with buildings include: migrants striking a lit building at night at the elevation at which they are migrating; daytime migrants striking windows of a tall structure, most likely due to the reflection of the sky or nearby reflected vegetation in the windows; and migrants or residents striking windows at lower elevations that reflect the surrounding vegetation, which they interpret to be vegetation in front of them.

The location of the Proposed Project is adjacent to the Sweetwater Marsh NWR, an area that provides habitat for a number of special-status bird species. The Proposed Project is also located along the coastline and includes a portion of a bird migration corridor and likely includes important migratory stopover habitat. The Proposed Project also includes construction of buildings up to 300 feet tall. Due to the proximity to open water as a bird attractant, the location within a migration corridor, adjacency to native vegetation, and building heights that may extend into the altitude of migrating birds, the Proposed Project may result in significant impacts to migrating or special-status bird species due to an increase in bird strikes. The areas of concern with respect to bird strikes include night lighting, glass, vegetation, and building configuration as discussed below.

Night lighting has the greatest potential impact to night-migrating birds, especially during periods of cloudy, foggy, or inclement weather when lighting may cause confusion and result in bird strikes to buildings. Although many terrestrial migrants may fly at an altitude greater than the maximum 300 feet proposed for some buildings within the Proposed Project, there are migrants that may be at the altitude of the buildings, especially if they are coming to the Refuge as part of a migratory stopover or as their final destination (Harmata et al. 2000). Impacts of bird strikes from the proposed buildings due to night lighting are potentially significant due to the numbers of birds that may be involved and the special-status species that may be included as migrants.

Birds strikes to windows on buildings increase with increasing amounts of vegetation and glass, especially reflective glass, opposite the vegetation (Gelb and Delacratz 2006). Where reflective glass faces forested patches, there is a significant increase in bird strikes that can lead to several hundred collisions per year even for buildings that are not within an especially well-documented migration corridor (O'Connell 2001). Such bird strikes include migrants as well as resident bird species and occur during both daytime and nighttime periods. The impacts of bird strikes to the proposed buildings due to reflections in glass windows are potentially significant, due to the numbers of birds and the species composition, which may include special-status species that migrate through or are residents at the Refuge.

Localized movement between habitats by birds might be of concern because the movement happens at lower elevations. The Proposed Project is located adjacent to an area that is well documented to receive heavy use by bird species. These species may periodically move from one area to another and will likely be at lower elevations when in flight. Most of the buildings within the project are less than 100 feet tall; however, a number of them are proposed to be up to 24300 feet in height. The Proposed Project includes provision of an ecological buffer 400 feet wide that will avoid impacts of local movements of birds striking buildings. Some impacts may occur especially with the taller buildings and with respect to the migration of bird species. These impacts are potentially significant due to the numbers that may be involved and the composition which may include special-status species migrating at the altitude of the taller buildings.

b. Port and City Jurisdiction

i. Project and Program Level (Phase I)

As discussed above in the section regarding bird strikes, the following ~~project~~ Phase I components in both Port and City jurisdiction would potentially impact avian flight patterns and habitat use along the project frontage: construction of the RCC up to 240 feet in height on Parcel H-3, construction of residential development on H-13 and H-14, construction of a hotel up to 300 feet in height on H-23, and construction of buildings between 90 and 130 feet high on Parcel H-15.

Although there is no research that has been identified specific to the West Coast with regard to bird strike impacts, studies conducted in other areas indicate that construction of buildings over 100 feet in height on a project of this size may result in a potentially significant increase in bird strikes within the project area. This impact to both Port and City jurisdiction is significant (**Significant Impact 4.8-36**).

c. City Jurisdiction

i. Program Level (Phases II through IV)

Construction of buildings between 100 and 200 feet high within the program-level phases of development would potentially impact avian flight patterns and habitat use along the project frontage, as well as result in a potential significant increase in the number of bird strikes within the project area. These impacts would be significant (**Significant Impact 4.8-37**).

**5. The Proposed Project would have a significant impact if it conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

a. Port Jurisdiction

The Port does not have any ordinances protecting biological resources; however, policies outlined in the Port Master Plan, such as Goals 4, 8, and 11, identify protection. The project does not conflict with these goals.

b. City Jurisdiction

The Proposed Project would be subject to the City's MSCP HLIT Ordinance. Compliance with this ordinance is discussed below under Significance Criterion No. 6. The project would require an amendment to the City's Subarea Plan to adjust the boundaries of the Plan Area to accommodate the proposed changes in jurisdiction between the City and Port.

**6. The Proposed Project would have a significant impact if it conflicts with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.**

a. Port Jurisdiction

In 2000, the Port adopted the San Diego Bay Integrated Natural Resources Management Plan (INRMP). The goal of the INRMP is to "ensure the long-term health, recovery, and protection of the Bay ecosystem in concert with the Bay's economic, naval, recreational, navigational, and fisheries needs" (USDN 2001). The INRMP includes objectives and policy recommendations to

guide planning, management, conservation, restoration, and enhancement of the Bay ecosystem. The INRMP is not an HCP, NCCP, or other approved local, regional, or state habitat conservation plan, and it applies to water-related activities and not to land development; thus this criterion does not apply to lands within the Port's jurisdiction.

#### b. City Jurisdiction

As noted in *Section 3.4.1.6*, Parcels H-13, H-14, H-15, and HP-5 are proposed to be transferred to the jurisdiction of the City. They are currently mapped in the MSCP Subarea Plan as "Other Agency – Preserve Planning Efforts" and the Proposed Project does not change that designation. The land exchange would also transfer lands within Parcels S-1, S-2, S-3, SP-1, SP-2, and SP-3 from City jurisdiction to Port jurisdiction. These lands are currently shown in the Subarea Plan as "Development Area" and are identified as being outside of "Covered Projects."

The Proposed Project will require an amendment to the MSCP Subarea Plan to adjust the boundaries of the plan to correspond to the change in land use jurisdictional boundaries. The amendment will change the designation of Parcels H-13, H-14, H-15, and HP-5 from "Other Agency – Preserve Planning Efforts" to "Development Area" outside of "Covered Projects" and will change the designation of lands within Parcels S-1, S-2, S-3, SP-1, SP-2, and SP-3 from "Development Area" to "Other Agency – Preserve Planning Efforts." The proposed amendment must be approved by the City of Chula Vista, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. None of the areas proposed for exchange are designated as Preserve, and as such are not proposed for conservation under the Subarea Plan. Mitigation ratios for affected habitats within the parcels proposed for exchange would not be affected by the proposed exchange or amendment, since the mitigation ratios being applied to the affected resources within these parcels are consistent between the Port and City jurisdictions. Therefore, the biological effect of the proposed land exchange and MSCP Amendment would be less than significant.

As a result of the proposed amendment, development within the future City jurisdiction on Parcels H-13, H-14, H-15, and HP-5 will be subject to a HLIT Permit. Projects within the City of Chula Vista's jurisdiction are required to comply with the City of Chula Vista's MSCP Subarea Plan. This includes obtaining a HLIT permit pursuant to the HLIT Ordinance, which is the implementing regulatory vehicle for the City of Chula Vista MSCP Subarea Plan. This project is subject to this ordinance because, as stated in Section 5.2.2, Habitat Loss and Incidental Take Ordinance, the Subarea Plan requires issuance of an HLIT permit for "all development within the City's jurisdiction which is not located within the Development Areas of Covered Projects prior to issuance of any land development permit."

Pursuant to the City's HLIT Ordinance, Section 17.35.080 – Required Findings for Issuance of an HLIT Permit, written findings need to be prepared and submitted to the City for review and

approval prior to issuance of any land development permits, including clearing and grubbing or grading permits. The purpose of the HLIT Ordinance is to protect and conserve native habitat within the City and the viability of the species supported by those habitats. The HLIT provisions are intended to implement the Subarea Plan by placing priority on the preservation of biological resources within the planned and protected preserve. The findings are as follows:

**A. General Findings:**

- 1) The proposed development in the Project Area and associated mitigation is consistent with the Chula Vista MSCP Subarea Plan, as adopted on May 13, 2003, and as may be amended from time to time, the MSCP Implementation Guidelines, and the development standards set forth in Section 17.35.100 of this Chapter.**

As noted above, Section 5.2.2 HLIT Ordinance of the Subarea Plan requires issuance of an HLIT permit for “all development within the City’s jurisdiction which is not located within the Development Areas of Covered Projects prior to issuance of any land development permit.”

While portions of the Sweetwater District and Harbor District are mapped as “Development Area” in the Subarea Plan, the portion of the project area currently within the jurisdiction of the Port is mapped as “Other Agency – Preserve Planning Efforts.” To comply with Section 5.2.2 of the Subarea Plan, however, an HLIT permit would be required. In addition, an amendment to the Subarea Plan would be needed to modify the boundaries of the Subarea Plan to conform to the new jurisdictional boundaries. However, the amendment would not change the designation of areas proposed to be developed or conserved.

As described in this section and summarized in *Table 4.8-3*, the project would impact sensitive biological resources. Mitigation for these impacts has been established in accordance with the ratios in the Subarea Plan. Mitigation measures have been incorporated into the project to compensate for direct and indirect impacts to riparian and natural vegetation communities (e.g., disturbed coastal sage scrub, mulefat/riparian scrub) and sensitive bird species (e.g., light-footed clapper rail, western burrowing owl, raptors) in accordance with the MSCP Subarea Plan.

As described below, Mitigation Measures 4.8-6 and 4.8-23 ensure implementation of the measures outlined in the City’s MSCP adjacency guidelines and Wetlands Protection Program.

The Project Area is physically suitable for the design and siting of the proposed development area, and the development results in minimum disturbance to Sensitive Biological Resources, except impacts to natural vegetation in mapped Development

Areas. Disturbance to sensitive biological resources will occur as detailed in *Table 4.8-3*. Sensitive biological resources that would be affected by the project include upland vegetation communities and wetland vegetation communities as defined in the MSCP Subarea Plan Wetlands Protection Program. This portion of the Sweetwater District planned for development is a mapped Development Area in the MSCP Subarea Plan, and as such the project has been sited and designed in an area that results in minimum disturbance to sensitive biological resources.

With the land exchange, Parcels H-13, H-14, H-15, and HP-5 will be transferred to the jurisdiction of the City. They are currently mapped in the MSCP Subarea Plan as “Other Agency – Preserve Planning Efforts,” and the Proposed Project does not change that designation.

The project as a whole preserves the most sensitive biological resources that are present in the Sweetwater District (adjacent to the Sweetwater Marsh NWR) by relocating the approved residential development to the Harbor District, which does not support biological resources with the same level of sensitivity given that this District has been previously developed. The protection of these sensitive biological resources previously within the City’s jurisdiction would now fall within the Port’s jurisdiction as a result of the land exchange.

In addition, the Proposed Project has avoided the sensitive biological resources through the establishment of the ecological buffers along the perimeter of the Sweetwater District. These buffers are adjacent to other protected areas, including the Sweetwater Marsh NWR (including the F & G Street Marsh). The project was redesigned to increase the buffer around the disturbed riparian and coastal brackish marsh located on the southern boundary of the Sweetwater District and to avoid impacts to the coastal brackish marsh on Parcel HP-5 in the Harbor District. Development on H-13 and H-14 includes a bridge over the marsh on HP-5 to avoid direct impacts to this resource. In addition, the extension of E Street over the inlet of the F & G Street Marsh was designed to bridge the inlet so that there would be no permanent loss to the resource. The reconfiguration of the harbor and boatyard would simply redevelop an existing use and thus there would be no net loss of resource from this portion of the Proposed Project.

The Proposed Project would result in impacts to wetlands from project-level Phase I construction of circulation roads and bridges in the Sweetwater and Harbor Districts. The direct impact at E Street and Bay Boulevard, which affects a portion of Parcel SP-4, is unavoidable because the alignment of E Street is controlled by the current interchange at I-5 and minimum City design standards. From that interchange, E Street

must meet the minimum design requirements of a collector roadway in order to safely convey traffic. The horizontal curvature of the roadway has been designed at the minimum requirements in order to reduce the impacts to the maximum extent practicable.

There is the potential for impacts to nesting raptors, including the western burrowing owl, to occur within the City's jurisdiction. Mitigation Measures 4.8-1 and 4.8-2 would avoid or minimize this impact through pre-construction surveys and establishment of avoidance buffers around active nests until the young are independent of the nest. No narrow endemics occur on the project site.

**2) The nature and extent of mitigation required as a condition of the permit is reasonably related to and calculated to alleviate negative impacts created in the Project Area.**

Appropriate mitigation measures, as described above and consistent with the MSCP, have been proposed and will be implemented for this project and are provided herein for impacts within the City's jurisdiction.

**B. Narrow Endemic Findings.** Not applicable for this project. No narrow endemics will be impacted.

**C. Wetland Findings:**

**1) Prior to issuance of a Grading permit or Clearing and Grubbing permit, the project proponent will be required to obtain any applicable state and federal permits, with copies provided to the Director of Planning and Building, or his/her designee.**

A wetland delineation has been conducted and the results are provided herein. Further consultation with CDFG, USACE, RWQCB, and CCC is necessary to verify the extent of jurisdiction for each agency. Upon this determination, the necessary permits will need to be obtained from the agencies and copies provided to the City prior to grading in order to address this finding.

**2) Where impacts are proposed to wetlands, the following findings shall be made:**

**a) Impacts to wetlands have been avoided and/or minimized to the maximum extent practicable, consistent with the City of Chula Vista MSCP Subarea Plan Section 5.2.4.**

The project as a whole preserves the most sensitive biological resources that are present in the Sweetwater District (adjacent to the Sweetwater Marsh NWR) by

relocating the approved residential development to the Harbor District, which does not support biological resources with the same level of sensitivity given that this District has been previously developed. The protection of these sensitive biological resources previously within the City's jurisdiction would now fall within the Port's jurisdiction as a result of the land exchange.

In addition, the Proposed Project has avoided the sensitive biological resources through the establishment of the ecological buffers along the perimeter of the Sweetwater and Otay Districts. These buffers are adjacent to other protected areas, including the Sweetwater Marsh NWR (including the F & G Street Marsh) and the J Street Marsh. The project was redesigned to increase the buffer around the disturbed riparian and coastal brackish marsh located on the southern boundary of the Sweetwater District and to avoid impacts to the coastal brackish marsh on Parcel HP-5 in the Harbor District. Development on H-13 and H-14 includes a bridge over the marsh on HP-5 to avoid direct impacts to this resource. In addition, the extension of E Street over the inlet of the F & G Street Marsh was designed to bridge the inlet so that there would be no permanent loss to the resource and to allow for wildlife movement. The reconfiguration of the harbor and boatyard would simply redevelop an existing use and thus there would be no net loss of resource from this portion of the Proposed Project.

The Proposed Project would result in impacts to wetlands from construction of Phase I circulation roads and bridges in the Sweetwater and Harbor Districts. The direct impact at E Street and Bay Boulevard, which affects a portion of Parcel SP-4, is unavoidable because the alignment of E Street is controlled by the current interchange at I-5 and minimum City design standards. From that interchange, E Street must meet the minimum design requirements of a collector roadway in order to safely convey traffic. The horizontal curvature of the roadway has been designed at the minimum requirements in order to reduce the impacts to the maximum extent practicable.

**b) Unavoidable impacts to wetlands have been mitigated pursuant to Section 17.35.110 of this Chapter.**

Appropriate mitigation measures, as described above and consistent with the MSCP, have been proposed and will be implemented for this project and are provided herein for impacts within the City's jurisdiction. Mitigation will be implemented for all unavoidable impacts to wetland resources in order to reduce impacts to below a level of significance. The mitigation includes conservation and restoration of resources in accordance with Mitigation Measures 4.8-10 and 4.8-23.

While the development of the parcels within the City's jurisdiction would have no direct impacts to MSCP preserve lands within the City of Chula Vista, the F & G Street Marsh, and MSCP preserve, it is adjacent to the City's jurisdiction in the Sweetwater District and there is the potential for indirect impacts to occur from lighting, noise, drainage, invasive species, and toxic substances. Indirect impacts to preserve lands and refuges would be significant. This is identified as **Significant Impact 4.8-7** above. The Proposed Project would be designed to conform to these five adjacency issues, discussed in more detail under Significance Criterion No. 1, above (discussion of indirect effects on sensitive species).

#### 4.8.6 Mitigation Measures

Mitigation is required for impacts that are significant under the City of Chula Vista MSCP Subarea Plan, the Port Master Plan, or CEQA. Although the standards set forth in the City's MSCP Subarea Plan do not apply to Port lands, and the Port Master Plan standards do not apply to lands within the City's jurisdiction, CEQA standards apply to the entire project site, regardless of jurisdictional boundaries. Mitigation is intended to reduce significant impacts to a level of less than significant. Typical mitigation measures include avoidance of sensitive biological resources, on-site habitat replacement, or the off-site acquisition and/or restoration of habitat. Mitigation requirements for impacts to resources within the City of Chula Vista's jurisdiction follow guidelines in the MSCP Subarea Plan (City of Chula Vista 2003a). The City of Chula Vista encourages all mitigation to be conducted within the Preserve system where feasible (City of Chula Vista 2003a).

#### Mitigation Measure 4.8-1

Mitigation Measure 4.8-1 shall be implemented to reduce the direct impact to nesting raptors (associated with **Significant Impact 4.8-1**) to a level of less than significant:

**Port/City:** 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 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.

#### **Mitigation Measure 4.8-2**

Mitigation Measure 4.8-2 would be required to reduce the direct impacts to the western burrowing owl (see **Significant Impact 4.8-2**) to a level of less than significant:

**Port/City:** 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 (~~April~~ January 15 through July ~~15~~ 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 ~~April~~ January 15 to July ~~15~~ 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.

**Mitigation Measure 4.8-3**

Mitigation Measure 4.8-3 shall be implemented to reduce the direct impact to nesting migratory birds (associated with **Significant Impact 4.8-3**) to a level of less than significant:

**Port/City:** If grading or construction occurs during the breeding season for migratory birds (January 15 through ~~July~~ August 31), the project developer(s) shall retain a qualified biologist, approved 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.

**Mitigation Measures 4.8-4**

Mitigation Measure 4.8-4 shall be implemented to reduce the direct impact to the light-footed clapper rail (see **Significant Impacts 4.8-4**) to a level of less than significant:

**Port/City:** 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~~if grading or construction within these areas occurs during the breeding season for light footed clapper rail (February 15 through July 31)~~, 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 areas of suitable nesting or foraging habitat for light-footed clapper rail so as not to prevent any unauthorized take of the light-footed clapper rail. Any take must be authorized by U.S. Fish and Wildlife Service.

#### **Mitigation Measure 4.8-5**

Mitigation Measure 4.8-5 shall be implemented to reduce the impacts to MSCP Covered Species in the City's jurisdiction (see **Significant Impact 4.8-5**) to a level of less than significant:

**City:** Prior to issuance of any clearing and grubbing or grading permits within the jurisdiction of the City, the project applicant within the City's jurisdiction shall be required to obtain a 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. In addition, the MSCP requires additional protective measures for the western burrowing owl, as identified in Mitigation Measure 4.8-2 above.

#### **Mitigation Measure 4.8-6**

Mitigation Measure 4.8-6 shall be implemented to reduce the indirect impacts (from lighting, noise, use of invasives, toxic substances, and public access) to the light-footed clapper rail, Belding's savannah sparrow, all raptor species, and migratory birds, all of which are protected by state and/or federal regulations (see **Significant Impact 4.8-6**), in the adjacent Preserve areas to a level of less than significant. Implementation of Mitigation Measure 4.8-6 would also ensure the City's compliance with the adjacency guidelines within the City of Chula Vista MSCP Subarea Plan (see **Significant Impact 4.8-7**), which would reduce indirect impacts to MSCP Preserve areas from lighting, noise, use of invasives, toxic substances, and public access within the City's jurisdiction to a level of less than significant:

**Port/City: A. Construction-related noise.** Construction-related noise shall be limited adjacent to the Sweetwater Marsh and South San Diego Bay Units of the San Diego Bay National Wildlife Refuge, F & G Street Marsh, the mudflats west of the Sweetwater District, and the J Street Marsh during the typical-general avian breeding season of January 15 to August 31. During the avian breeding season,

~~noise levels from construction activities adjacent to these sensitive areas must not exceed 60 dB(A) Leq., or ambient noise levels if higher than 60 dB(A), during the breeding season. The project developer(s) shall prepare and submit to the Port/City for review and approval an acoustical analysis and nesting bird survey to demonstrate that the 60 dB(A) Leq. noise level is maintained at the location of any active nest within the marsh. If the noise threshold attenuation measures or modifications to construction activities are unable to reduce the noise level below 60 dB(A), either the developer(s) must immediately consult with the Service to develop a noise attenuation plan or construction in the affected areas must cease until the end of the breeding season is anticipated to be exceeded at the nest location, the project developer(s) shall construct noise barriers to maintain construction noise levels below the threshold. Because potential construction noise levels above 60 dB(A) Leq. have been identified at the F & G Street Marsh, specific noise attenuation measures have been identified and are addressed in Section 4.7 of the EIR.~~

**B. Perching of raptors.** ~~To reduce the potential for raptors to perch within the landscaping and hunt sensitive bird species from those perches, the following design criteria shall be identified in the CVBMP master landscape plan and incorporated into all building and landscape plans within a line of site 500 feet of to the City's MSCP preserves, buffer zones, and on-site open space to reduce the potential for raptors to perch and prey on sensitive bird species:~~

- Light posts shall have anti-perching spike strips along any portions that would be accessible to raptors.
- The top edge of buildings shall be rounded with sufficient radius to reduce the amount of suitable perching building edges.
- If building tops are hard corners, spike strips shall be used to discourage raptors from perching and building nests.
- Decorative eaves, ledges, or other protrusions shall be designed to discourage perching by raptors.
- To the extent practicable, buildings on Parcels S-1 and S-4 will be oriented to reduce raptor perches within the line of sight to adjacent sensitive habitats.

**C. Raptor management and monitoring.** Prior to the issuance of a Coastal Development Permit, the project developer shall prepare a raptor nest management plan to be implemented once the project is built. A biologist retained by the project developer and approved by the Port and/or City shall be responsible

for monitoring the buildings and associated landscaping to determine whether raptor nests have been established on Port or City lands within 500 feet of the Preserves. If a nest is discovered, the nest would be removed in consultation with USFWS, CDFG, and the Port/City, outside of the raptor breeding season of January 15 to July 31.

**D. Lighting.** The following mitigation measure is required during all phases of development to ensure that outdoor lighting throughout the project area is minimized upon any of the habitat buffers, Preserve areas, habitats, or open water.

Prior to issuance of a building permit, each applicant within the Port's or City's jurisdiction shall prepare a lighting design plan, including a photometric analysis, to be reviewed by the Port or City, as appropriate. Each plan shall include the following features, as appropriate to the specific locations:

- All exterior lighting shall be directed away from the habitat buffers, Preserve Areas, habitats, or open water, wherever feasible and consistent with public safety. Where necessary, lighting of all developed areas adjacent to the habitat buffers, Preserve 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 structures 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.
- 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 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 minimized eco-disruptions. No night lighting for active sports facilities will be allowed.
- Sweetwater and Otay District parks will open and close in accordance with Port park regulations.
- Laser light shows will be prohibited.
- Construction lighting will be controlled to minimize Wildlife Habitat Area impacts.

#### **E. Noise.**

**Construction Noise.** Mitigation Measure 4.8-6 and the measures outlined in *Section 4.7, Noise*, shall be implemented in order to reduce potential indirect construction-noise impacts to sensitive species within the F & G Street Marsh and the J Street Marsh. In order to further reduce construction noise, equipment staging areas shall be centered away from the edges of the project, and construction equipment shall be maintained regularly and muffled appropriately. In addition, construction noise ~~will~~ **must** be controlled to minimize impacts to Wildlife Habitat Areas.

**Operational Noise.** Noise levels from loading and unloading areas; rooftop heating, ventilation, and air conditioning facilities; and other noise-generating operational equipment shall not exceed 60 dB(A) Leq. at the boundaries of the F

& G Street Marsh and the J Street Marsh during the typical breeding season of January 15 to August 31.

*Fireworks.* A maximum of three (3) fireworks events can be held **per year**, all outside of Least Tern nesting season except 4<sup>th</sup> 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 the Natural Resource Management Plan (NRMP), described in Mitigation Measure 4.8-7.

- F. Invasives.** All exterior landscaping plans shall be submitted to the Port or City, as appropriate, for review and approval to ensure that no plants listed on the California Invasive Plant Council (Cal-IPC) List of Exotic Pest Plants of Greatest Ecological Concern in California (Appendix 4.8-7 of this Final EIR), the California Invasive Plant Inventory Database, ~~or the list included in Appendix N of the City's MSCP Subarea Plan, or any related updates shall be planted throughout used in the plan-Proposed Project area during project construction and operation.~~ The Cal-IPC list is contained in Appendix 4.8-7 of this report. 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.

The following landscape guidelines will apply to the Proposed Project area:

- 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.

**G. Toxic Substances and Drainage.** Implementation of general water quality measures outlined in Mitigation Measures 4.5-2 through 4.5-4, identified in *Section 4.5, Hydrology/Water Quality*, 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:

- 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 include 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.
- 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:
  - 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 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 disposal of any contaminated sediment.
- 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:

- 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 Wildlife Habitat Areas is prohibited. Integrated Pest Management must be used in all outdoor, public, buffer, habitat, and park areas.
- **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.

**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.

**Buffers.** 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. *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.

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 Harbor Police to report trespassing within the sensitive areas.

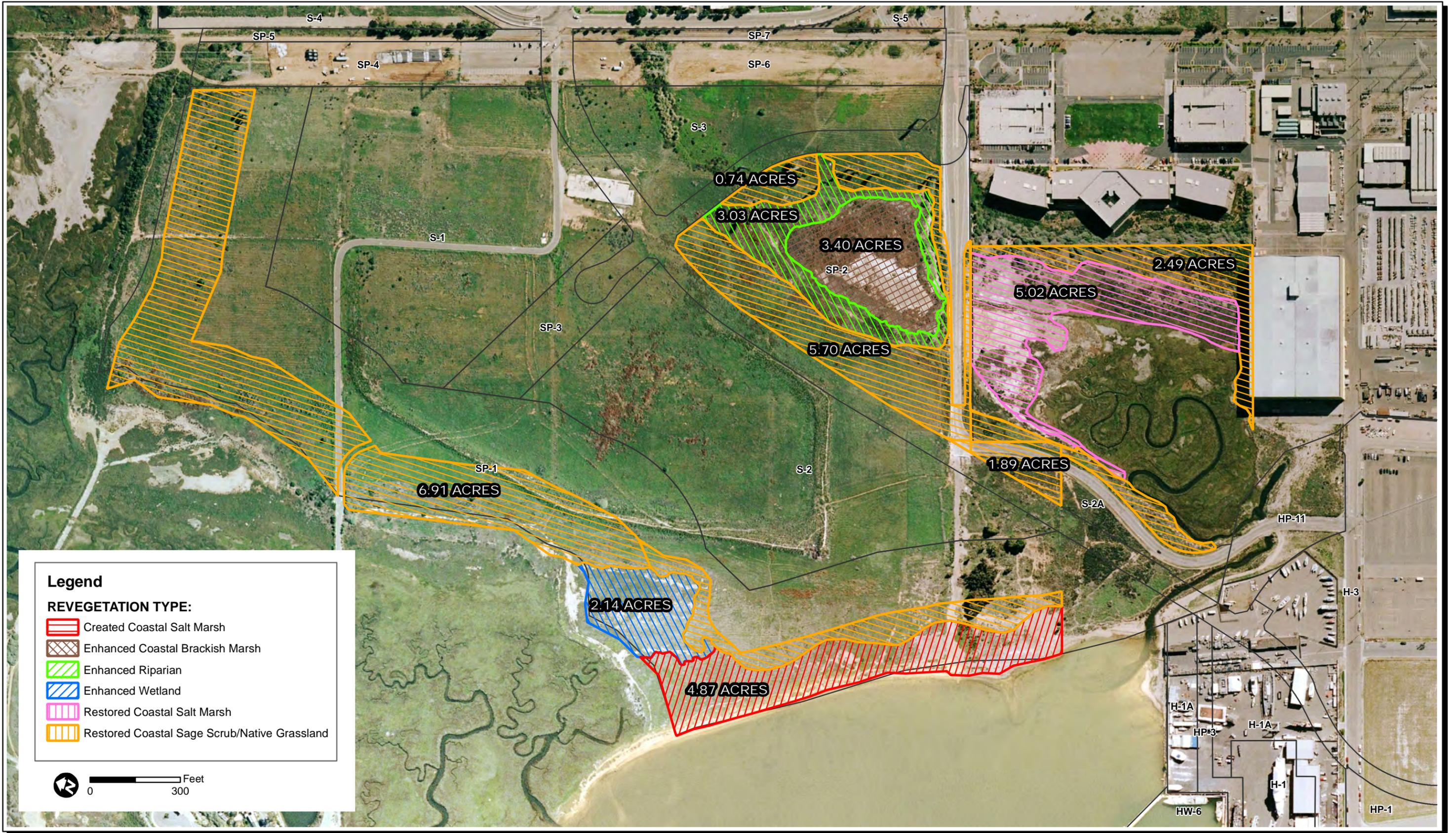
**TABLE 4.8-5**  
**Potential Mitigation Acreage Available for Proposed Impacts to Vegetation**  
**Communities and Land Cover Types for Chula Vista Bayfront (acres)**

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
Riparian	Sweetwater			3.03	1.52
	Otay	1.99			1.99
Coastal salt marsh	F & G Street Marsh		5.02		5.02
Wetland	Sweetwater			2.14	1.07
<b>TOTAL WETLAND ACREAGE</b>		<b>11.40</b>	<b>5.02</b>	<b>8.57</b>	<b>25.00</b>
<b>TOTAL WETLAND CREDITS<sup>1</sup></b>		<b>11.40</b>	<b>5.02</b>	<b>4.29</b>	<b>20.71</b>
CSS/Native Grassland Restoration	Sweetwater		17.73		17.73
	Otay		1.99		1.99
	F & G Street Marsh		2.49		2.49
<b>TOTAL UPLAND ACREAGE</b>		<b>0</b>	<b>22.21</b>	<b>0</b>	<b>22.21</b>
<b>TOTAL UPLAND CREDITS<sup>1</sup></b>		<b>0</b>	<b>22.21</b>	<b>0</b>	<b>22.21</b>

<sup>1</sup>Credits 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.

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.

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.

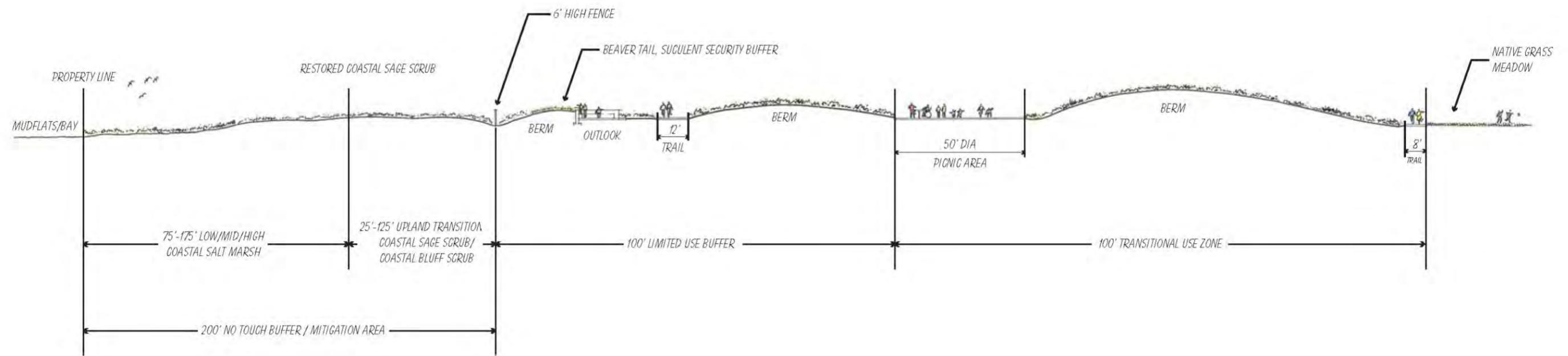


AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 Conceptual Mitigation Opportunities in the Sweetwater District

**FIGURE**  
 4.8-23

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**SECTION A**  
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SOURCE: Port of San Diego

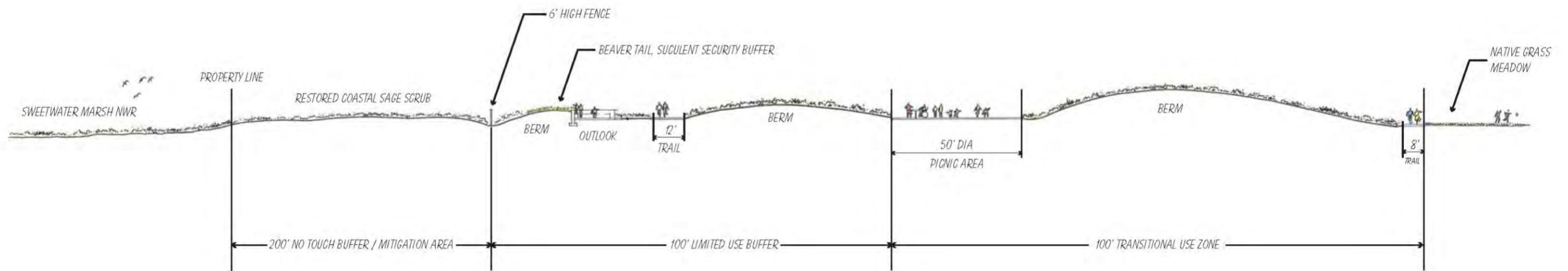
Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan

**Buffer Zone Cross Section A**

**FIGURE**  
**4.8-24**

3662  
149

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**SECTION B**  
NOT TO SCALE

SOURCE: Port of San Diego

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan

**Buffer Zone Cross Section B**

**FIGURE**

**4.8-23**

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Conceptual Mitigation Opportunities in the Otay District

FIGURE  
4.8-26<sup>56592</sup>

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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.

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.

***Strategic Fencing.***

*Temporary Fencing.* 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.

*Permanent Fencing.* 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.

***Domestic Animals.*** 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.

*Trash.* 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 that close, 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.

*Training.* 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.

**I. Boating Impacts. All boating, human and pet intrusion must be kept away from F & G Street channel mouth and marsh.**

- **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 navigation channels.**
- **Nothing in this mitigation measure shall preclude bona fide research, law enforcement, or emergency activities.**

**Mitigation Measure 4.8-7**

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 mitigation provides for the creation, implementation, **funding**, and enforcement of a Natural Resources Management Plan (“NRMP”), **and** 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:

- 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 an NRMP to be prepared in accordance with this 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.**
- a. **“Wildlife Habitat Areas”** are defined as:
- 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.
  - iv. The Wildlife Habitat Areas are depicted on Exhibit 1 to the MMRP.
  - v. **No Touch** Buffer areas ~~are~~ **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:

- i. 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.
    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 and the Proposed Project area, which will:
- 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 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.**
- 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.
- 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.
- vi. Include additional controls and strategies restricting movement of humans and Predators into sensitive areas beyond the boundaries of the designated Buffer Areas, ~~as necessary.~~
- vii. Require the Recreational Vehicle Park to install fencing or other barriers sufficient to prevent passage of Predators and humans into sensitive adjacent habitat.
- 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.
- 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.
- 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:
- 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 ~~will~~ **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.
- 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:
- 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, 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.
- f. Miscellaneous Additional Requirements of the NRMP: In addition to the standards described above, the NRMP will include:
- 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.
- 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 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, ~~and~~ 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.**

- 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.**
- 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.**

- 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.
- 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.
- 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.
  - 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.

- 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.
- 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. The Wildlife Advisory Group’s proposal will be transmitted to all parties by an appointed Wildlife Advisory Group member via electronic mail.

**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.

- 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 same as those under CEQA.

- 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.
  
- 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.

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.
  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.
- 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.

- B. Additional Habitat Management and Protection:
- 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:
- 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, 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.
  - ii. 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**, 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.
  - 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.**

- 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.
- 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.
- 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.
- 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.
- 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 (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.
- 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.
  - 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).
- 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.
  - d. The Wildlife Advisory Group will meet at the intervals described above 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.
  - 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.
- E. Education: An environmental education program will be developed and implemented and will include the following:
- 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.

- 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.
  - 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.).
  - 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:
    - i. Coordination of Volunteer programs and events;
    - ii. Coordination of Interpretive and educational programs;
    - iii. Coordination of Tenant, resident and visitor educational programs;
    - iv. Docent educational; and
    - v. Enhancements and restoration.
- 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:
- 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.

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**Mitigation Measure 4.8-78**

Mitigation Measure 4.8-87 is required to reduce the significant impact resulting from the loss of surface water foraging habitat during program phases (see **Significant Impact 4.8-8**) to less than significant:

**Port:** 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 *Section 4.9, Marine Biological Resources*.

**Mitigation Measure 4.8-98**

Program-level development components would result in a total net loss of 1.61 acres of surface water foraging habitat and intertidal mudflat at the South Bay Boatyard Marina and with the harbor reconfiguration (see **Significant Impact 4.8-9**). Mitigation Measure 4.8-98 is required to reduce the significant impact to less than significant:

- Port:**
- A.** Prior to completion of in-harbor work in Phase IV, the Port shall create 1.93 acres of eelgrass habitat. The creation of eelgrass habitat shall be conducted in accordance with Mitigation Measure 4.9-2 in *Section 4.9, Marine Biological Resources*.
  - 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.

**Mitigation Measure 4.8-109**

Mitigation Measure 4.8-109 shall be implemented to reduce the direct impact to riparian habitat or sensitive vegetation communities in the Port's jurisdiction (see **Significant Impacts 4.8-10** through **4.8-12**) to a level of less than significant:

- Port:**
- 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 *Table 4.8-6*.

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.

- 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 mitigation measures to reduce impacts to below a level of significance. This updated assessment shall be submitted to the Port for review and approval.

**TABLE 4.8-6**  
**Mitigation Required for Significant Impacts to Vegetation Communities and Land Cover Types — Port Lands**  
 (acres)

Vegetation Community/ Land Cover Type (Holland Code)	Mitigation Ratio for Permanent Impacts	Mitigation Ratio for Temporary Impacts	Project Level					Program Level					Total Project Mitigation Required for Port Lands
			Permanent Impacts	Mitigation for Permanent Impacts	Temporary Impacts	Mitigation for Temporary Impacts	Project- Level Mitigation	Permanent Impacts	Mitigation for Permanent Impacts	Temporary Impacts	Mitigation for Temporary Impacts	Program- Level Mitigation	
Disturbed Diegan coastal sage scrub (32500)	1.5:1	1:1	4,230.79	6,351.19	0	0	6,351.19	2,906.86	4,3510.29	0.27	0.27	4,6210.56	101,9775
Southern coastal salt marsh (52120)	4:1	1:1	0.03	0.12	0	0	0.12	01.506	26.0024	0.62	0.62	26.6286	26.9874
Mulefat scrub (63310)	23:1	1:1	0.07	0.1421	0	0	0.1421	0.00	0	0	0	0	0.1421
Disturbed seasonal pond (11200)	1:1	1:1	0	0	0	0	0	6,979.12	6,979.12	0	0	6,979.12	6,979.12
Non-native grassland (42200)	0.5:1	0.5:1	11,882.14	5,941.07	0	0	5,941.07	30,1742.46	15,0921.23	4.27	2.14	17,2323.37	234,1744
<b>TOTAL</b>			<b>16,213.03</b>	<b>12,552.52</b>	<b>0.00</b>	<b>0.00</b>	<b>12,552.59</b>	<b>40,5460.00</b>	<b>28,4146.88</b>	<b>5.16</b>	<b>3.03</b>	<b>31,4449.91</b>	<b>43,9952.50</b>

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**Mitigation Measure 4.8-110**

Mitigation Measure 4.8-110 shall be implemented to reduce the direct impacts to riparian habitat or sensitive vegetation communities in the City's jurisdiction (see **Significant Impacts 4.8-13** through **4.8-15**) to a level of less than significant:

- City:**
- A. Prior to issuance of any clearing and grubbing or grading permits within the City's jurisdiction that would affect riparian habitat or sensitive vegetation communities, the project developer(s) shall acquire mitigation credits or prepare and initiate implementation of a restoration plan for impacts to riparian habitats and sensitive vegetation communities in accordance with the acreages identified in *Table 4.8-7*.

Mitigation credits shall be secured in a City-approved mitigation bank or land acquisition shall be provided at an approved location. Verification of mitigation credits or a restoration plan shall be provided to the City for review and approval prior to issuance of any clearing and grubbing or grading permits.

The project developer(s) shall prepare and implement a detailed restoration plan to the satisfaction of the City and the regulatory agencies. As previously addressed above in *Section 4.8.6, Mitigation Measures*, 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.

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**TABLE 4.8-7  
Mitigation Required for Significant Impacts to Vegetation Communities and Land Cover Types — City Lands  
(acres)**

Vegetation Community/ Land Cover Type (Holland Code)	Mitigation Ratio for Permanent Impacts	Mitigation Ratio for Temporary Impacts	Project Level					Program Level					Total Project Mitigation Required for Port Lands	
			Permanent Impacts	Mitigation for Permanent Impacts	Temporary Impacts	Mitigation for Temporary Impacts	Project-Level Mitigation	Permanent Impacts	Mitigation for Permanent Impacts	Temporary Impacts	Mitigation for Temporary Impacts	Program-Level Mitigation		
Disturbed Diegan coastal sage scrub (32500)	1.5:1	1:1	0	0	0	0	0	0.25	0.38	0	0	0.38	0.38	
Southern coastal salt marsh (52120)	4:1	1:1	0.037	0.124.28	0.01	0.01	0.134.29	0	0	0	0	0	0.134.29	
Mulefat scrub (63310)	23:1	1:1	0	0	0	0	0	0.03	0.069	0	0	0.069	0.069	
Disturbed seasonal pond (11200)	1:1	1:1	0	0	0	0	0	0	0	0	0	0	0	
Non-native grassland (42200)**	0.5:1	0.5:1	12.89	19.13	0.03	0.02	6.479.59	0	0	0	0	0	6.479.59	
<b>TOTAL</b>			12.92	18.48	0.04	0.03	6.60	13.88	0.03	0.06	0.47	0	0.06	14.35

\*Mitigation ratios based on the mitigation ratios in the City of Chula Vista's MSCP Subarea Plan.

\*\*Non-native grassland shall be mitigated at a 0.5:1 ratio if mitigated inside Preserve-designated land and at a 1:1 ratio if mitigated outside of Preserve-designated land.

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- 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.
- 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.

#### **Mitigation Measure 4.8-121**

Mitigation Measure 4.8-121 shall be implemented to reduce the direct impact to USACE jurisdictional waters (see **Significant Impacts 4.8-16** through **4.8-20**) to a level of less than significant:

- Port:**
- 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. *Table 4.8-8* 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.

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 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.

- City:**
- 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 *Table 4.8-9*. 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.

**TABLE 4.8-8**  
**Mitigation Requirements for Proposed Impacts to Jurisdictional Wetland Resources — Port Lands**  
**(acres)**

	Permanent Impact					Temporary Impact Mitigation (1:1 ratio)	Mitigation Requirement Total
	Project-Level (Phase I)	Program-Level	Impact Total	Mitigation Ratio	Mitigation		
<b>USACE</b>							
USACE Waters of the U.S.		1.17	1.17	1:1	1.17	0.87	2.04
USACE Waters of the U.S. — Bay/Marina	0.30	61.66	61.96	*	*	0	*
USACE Wetlands (southern coastal salt marsh)	0.25	0.42	0.67	4:1	2.68		2.68
<i>USACE TOTAL</i>	<i>0.55</i>	<i>63.55</i>	<i>64.10</i>			<i>0.87</i>	<i>4.72</i>
<b>CDFG</b>							
CDFG Streambed	0.00	0.90	0.90	2:1	1.80	0.23	2.03
<i>CDFG TOTAL</i>	<i>0.00</i>	<i>0.90</i>	<i>0.90</i>	<i>–</i>	<i>1.80</i>	<i>0.23</i>	<i>2.03</i>
<b>CCC</b>							
CCC	0.08	0.93	1.01	2:1	2.02	0.05	2.07
Potential CCC**	0.00	0.74	0.74	2:1	1.48	0.04	1.52
Former Industrial Areas –areas of questionable jurisdiction**	<i>0.00</i>	<i>2.50</i>	<i>2.50</i>	<i>2:1</i>	<i>5.00</i>	<i>1.50</i>	<i>6.50</i>
<i>CCC TOTAL</i>	<i>0.14</i>	<i>4.17</i>	<i>4.25</i>		<i>8.50</i>	<i>1.59</i>	<i>10.09</i>

\*Mitigation for impacts from the development of the Bay and Marina will need to be negotiated with USACE and will be dependent upon the final design and type of impacts (e.g., shading, riprap, bulkhead).

\*\*CCC will make final determination of the jurisdiction of the potential wetlands and the resources within the area formerly occupied by an industrial facility that are potentially exempt from CCC jurisdiction.

**Port/City 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.

#### **Mitigation Measure 4.8-132**

Mitigation Measure 4.8-132 shall be implemented to reduce the direct impact to CDFG jurisdictional areas (streambed and riparian habitat) within the Port's jurisdiction (see **Significant Impact 4.8-21**) to a level of less than significant:

**Port:** The Port or Port tenants, as appropriate, shall mitigate for permanent and temporary impacts to CDFG jurisdictional areas at a 2:1 ratio. *Table 4.8-8* provides a breakdown of the required mitigation acreages for all CDFG impacts within the Port's jurisdiction.

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.

**TABLE 4.8-9**  
**Mitigation Requirements for Proposed Impacts to Jurisdictional Wetland Resources — City Lands**  
 (acres)

	Permanent Impact-Project-Level (Phase I)	Permanent Impact-Program-Level	Permanent Impact Total	Mitigation Ratio	Permanent Impact Mitigation	Temporary Impact Mitigation (1:1 ratio)	Mitigation Requirement Total
<b>USACE Jurisdictional Waters</b>							
USACE waters of the U.S.	0.00	0.00	0.00	1:1	0.00	0.00	0.00
USACE wetlands (southern coastal salt marsh)	0.02	0.00	0.02	4:1	0.08	0.01	0.09
<b>USACE Total</b>	<b>0.02</b>	<b>0.00</b>	<b>0.02</b>		<b>0.08</b>	<b>0.01</b>	<b>0.09</b>
<b>CCC Jurisdictional Resources</b>							
CCC wetlands	0.06	0.00	0.06	2:1	0.12	0.00	0.12
<b>CCC Total</b>	<b>0.03</b>	<b>0.00</b>	<b>0.06</b>		<b>0.12</b>	<b>0.00</b>	<b>0.12</b>

\*\*CCC will make final determination of the jurisdiction of the potential wetlands and the resources within the area formerly occupied by an industrial facility that are potentially exempt from CCC jurisdiction.

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.

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.

### Mitigation Measure 4.8-143

Mitigation Measure 4.8-143 shall be implemented to reduce the indirect and direct impacts to CCC wetlands from circulation road/bridge construction and improvement during Phase I within both the Port's and City's jurisdiction (see **Significant Impacts 4.8-22, 4.8-23, 4.8-32, and 4.8-33**) to a level of less than significant:

**Port:**     **A.** Mitigation for permanent direct and indirect (from bridge shading) impacts would be at a 2:1 ratio as detailed in *Table 4.8-8*.

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.

- City:** B. Mitigation for permanent direct and indirect (from bridge shading) impacts would be at a 2:1 ratio as detailed in *Table 4.8-9*.

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.

#### **Mitigation Measure 4.8-154**

Mitigation Measure 4.8-154 shall be implemented to reduce the direct permanent and temporary impacts to CCC wetlands during program-level phases within the Port's jurisdiction (see **Significant Impacts 4.8-24** through **4.8-26**) to a level of less than significant:

- Port:** 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 *Table 4.8-8*. 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 *Table 4.8-8* for a total of 0.16 acre.

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 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.

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.

#### **Mitigation Measure 4.8-165**

Mitigation Measure 4.8-165 shall be implemented to reduce the temporary impacts to CCC wetlands from the restoration of the ecological buffer within Parcel OP-2A during program-level phases within the Port's jurisdiction, for resources over which the CCC asserts jurisdiction (see **Significant Impact 4.8-27**), to a level of less than significant:

**Port:** Mitigation for temporary impacts from the restoration of the ecological buffer would require mitigation at a ratio of 1:1 as detailed on *Table 4.8-8*. 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.

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.

#### **Mitigation Measure 4.8-176**

Mitigation Measure 4.8-176 shall be implemented to reduce the permanent impacts to potential CCC wetlands from circulation roadway construction in the Otay District during program-level phases within the Port's jurisdiction (see **Significant Impact 4.8-28**) to a level of less than significant:

**Port:** 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 *Table 4.8-8* for a total mitigation of 1.16 acres.

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.

#### **Mitigation Measure 4.8-187**

Mitigation Measure 4.8-187 shall be implemented to reduce the impact to CCC wetlands on Parcels HP-13B and HP-7 during program-level phases within the Port's jurisdiction (see **Significant Impact 4.8-29**) to a level of less than significant:

**Port:** 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 criteria are met to the satisfaction of the Port in consultation with the regulatory agencies, including the CCC.

#### **Mitigation Measure 4.8-189**

Mitigation Measure 4.8-198 shall be implemented to reduce the impact to potential CCC wetlands areas on Parcel OP-1B during program-level phases within the Port's jurisdiction (see **Significant Impact 4.8-30**) to a level of less than significant:

**Port:** 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 *Table 4.8-8* for a total mitigation of 0.32 acre.

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.

#### **Mitigation Measure 4.8-~~2019~~**

Mitigation Measure 4.8-~~2019~~ shall be implemented to reduce the impact to CCC wetlands on Parcel O-4 during program-level phase development within the Port's jurisdiction (see **Significant Impact 4.8-31**) to a level of less than significant:

**Port:** 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.

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.

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.

#### **Mitigation Measure 4.8-20~~1~~**

Mitigation Measure 4.8-20~~1~~ shall be implemented to reduce the direct impact to RWQCB jurisdictional waters (see **Significant Impact 4.8-34**) to a level of less than significant:

- Port:** 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 *Table 4.8-8*.
- City:** 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 *Table 4.8-8* to the satisfaction of the City. The guidelines for this plan will be developed in consultation with the regulatory agencies.
- Port/City:** 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.
- Port/City:** 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.

#### **Mitigation Measure 4.8-22~~1~~**

Mitigation Measure 4.8-22~~1~~ shall be implemented to reduce the direct impact to City wetlands as defined by the Wetlands Protection Program (see **Significant Impacts 4.8-35**) to a level of less than significant:

- City:**
- 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.

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 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.

- B.** Prior to issuance of clearing and grubbing or grading permits for areas that impact jurisdictional waters, the project developer(s) shall provide evidence to the City that all required regulatory permits, such as those required under Section 1602 of the California Fish and Game Code and Section 13260 of the California Water Code, have been obtained.

**Mitigation Measure 4.8-232**

This mitigation measure incorporates the recommendation of the City of Chicago's Bird-Safe Building Design Guide and the City of Toronto's Fatal Lights Awareness Program's Bird-Friendly Development Guidelines. The measures required to reduce or avoid the Proposed Project's potential significant impacts on bird strikes will vary depending on a proposed building's nature, size, location, and design. The following mitigation measures shall be implemented for any buildings ~~on Parcels S-1, S-4, H-1, H-1A, H-3, H-8, H-9, H-13, H-14, H-23, and O-1~~ that have an unobstructed line of sight to nearby open water or large areas of open space (see **Significant Impacts 4.8-36** and **4.8-37**).

**Port/City:** Prior to issuance of any building permits, building plans shall be reviewed by a qualified biologist retained by the developer and approved by the Port or the City, to verify that the proposed building has incorporated specific design features to avoid or to reduce the potential for bird strikes, including but not limited to the following:

**Lighting**

- No solid red or pulsating red lights shall be installed on or near the building unless required by the Federal Aviation Administration (FAA).
- 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.
- 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.

### **Glass and Reflection**

- Use of reflective coatings on any glass surface is prohibited. Reflective glass or the application of reflective coatings shall not be used on any glass surface, except as may be required for low emittance (low e) coating for energy efficiency under Title 24 of the California Code of Regulations.
- 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.

These measures may include but are not limited to the following:

- 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
- 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.

### Building Articulation

- Structure dDesign 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 for parcels adjacent to Wildlife Habitat Areas will maximize distance between structures and such areas.

### Landscaping

- 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.

### Public Education

- 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.

### Monitoring

- 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.

Implementation of the above measures would reduce impacts from potential bird air strikes to a less than significant level.

### 4.8.7 Significance of Impacts After Mitigation

Implementation of the mitigation measures identified above would reduce **Significant Impacts 4.8-1** through **4.8-37** to terrestrial biological resources and wetlands to a level below significance.

## 4.9 Marine Biological Resources

This section evaluates the Proposed Project's potential impacts to marine biological resources. As set forth below, this analysis is broken down into two parts: (1) a ~~project~~program-level assessment of the first phase of a new pier at the terminus of H Street during Phase II and (2) a program-level assessment of future projects during Phases II through IV, including the redevelopment of the Chula Vista Marina and existing South Bay Boatyard (located in the Harbor District), completion of the H Street Pier, dredging of a new offshore navigation channel, and filling of the existing navigation channel with the dredged material.

Information contained in this section is based on the following technical study prepared for the Proposed Project:

- Final Biological Assessment, Marine Resources in the Vicinity of the Chula Vista Marina (June 2006), prepared by MBC Applied Environmental Sciences, Inc. (MBC) (*Appendix 4.9-1*).

In March 2005, MBC conducted field surveys to identify the biological resources located within the project boundaries. This information is included in the above-referenced report. This section presents the data within the Final Biological Assessment to determine the potential biological impacts to sensitive marine resources and species.

Additional reports referenced in this section include the following:

- Mitigation Opportunities for the Chula Vista Bayfront Project in the City of Chula Vista (June 2006), prepared by RECON Environmental, Inc. (*Appendix 4.8-12*).

### 4.9.1 Existing Conditions

This section discusses the existing marine biological resources in and near the Proposed Project area, including communities, vegetation, and special-status species that live in and use the marine habitats. It also describes the regulatory framework, including plans and policies established to protect water quality.

#### 4.9.1.1 Existing Physical Conditions

The Proposed Project area is located on the south end of the San Diego Bay, adjacent to open water and sensitive wildlife preserves. These areas provide habitat for millions of resident and migratory birds. Avian species and their use of the Bay are discussed in *Section 4.8, Terrestrial Biological Resources*, of this report. In addition, potential impacts on foraging habitat for birds as a result of the Proposed Project is addressed in *Section 4.8.5* of this report.

South San Diego Bay, or the “South Bay,” is comparatively less modified by human use than the north and central San Diego Bay regions. The South Bay includes the area from the mouth of the Sweetwater River south to Imperial Beach. Much of the South Bay is relatively shallow, with navigable channels maintained to provide access for small boats to several marinas in the area. Large areas of natural habitat, including eelgrass beds, mudflat, and marsh can still be found in the South Bay. The South Bay Power Plant (SBPP) extracts cooling water from the Bay south of J Street, and discharges warmed water back into the Bay on the south side of the Chula Vista Wildlife Reserve island.

Approximately 45 of the 65 total miles of the Bay shoreline are lined with artificial substrate, which includes riprap, sea wall, piers, and wharves. Primary marine habitat types include deep subtidal (channel areas), shallow subtidal (–2 to –12 feet Mean Lower Low Water (MLLW)), intertidal (–2 to +7.8 MLLW), and upland transition (those terrestrial habitats skirting the margins of the Bay). The South Bay is dominated by salt marsh habitat, though it is estimated that 88 percent of the Bay’s salt marsh has been lost. Other habitat types include moderately deep subtidal (–12 to –20 feet MLLW), vegetated and unvegetated shallow subtidal, intertidal, riparian, freshwater marsh, and salt works.

The bottom substrate throughout the South Bay, including the Chula Vista Marina and the navigation and entrance channels, is composed of soft sediments. Depths in the entrance basin of the Marina range from –16 to –18 feet MLLW, decreasing to –8 to –11 feet MLLW in the inner Marina. The depths of the navigation channel range from –5 to –18 feet MLLW. Throughout the Proposed Project area, the soft sediments support epibenthic and infaunal communities, which refer to organisms that live on and in the sediments, respectively. In shallower areas (–2 to –6 feet MLLW), eelgrass (*Zostera marina*) communities thrive.

Redevelopment and proposed improvements at the Marina are of particular concern due to the presence of sensitive marine resources. The primary habitat types in the Marina include shallow open water and shallow soft-bottomed subtidal habitats (MBC 2005a), while bulkheads and riprap provide hard-substrate intertidal and shallow subtidal habitat along the shoreline of the Marina. A small mudflat is located in the northeast corner of the Marina at the base of the riprap wall. These habitats support biological communities typical of Southern California embayments.

#### **4.9.1.2 Chula Vista Marina Habitats and Communities**

The Proposed Project area is located in what is defined as the South Bay ecoregion, with habitat types that include shallow water, open water, soft bottom (consisting of sand, silt, clay, or mud), rocky (riprap), mudflats, and salt marsh habitats. The project area is designated as Essential Fish Habitat for both the Coastal Pelagics and Pacific Groundfish Management plans.

The marine habitats and communities for the Chula Vista Marina area (including the location of the proposed H Street Pier to the north) were mapped on March 2, 2005, and are shown in *Figure 4.9-1*. The following discussion summarizes the results of the mapping and includes a discussion of the vegetation and wildlife that commonly occur in habitats on the project site.

a. Soft Bottom (Sediment)

Bottom sediments throughout the Chula Vista Marina and adjacent navigation channels are primarily fine and unconsolidated, or loose, unattached particles without combined rigidity or cohesiveness due to a lack of binding or natural mineral cement. As mentioned previously, depths in the entrance basin to the Marina range from -16 to -18 feet MLLW, decreasing to -8 to -11 feet MLLW in the inner Marina. The depths of the navigation channels range from -5 to -18 feet MLLW and support epibenthic and infaunal communities on and in the sediments.

According to the technical study prepared for this project (see *Appendix 4.9-1*), benthic infauna are macroscopic animals (invertebrates) that live in the top layers of sediment of the ocean floor. As part of the Southern California Coastal Water Research Project's Bight 1998 Regional Marine Monitoring Survey, grab samples were collected at 46 stations in the Bay, in which 341 invertebrate taxa were identified. Similar to other bays in Southern California, the benthic infauna was dominated by polychaete annelids, crustaceans, and bivalve and gastropod mollusks. In addition, the Bay assemblage was found to include several dominant species not found in high abundance in more northern areas, such as Long Beach and Los Angeles harbors. This distinctive southern Bay assemblage included the mussel (*Musculista senhousia*) and the polychaetes (*Euchone limnicola*), *Pseudopolydora paucibranchiata*, and *Prionospio (Prionospio) heterobranchia*. *M. senhousia* and *P. paucibranchiata* are the two most abundant non-native infaunal species in the Southern California Bight.

The report also summarizes sampling conducted in 2003, which identified 166 invertebrate taxa in infaunal grab samples collected near the SBPP and offshore of the Chula Vista Marina. These were dominated by small worms, including polychaete annelids such as *Mediomastus* sp. and *Leitoscoloplos pugetensis*, unidentified nematodes and oligochaetes, and the caprellid amphipod *Mayerella acanthopoda*. Together, these five taxa accounted for nearly 50 percent of the individuals taken, with *Mediomastus* sp. alone comprising 24 percent of the total abundance.

California halibut, diamond turbot, and spotted turbot are commonly found on the soft-bottom habitats such as that found in the Marina. California halibut, an important fishery species in coastal Southern California, requires protected areas such as bays and harbors for nursery grounds. Another important group of fishes common in the region are the gobies. Cheekspot goby (*Ilypnus gilberti*), arrow goby (*Clevelandia ios*), and shadow goby (*Quietula y-cauda*) are shallow-water fishes associated with soft-bottomed habitats in the Bay. These small fish are common in bays and estuaries throughout Southern California. Other nearshore fish common in

the open waters of South Bay include the topsmelt (*Atherinops affinis*), California grunion (*Leuresthes tenuis*), and deepbody anchovy (*Anchoa compressa*).

The technical report drew on several studies to determine potential impacts of pollutants on Bay benthic habitats. These habitats were classified as degraded, undegraded, or transitional based on species diversity, composition, and other assemblage characteristics, combined with data from chemical testing and toxicity studies. Transitional habitats include community characteristics of both degraded and undegraded habitats. Twenty-three stations (31 percent) in the Bay were undegraded, forty-three (57 percent) were degraded, and nine (12 percent) were in a transitional condition. Of fifteen stations sampled in the South Bay, eight, including three in Chula Vista Marina, were classified as degraded, two were in a transitional condition, and five stations on the west side of the Bay were undegraded (see *Appendix 4.9-1*).

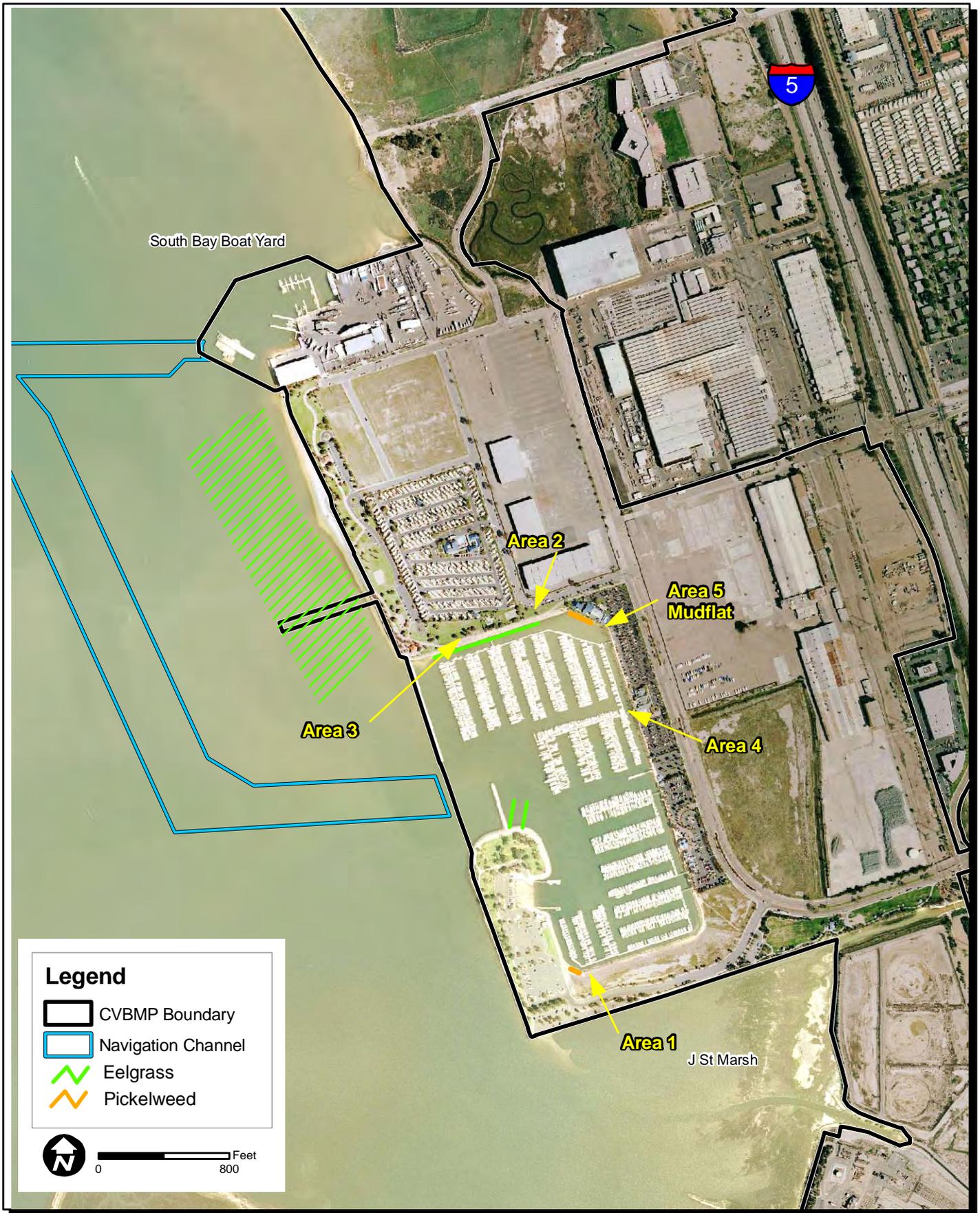
#### b. Rocky Intertidal Habitat

Most hard substrate habitats in the Bay are artificial structures designed for vessel docking and protecting developed areas along the Bay. Hard structures include pier pilings, bulkheads, riprap, floating docks, sea walls, buoys, and vessels.

While all of these man-made structures can support marine communities, some provide more valuable habitat. A greater surface area, more niches, and a complexity of rocky riprap, for example, generally provide better habitat for intertidal and subtidal communities than the smooth surface and vertical habitat of bulkheads or sea walls. In the Proposed Project area, riprap and bulkheads that line the existing Marina dominate the man-made habitat structure.

Riprap covers most of the intertidal area throughout the Chula Vista Marina, extending down into the subtidal area. Along the northern and portions of the west edges of the Marina, the riprap extends to the Marina bottom at a depth of about -5 to -7 feet MLLW. Elsewhere, riprap extends into the subtidal area to a depth of about -2 feet MLLW, below which metal sheet piling drops vertically to the Marina bottom. The shoreline of the study area consists of intertidal and shallow subtidal riprap of medium boulders and concrete bulkheads. This hard substrate, along with wood and concrete pier pilings, provides intertidal and subtidal habitats for both attached and motile invertebrates. These habitats, in turn, provide food and shelter for numerous fish species.

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Overview of Chula Vista Marina and Survey Locations

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The riprap, bulkheads, piers, and other structures in the waters adjacent to the Proposed Project site provide habitat for several fish species, including black perch, spotted sand bass, and barred sand bass. These latter two species are sought by sport fishermen throughout the Bay.

The intertidal community on the riprap and pilings, as on most rocky shores, exhibits vertical zonation. Based on studies conducted as early as 1968 through 1994, the species breakdown is as follows:

- The upper splash zone is inhabited sparsely by species that are well adapted to the environmental extremes of temperature and desiccation, such as periwinkle (*Littorina keenae*) and the small brown acorn barnacle (*Chthamalus* spp.).
- The high tide zone, extending down to MLLW, supports a more abundant and diverse group of species, which includes brown acorn barnacle, white acorn barnacle (*Balanus glandula*), several limpets (*Collisella* spp.), and turban snails (*Tegula* spp.), which are motile grazers.
- In the middle tide zone, down to MLLW, brown acorn barnacle is replaced by red acorn barnacle (*Tetraclita rubescens*). Bay mussels (*Mytilus galloprovincialis*) and additional grazers also appear. Encrusting algae (such as *Ralfsia* sp.), bryozoans and coralline (*Corallina* spp.), other algae (*Gelidium pusillum* and *Colpomenia sinuosa*), and colonial anemones (*Anthopleura elegantissima*) may also occur as major constituents of the community. The organisms in the mid-tidal zone may be so abundant as to completely cover all available substrate.
- In the low intertidal zone down to Extreme Low Water, the dominant species are less well adapted to environmental extremes. However, the community can be extremely diverse, with considerable algal cover (*Egregia menziesii* and *Sargassum muticum*), tunicates, sea urchins (*Strongylocentrotus* spp.), sea stars (*Pisaster* spp.), nudibranchs, octopus, and predatory snails (*Roperia poulsoni*, *Acanthina spirata*, and *Pteropurpura festiva*). Where there is wave action, zonation is not distinct, but where the water is calm and the only movement is tidal, the zones form distinct, narrow horizontal bands.

In South Bay, intertidal communities on the pier pilings at the Proposed Project site are typical of those found at other embayments. In their own studies, MBC found that these communities reestablish themselves following disturbance by settlement of planktonic larvae from sessile organisms (barnacles, mussels, algae, tunicates, and bryozoans), migration of motile animals (limpets, chitons, slippersnails, and large mussels), and expansion and growth from adjacent areas (colonial anemones). The rate of recovery depends on tidal height and location. Following complete removal of organisms at a location in Long Beach Harbor, the low-tide level recovered faster than the mid-tide level, taking about 1 year for the community dominants to regain their previous diversity and abundance. The mid-tide dominants took about 2 years to recover.

However, complete recovery—defined as a return to the site’s previous species richness and diversity—would likely require 2 years at the low-tide level and 3 years at the mid-tide level.

A total of 162,600 square feet of riprap currently covers the Chula Vista Marina. It supports intertidal marine algae (*Enteromorpha* spp.) and sea lettuce (*Ulva* sp.) with a few invertebrates, primarily acorn barnacles (*Balanus amphitrite*) and California horn snails (*Cerithidea californica*) (Table 4.9-1). Algae and invertebrate organisms also reside on pier pilings and docks in the Marina.

**TABLE 4.9-1**  
**Number of Individuals and Percent Cover per 0.125 Square Meter of the Intertidal Biota**  
**by Level at Areas within Chula Vista Marina**

Phylum	Species	Area					Total	Mean
		1	2	3	4	5		
<b>Level +1 ft. MLLW</b>								
<b>Abundance (# of counted individuals)</b>								
AR	<i>Balanus amphitrite</i>	400	400	250	300	–	1,350	270.0
MO	<i>Cerithidea californica</i>	3	2	6	3	100	114	22.8
MO	<i>Ostrea conchaphila</i>	–	1	1	1	–	3	0.6
MO	<i>Protothaca staminea</i>	–	+	–	–	3	3	0.8
MO	<i>Mytilus galloprovincialis</i>	–	1	–	1	–	2	0.4
AR	<i>Hemigrapsus oregonensis</i>	1	–	–	–	^	1	0.3
MO	<i>Chione californiensis</i>	–	1	–	–	–	1	0.2
MO	<i>Chione fluctifraga</i>	1	–	–	–	–	1	0.2
MO	<i>Crepidula</i> sp.	1	–	–	–	–	1	0.2
AR	Thalassinidea	+	–	–	–	–	+	–
AN	Spriorbidae	+	+	+	–	–	+	–
CN	Anthozoa, unid.	+	–	–	–	–	+	–
Number of individuals per 0.125 m <sup>2</sup>		406	405	257	305	103	1,476	295.2
Number of species		8	7	4	4	3	12	5.2
Diversity (H')		0.10	0.08	0.14	0.10	0.13	0.00	0.11
<b>Percent Cover</b>								
CH	<i>Enteromorpha</i> spp.	25	5	5	5	75	115	23.0
CH	<i>Ulva</i> sp.	–	5	5	5	75	90	18.0
RH	<i>Gracilaria</i> sp.	–	1	–	–	–	1	0.2
PH	<i>Sargassum</i> sp.	+	+	–	–	–	+	–
ZO	<i>Zostera marina</i>	–	–	+	–	–	+	–
Percent cover		25.0	11.0	10.0	10.0	150.0	206	41.2
Number of species		2	4	3	2	2	5	2.6
Diversity (H')		0.00	0.93	0.69	0.69	0.69	0.71	0.60
Total number of species		10	11	7	6	5	17	7.8

TABLE 4.9-1 (Cont.)

Phylum	Species	Area					Total	Mean
		1	2	3	4	5		
<b>Level +3 ft MLLW</b>								
<b>Abundance (# of counted individuals)</b>								
AR	<i>Balanus amphitrite</i>	10	100	10	10	–	130	26.0
MO	<i>Cerithidea californica</i>	1	15	–	–	100	116	23.2
CO	<i>Styela montereyensis</i>	–	1	–	–	–	1	0.2
AR	<i>Hemigrapsus oregonensis</i>	–	–	–	–	^	^	–
AN	Spiroboridae	+	–	–	–	–	+	–
Number of individuals per 0.125 m <sup>2</sup>		11	116	10	10	100	247	49.4
Number of species		3	3	1	1	1	5	1.8
Diversity (H')		0.30	0.43	0.00	0.00	0.00	0.00	0.15
<b>Percent Cover</b>								
CH	<i>Enteromorpha</i> sp.	25	5	5	–	–	35	7.0
Percent cover		25.0	5.0	5.0	–	–	35	7.0
Number of species		1	1	1	0	0	1	0.6
Diversity (H')		0.00	0.00	0.00	0.00	0.00	–	–
Total number of species		4	4	2	1	1	6	2.4

NOTE: + = present in area but not in quadrat; ^ = Patchy distribution of shed molts.

Phyla Key: AN = Annelida MO = Mollusca  
 CH = Chlorophyta (Green Algae) RH = Rhodophyta (red algae)  
 CN = Cnidaria PH = Phaeophyta (brown algae)  
 CO = Chordata PO = Porifera  
 AR = Arthropoda ZO = Zosteraceae

Eighteen algal and marine invertebrate species were observed on the intertidal rocky riprap and mudflats in Chula Vista Marina during a survey conducted in March 2005 (see *Table 4.9-1*). At the +1-foot and the +3-foot tide levels, the riprap was dominated by acorn barnacles with California horn snails; three mud clam species, Pacific littleneck (*Prothaca staminea*), smooth chione (*Chione fluctifrage*), and California chione (*Chione californiensis*); a hard substrate oyster (*Ostrea conchaphilia*); and bay mussel.

The +1-foot MLLW tidal level was more productive than the +3-foot level. Seventeen species—12 animal species with a mean abundance of 295 individuals per quadrat (2,362 per square meter) and 5 algal species with a mean coverage of 41.2 percent—were found at the +1-foot level (see *Table 4.9-1*). At the +3-foot MLLW level, 6 species were found: 5 animal species (including acorn barnacles, California horn snail, the solitary ascidian (*Styela montereyensis*), yellow shore crabs (*Hemigrapsus oregonensis*), and small tube worms in the family Spiroboridae) with mean abundance of 49.4 individuals per quadrat (395 per square meter), and 1 alga species that covered 7 percent of the area. Acorn barnacles accounted for 91.5 percent and California horn snail 7.7 percent of the total abundance at the +1-foot MLLW level; at the +3-foot MLLW level, acorn barnacles constituted 52.6 percent and California horn snails 46.9 percent of the total

abundance. Species abundance on riprap and pier pilings in the Proposed Project area in the South Bay is comparable to that found in similar locations but is somewhat less diverse than that observed at mid-Bay locations.

#### c. Intertidal Flats

According to the technical report prepared for this report (see *Appendix 4.9-1*), intertidal flats in the Bay include mudflats, sand flats, and salt flats. Intertidal flats in the South Bay occur in the tidal zone above the level of eelgrass beds and below the level where marsh plant species can grow. In these environments, combinations of physical and chemical stresses limit the biological diversity, and community structure is dominated by species adapted to these stressful conditions. The most extensive intertidal flats in the Bay occur in the South Bay. These include the northern shore of the Western Salt Works, located just south of the Proposed Project boundary; the project shoreline; the barrier edge of the power plant channel in the project's Otay District; and elsewhere along the project boundary. In addition, a small mudflat area exists at the northeast corner of the Chula Vista Marina (see *Figure 4.9-1*).

Several fish species are closely associated with mudflat habitats and are preyed upon by terns and a variety of probing shorebirds. These species include the California killifish (*Fundulus parvipinnis*) and a goby, the longjaw mudsucker (*Gillichthys mirabilis*), which can tolerate higher-than-normal temperatures and salinity. Grunion also lay eggs on the beach at Tidelands Park.

#### d. Rocky Subtidal Habitat

Riprap covers the subtidal zone in the Chula Vista Marina, extending down from the intertidal zone described above. Along the northern edge and portions of the western edge of the Marina, the riprap extends to the Marina bottom at a depth of about -5 to -7 feet MLLW. Elsewhere, riprap extends only into the intertidal area to a depth of about -2 feet MLLW, below which metal sheet piling drops vertically to the Marina bottom in the subtidal zone. Very little subtidal rocky habitat exists in these portions of the harbor, with most of the subtidal hard substrate consisting of metal bulkheads.

The rocky substrate of the Bay consists of riprap, bulkheads, pilings, and wharves, which are suitable habitat for a diverse epibiotic assemblage, providing foraging resources for shorebirds in the intertidal zone and for fish in the subtidal zone. Epibiota are those species that live at the water-substrate interface, either attached to the substrate or moving over it. Hard-bottom epibiota would be those species that live on the hard substrate, such as mussels, barnacles, sea anemones, or algae. *Table 4.9-2* displays the number of individual species recorded at Areas 1 and 2 in the Chula Vista Marina, and their percent cover per 0.125 square meter of rocky subtidal habitat.

**TABLE 4.9-2**  
**Number of Individuals and Percent Cover per 0.125 Square Meter of Rocky Subtidal**  
**Habitat at Two Areas of the Chula Vista Marina**

Phylum	Species	Area		Total	Mean
		1	2		
Depth in ft (MLLW): -3					
<b>Abundance (# of counted individuals)</b>					
CN	Anthozoa, unid.	1	20	21	11
CO	<i>Styela plicata</i>	6	6	12	6
MO	<i>Ostrea conchaphila</i>	4	8	12	6
AN	Spirorbidae	2	-	2	1
AN	<i>Myxicola infundibulum</i>	1	-	1	1
Number of individuals per 0.125 m <sup>2</sup>		14	34	48	24
Number of species		5	3	5	4
Diversity (H')		1	1	1	1
<b>Percent Cover</b>					
RH	Rhodophyta	15	10	25	13
PH	<i>Dictyota flabellate</i>	10	-	10	5
CO	<i>Botryllus</i> spp.	3	3	6	3
PO	Porifera, unid.	1	1	2	1
CH	<i>Enteromorpha</i> spp.	1	-	1	1
CO	<i>Botrylloides</i> spp.	1	3	4.0	2.0
Percent Cover		31	17	48.0	24.0
Number of species		6	4	6.0	5.0
Diversity (H')		1.27	1.09	1.35	1.18
TOTAL number of species		11	7	11	9.0
MBC survey conducted March 2, 2005.					

Phyla Key:

AN = Annelida

CH = Chlorophyta (Green Algae)

CN = Cnidaria

CO = Chordata

MO = Mollusca

RH = Rhodophyta (red algae)

PH = Phaeophyta (brown algae)

PO = Porifera

Several species of plants and invertebrates common in the Bay reside on or near the bulkheads and subtidal riprap at the -3-foot MLLW level within the Chula Vista Marina: an unidentified anemone (*Anthozoa*), an oyster, solitary ascidians (*Styela plicata*), two worm tube species (see *Table 4.9-2*), an unidentified red alga turf (*Rhodophyta*), a brown alga (*Dictyota flabellate*), compound ascidians (*Botryllus* spp. and *Botrylloides* spp.), unidentified sponges (*Porifera*), the green alga *Enteromorpha* spp., the solitary ascidian *Styela montereyensis*, and bay mussel.

#### e. Shallow Open-Water Habitat

The Chula Vista Marina is generally about 8 to 12 feet MLLW. Shallower areas exist near the edges of the Marina, while the entrance is approximately 18 feet MLLW. Currently, water area of the Chula Vista Marina is 51 acres, but with docks and piers (approximately 253,600 square feet or 6 acres), approximately 45 acres of the Marina water is open.

More than 50 species reside in or use the waters that comprise the current Proposed Project site. Of these, the slough anchovy (*Anchoa delicatissima*) is by far the most abundant, followed by topsmelt (*Atherinops affinis*) and then by the arrow goby (*Clevelandia ios*) and round stingray. Other than the round stingray, which has no known predators in the Bay, the other three species are important prey items for shorebirds, sea lions, and other fish. These species are likely to be found throughout the waters adjacent to the current project site.

Shallow open-water areas, those less than -12 feet MLLW, support infaunal invertebrate and demersal fish species not found in other bay habitats. The benthic invertebrates serve as food sources for demersal fish, such as juvenile California halibut (an important commercial and recreational species), flatfish, rays, sharks, and perch. Some of the fish and invertebrates that feed on benthic species in turn are prey for larger fish and aquatic birds. For this reason, bird densities and diversity are greater in shallow, nearshore waters than in other open-water areas of the Bay. It is estimated that 19,000 resident and migratory birds utilize this habitat for feeding and resting throughout the year (USDN 2000).

The green sea turtle (*Chelonia mydas*) is a federally listed endangered species that has established a population in the Bay. This species, which has an affinity for warm, tropical waters, is known to reside in and near the SBPP discharge channel (see *Figure 4.9-1*). Eelgrass provides forage for green sea turtles in the area. The Bay is the northernmost habitat for turtles known on the west coast of the United States. However, no turtles were noted during the survey of the Chula Vista Marina and approaches on March 2, 2005. The Port is working with the National Oceanic and Atmospheric Association to track and gather data on the turtles in the Bay.

#### f. Eelgrass

Eelgrass is a wide-ranging plant species that occurs along the Pacific Coast of North America from the Bering Strait south to lower Baja California, Mexico, and around to the Gulf of California. Eelgrass is a marine flowering plant (angiosperm) that forms meadows in mud and sand sediments of bays and harbors. It forms an important biological habitat for invertebrates and fish.

Studies cited in the technical report indicate that in San Diego Bay, eelgrass grows in the lower intertidal and the shallow subtidal substrates at depths between 0 and -16.4 feet MLLW. In the

South Bay, eelgrass is most abundant at depths less than -6.9 feet MLLW. The Bay's remaining eelgrass beds cover over 655 hectares (1,561 acres), which is the largest eelgrass habitat in California (Figure 4.9-2). About 404 hectares (approximately 1,000 acres) are found in the South Bay ecoregion.

Eelgrass density (i.e., the number of turions or individual shoots in an area) can be highly variable within a single bed and often changes with the seasons. In general, densities are greater in shallower areas than in deeper water, where less light penetrates. In the Bay, densities of eelgrass beds near the entrance to the Bay tend to be greater than in beds farther south in the Bay, where turbidity is more common. While greater densities are considered better, all eelgrass provides a unique habitat utilized by fish and invertebrate species. Although general distribution patterns remain stable, the coverage of eelgrass in the South Bay varies seasonally and from year to year in response to El Niño or La Niña weather events.

Eelgrass in the Chula Vista Marina tends to be restricted to shallower areas with sandy sediments and relatively clear water. Throughout most of the Marina, sediments are very soft and unconsolidated, with poor clarity in the water above these sediments. Most of the eelgrass in the Chula Vista Marina grows at depths of -3.3 to -4.9 feet MLLW and, according to surveys conducted in 2005, no eelgrass grows at depths greater than -6.6 feet MLLW. Even where it exists, eelgrass in the Chula Vista Marina tends to be sparse.

The subtidal area between the Chula Vista Marina and the existing South Bay Boatyard also supports eelgrass. Project options in this area include the construction of a new breakwater for expansion of the Chula Vista Marina or the construction of a pier at the end of H Street. However, no eelgrass has been found in the existing South Bay Boatyard commercial harbor north of the Chula Vista Marina.

According to the technical study prepared for this project, eelgrass beds support diverse benthic infaunal and fish communities (see Appendix 4.9-1). Fish observed in eelgrass beds in the Bay include barred sand bass (*Paralabrax nebulifer*), spotted sand bass (*Paralabrax maculatofasciatus*), kelp bass (*Paralabrax clathratus*), topsmelt, bat ray (*Myliobatis californica*), round stingray (*Urobatis halleri*), California halibut (*Paralichthys californicus*), diamond turbot (*Hypsopsetta guttulata*), spotted turbot (*Pleuronichthys ritteri*), striped mullet (*Mugil cephalus*), black perch (*Embiotoca jacksoni*), white seaperch (*Phanerodon furcatus*), garibaldi (*Hypsypops rubicundus*), bay goby (*Lepidogobius lepidus*), and opaleye.

Eelgrass is a resource for seabirds and other migrating waterfowl. For example, Brant birds (*Branta bernicla*) feed on eelgrass in the Bay during their annual migrations. Although eelgrass is very common outside of the Chula Vista Marina in the South Bay, it occurs only in small isolated patches within the Chula Vista Marina (Figure 4.9-2).

Several small patches (0.05 square meter each) of ditchgrass (*Ruppia* sp.), another flowering plant, were observed in a band along the north side of the Marina between the base of the riprap and the first set of floating docks. Together, these patches total about 1 square meter.

#### g. Salt Marsh and Mudflats

Salt marsh habitat in San Diego Bay has been drastically reduced due to development and is now only found in the South Bay. Currently, about 386 acres (156 hectares) of salt marsh habitat remains in South Bay. Salt marsh is the driest of the intertidal habitats in the Bay. Salt marsh habitat provides food and protection for fish and invertebrate species as well many species of birds, which feed, nest, and seek protection in marshes (see *Appendix 4.9-1*).

Pickleweed (*Salicornia virginica*) is a constituent of southern coastal salt marsh and is highly salt tolerant and typically inundated only at the highest tides. As discussed in *Section 4.8, Terrestrial Biological Resources*, southern coastal salt marsh occurs in smaller channels on site, in association with the adjacent mudflat along the western edge of the Sweetwater and Otay District parcels, and only isolated areas of pickleweed occur in the Chula Vista Marina, in a narrow band along the southern perimeter riprap (between the +4- and +7-foot levels) (see *Appendix 4.9-1*) and the mudflat in the northeast corner of the harbor (see *Figure 4.9-1*). Pickleweed on the mudflat is sparse, with a total coverage of less than 53.82 square feet.

Species common in intertidal flats include algae (such as *Enteromorpha* and *Ulva*, which can form dense mats in the upper intertidal zone), larger burrowing clam and crab species, snails, and smaller infaunal species (such as polychaete worms and small crustaceans). Intertidal and shallow invertebrate species often act as a food source for fish and bird species in wetland communities. The more abundant and diverse invertebrate assemblages tend to support a more diverse collection of species that feed on them.

Surveys conducted in 2003 identified 113 invertebrate taxa in intertidal mudflat infauna grab samples collected near the SBPP and offshore of the Chula Vista Marina. Intertidal samples collected outside of the Marina and along the Chula Vista Wildlife Reserve were dominated by the following: (1) small crustaceans, including the tanaid *Leptochelia dubia*; (2) the ostracod *Euphilomedes carcarodonta*; (3) the polychaete *Fabricinuda limnicola*; and (4) unidentified nematodes. Together these four taxa accounted for 66 percent of the total abundance. Six of the ten most abundant taxa were crustaceans.

A small mudflat of about 1,200 square feet (0.03 acre) is located within the Proposed Project's boundary, along the northwest corner of Chula Vista Marina (see *Figure 4.9-1, Area 5*). A site visit conducted on March 2, 2005, found that California horn snails and the green algae *Enteromorpha* and *Ulva* dominated the mudflat at the +1-foot level (see *Table 4.9-1*) (MBC 2005a). In addition, several Pacific littleneck clams and molts of yellow shore crabs were found.

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AERIAL SOURCE: NAVFAC, San Diego Bay 2004 Eelgrass Survey

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
 South Bay Eelgrass and Navation Channel Alignment

**FIGURE**  
 4.9-2

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#### h. Marine Mammal Habitat

Two pinnipeds, California sea lion (*Zalophus californianus*) and the Pacific harbor seal (*Phoca vitulina*), are abundant along the Southern California coast, including the Bay. Sea lions are the most common marine mammal species in the Bay but are rarely sighted in the vicinity of the Proposed Project. In fact, no marine mammals were noted during the survey of the Chula Vista Marina on March 2, 2005.

In addition to the sea lions, which can commonly be seen on hard substrates (such as piers and buoys of the rocky intertidal habitat), coastal bottlenose dolphin (*Tursiops truncatus*) is widely distributed, occurring in warm, temperate waters worldwide. The dolphin, of the order Cetacea, has been frequently observed in the Bay, especially in the northern portion, and has also been reported in the South Bay (USFWS 1998). Another cetacean occasionally observed in the Bay is the gray whale (*Eschrichtius robustus*). This species passes the Bay twice each year during its migration from the Bering Sea to Baja California, Mexico and back; it infrequently enters the Bay. There is no evidence that the Bay is critical for these animals as a breeding or feeding area.

#### 4.9.1.3 Sensitive Resources

Current data on the status of each of the following species comes from California Department of Fish and Game (CDFG 2000).

#### a. Eelgrass

Eelgrass habitat is protected by the state and federal government, but it is not considered a candidate, sensitive, or special-status species. San Diego Bay's remaining eelgrass beds cover over 1,561 acres, which is the largest eelgrass habitat in California. Approximately 1,000 acres are found in the South Bay ecoregion (USDN; Port 2004). Although general distribution patterns remain stable, the coverage of eelgrass in the South Bay varies seasonally and from year to year in response to El Niño or La Niña events. Eelgrass beds support diverse benthic infaunal and fish communities as well as providing forage for green sea turtles and migrating waterfowl.

#### b. Green Sea Turtles (Federal Endangered)

As indicated above, the endangered green sea turtle has established a population in the Bay near the warm-water discharge channel attached to the SBPP (see *Figure 4.9-2*). The green sea turtle is the only special-status marine species known to occur in or near the Proposed Project site. Green sea turtles are herbivores, feeding primarily on algae and eelgrass. During the day, the reptiles have been observed in and around the discharge channel of the SBPP, while at night they feed on eelgrass beds in the South Bay (Stinson 1984). Other than this unique population sustained by the warm waters of the discharge, this tropical species would normally be

considered uncommon or perhaps even rare offshore, although they are more likely to occur offshore of Southern California during warm years (Eckert 1993). Note, however, that no turtles were noted during the survey of the Chula Vista Marina and approaches on March 2, 2005 (see *Appendix 4.9-1*).

#### **4.9.1.4 Regulatory Framework**

##### **a. Regulatory Agencies**

Biological resources are regulated by several federal, state, and local agencies. Principal authority for these resources rests with the local jurisdictions. However, other agencies share jurisdiction over a number of habitats and resources. Trustee agencies have jurisdiction over certain resources held in trust for the people of California but do not have legal authority over approving or carrying out a specific project (CEQA Guidelines Section 15386). Under CEQA, the CDFG is a trustee agency with regard to fish and wildlife, rare or endangered native plants, game refuges, ecological reserves, and other areas administered by the department. The CDFG also has authority over species and habitats listed under the California Endangered Species Act (CESA), while the U.S. Fish and Wildlife Service (USFWS) has regulatory authority over federally endangered species pursuant to the Endangered Species Act (ESA) of 1973. The U.S. Army Corps of Engineers (USACE) has regulatory authority pursuant to Section 404 of the Federal Clean Water Act of 1977, which not only pertains to dredging and filling projects in U.S. waters, but expands USACE jurisdiction to include isolated wetlands and habitats used by migratory birds and endangered species.

Special-status species are those plants and animals afforded protection by the CESA and/or the federal ESA, and include those species that fall in one or more of the following categories:

- Species proposed for listing as threatened or endangered under the state or federal ESAs
- Plants protected under California Fish and Game Code, Section 1900 et seq.
- Animals fully protected under California Fish and Game Code
- Plant and animal species designated by the California Department of Fish and Game as being “of special concern.”

In addition, certain habitats may be protected if they meet certain criteria, including their support of special-status species or their relatively limited occurrence.

**b. Applicable Regulations**

*Section 4.8, Terrestrial Biological Resources* of this report, provides a discussion of regulations that would apply to biological resources, including the marine biological resources discussed in this section. In addition, the following regulations apply to the marine resources.

**i. Magnuson-Stevens Fishery Conservation and Management Act**

The 1996 Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that the National Marine Fisheries Service (NMFS) identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a federal fisheries management plan. EFH is defined as the waters and substrates that fish need in order to spawn, breed, feed, or grow to maturity. Specifically, the MSA requires: (1) federal agencies to consult with NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that could adversely affect EFH; (2) NMFS to provide conservation recommendations for any federal or state action that could adversely affect EFH; and (3) federal agencies to provide a detailed response in writing to NMFS within 30 days of receiving EFH conservation recommendations.

The Proposed Project is located within an area designated as EFH for both the Coastal Pelagics and Pacific Groundfish Management plans.

**ii. Marine Mammal Protection Act of 1972**

Marine mammals are protected by the Marine Mammal Protection Act of 1972 (MMPA) and the federal ESA of 1973 (for those species listed as endangered or threatened). The National Marine Resources Agency is the federal agency charged with the responsibility of enforcing the provisions of the act. The MMPA forbids the taking (including harassment, disturbance, capture, and death) of any marine mammals except as set forth in the act. Therefore none of the construction activities would disturb marine mammals or disrupt their activities or behavior in known migration routes, feeding, or breeding areas.

**iii. Southern California Eelgrass Mitigation Policy**

Eelgrass is protected by the state and federal government under the Southern California Eelgrass Mitigation Policy (SCEMP). Recognizing that some necessary projects may adversely affect this protected resource, the resource agencies have developed a mitigation policy to ensure that there is no net loss of eelgrass in Southern California. The SCEMP was promulgated on July 31, 1991, by the NMFS. It was last updated on August 30, 2005, Revision 11.

iv. San Diego Integrated Natural Resources Management Plan

The San Diego Bay Integrated Natural Resources Management Plan (INRMP) was prepared by the U.S. Navy and the Port between 1997 and 2000. The goal of the INRMP is to “ensure the long-term health, recovery, and protection of the Bay ecosystem in concert with the Bay’s economic, naval, recreational, navigational, and fisheries needs” (USDN 2001). The INRMP includes objectives and policy recommendations to guide planning, management, conservation, restoration, and enhancement of the Bay ecosystem. Signature approval by the U.S. Navy and Port authorities as well as by other agencies and organizations provides an authority for implementation.

c. Designated Preserves

i. National Wildlife Refuges

The southern portion of the San Diego Bay National Wildlife Refuge (SDBNWR) incorporates former Western Salt Works marsh, as well as adjacent marsh, intertidal, and shallow subtidal habitats. Dikes separating the evaporation ponds at the Western Salt Works support significant nesting colonies of western snowy plover, Belding’s savannah sparrow, black skimmer Forster’s tern, gull-billed tern, California least tern, royal tern, and elegant tern. The dikes and ponds of the Western Salt Works also provide resting and feeding areas for a variety of shorebirds and waterfowl, including gulls, terns, black skimmers, and pelicans that roost on the dikes at night.

The Sweetwater Marsh National Wildlife Refuge (NWR), located just north of the Proposed Project area, provides habitat for many of the same species found in the SDBNWR, including listed and special-status species. Special-status bird and plant species known to occur in the marsh are discussed in *Section 4.8, Terrestrial Biological Resources*, and shown on *Figure 4.8-4*.

ii. Chula Vista Wildlife Reserve

The Chula Vista Wildlife Reserve is an island of approximately 60 acres (see *Figure 4.9-1*). The Reserve was constructed of dredged materials in 1987. Like naturally occurring marshes in the area, the Chula Vista Wildlife Reserve provides food and protection to many species. California least terns nest at the reserve, and habitat improvements have been made to encourage further nesting by this species. Green sea turtles are year-round residents in a channel south of the Reserve, which is warmed by the thermal discharge of the nearby power plant.

iii. South Bay Marine Biological Study Area

The South Bay Marine Biology Study Area is part of the U.S. Naval Radio Facility and adjacent to the southern portion of the SDBNWR. It includes the Emory Cove marsh, where light-footed clapper rails and Belding’s savannah sparrow are known to nest.

### 4.9.2 Impact Significance Criteria

In addition to the discussion of impacts presented in *Section 4.8, Terrestrial Biological Resources*, the following impact significance criteria from Appendix G of the CEQA Guidelines are discussed as they relate to marine biological habitats. The Proposed Project would have a significant impact on marine biological resources if:

1. It has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG or USFWS.
2. It interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.
3. It has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.
4. It has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrologic interruption, or other means.
5. It conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. It conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### 4.9.3 Impact Analysis

1. **The Proposed Project would have a significant impact if it has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG or USFWS.**
  - a. Phases II and IV (Program Level Impacts)

***H Street Pier (First Phase)***. The project proposes construction of a recreational pier north of the Chula Vista Marina at H Street during Phases II and IV. During the first phase of the H Street Pier project (in Phase II), the Proposed Project would create impacts from the driving of piles for pier support into shallow subtidal benthic habitat where eelgrass is known to occur. Construction of the pier would result in a total impact to 0.4 acre of eelgrass habitat in South Bay. Impacts to

eelgrass are significant and would require mitigation at a ratio of 1.2:1 to reduce impacts to below a level of significance (**Significant Impact 4.9-1**).

Development of the pier deck would also increase shading, possibly resulting in a loss of eelgrass habitat in the area. Shading affects an area greater than the footprint of the structure. As the height of the structure increases, shading impacts generally increase as well. At a minimum, shading from docks and piers are assumed to affect an area the size of the aerial footprint. Plans anticipate that the first phase portion (Phase II) of the H Street Pier would extend approximately 300 feet west of the base of H Street into the Bay and would be approximately 60 feet wide. In addition, the pier will be designed to be the maximum feasible height and have the maximum feasible space between pilings in order to minimize shading impacts. Although the actual area of shading would be determined following final pier design, using the minimum standards, Phase II impacts to approximately 0.4 acre of eelgrass would be significant. This 0.4 acre eelgrass impact is the same impact as **Significant Impact 4.9-1**.

**South Bay Boatyard.** The existing South Bay Boatyard commercial harbor, located north of the Chula Vista Marina, would be reconfigured into a 200-slip marina during Phase IV. The existing harbor boundaries would remain as they are, and no permanent loss of hard substrate intertidal or subtidal habitat would occur. If dredging would be required to accommodate additional boat slips, a temporary loss of subtidal benthic habitat would occur. This impact would be less than significant due to the rapid recolonization of the benthic community in the new area following dredging. No permanent loss of this habitat would result. Therefore, this impact is not significant.

Currently, the existing South Bay Boatyard harbor is approximately 16 feet deep, with shallower areas up to 11.5 feet deep (MBC 2005a). This area is generally too deep to support eelgrass, and no eelgrass was recorded during the survey. Therefore, no eelgrass habitat would be lost as a result of dredging of this area or shading of this area from buildings.

**H Street Pier (Second Phase).** Pier completion is planned in Phase IV and would include lengthening the pier an additional 300 feet. Although design plans have not been completed, the additional work would result in an increase of 18,000 square feet, or an additional 0.4 acre, of eelgrass impacts if constructed as currently planned. Combined total impacts from completion of Phases II and IV construction would result in a total loss of 0.8 acre of eelgrass habitat. The increased impact to 0.4 acre of eelgrass during Phase IV would be significant (**Significant Impact 4.9-2**). For program-level analysis, sufficient habitat to mitigate for the loss of eelgrass would be available in the fill area for the channel realignment project, provided work is coordinated to occur in Phase IV at the same time or following improvements to the Marina Access channel.

***Marina Access Navigation Channel Realignment.*** The existing access channel to the north bay would be realigned as part of the Proposed Project during Phase IV. Much of the access channel is too shallow for navigation; therefore, this area would be dredged to a deeper level. The material dredged from both the proposed navigation channel and the existing South Bay Boatyard would be used to fill approximately 83 acres of the existing channel from an approximate depth of -15 MLLW to between -3 and -5.5 feet MLLW.

Channel dredging would temporarily affect approximately 62 acres of soft subtidal habitat. Although more than one-half of this area is unvegetated, as much as 24.3 acres of eelgrass and shallow-water habitat would be lost to dredging and approximately 21.6 acres of temporary impact would result from filling of the existing navigation channel, based on the cumulative maximum extent of eelgrass found in the Proposed Project area in surveys conducted in 1993, 1999, 2003, and 2004 (Merkel and Associates (Merkel) 2000; Tenera and Merkel 2004). This loss of eelgrass and shallow-water habitat would be significant and would require mitigation at a ratio of 1.2:1 for eelgrass and 1:1 for shallow-water habitat to reduce impacts to below a level of significance (**Significant Impact 4.9-3**).

The temporary loss of benthic communities in this area would occur in the related dredge and fill areas, as moderately deep habitat would be buried. However, the benthic habitat would rapidly recolonize the area after construction. Therefore, the permanent loss of this habitat would not occur. This impact would not be significant.

***Harbor Reconfiguration.*** As described in *Chapter 3, Project Description* of this report, the existing Chula Vista Harbor would be reconfigured during Phase IV to facilitate the creation of a new active commercial marina on Parcels HW-1, HW-2, HW-3, and HW-4. The entire harbor area currently consists of approximately 51 acres, of which 45 acres are open water.

Approximately 200 slips would be provided on Parcel HW-4 and approximately 500 slips would be provided on Parcel HW-1. A ferry dock/pier, approximately 1 acre in size (identified as Parcel H-12), would be located along the harbor wall on Parcel HW-3. Approximately 14,400 square feet of existing riprap would be removed from the edge of Parcel HW-3 and replaced with approximately 540 square feet of bulkhead. Although the placement of bulkhead would be required, no dredging would occur in this area. Potential impacts to the habitats within the harbor are described below.

#### b. Riprap/Hard Substrate Intertidal and Subtidal Benthic Habitats

Currently, approximately 162,600 square feet of riprap and bulkhead provide hard substrate intertidal and subtidal communities within the harbor. Approximately 14,400 square feet of the existing riprap and bulkhead would be removed and replaced with approximately 540 square feet of bulkhead. This modification would result in the permanent loss of approximately 13,863

square feet of hard substrate intertidal and subtidal habitat and communities. The hard substrate intertidal and subtidal communities provided by the riprap within the harbor are neither pristine nor degraded. The permanent loss of 13,863 square feet of hard substrate intertidal and subtidal habitat and communities would occur as a result. Although this would be a loss of 8.5 percent of the existing amount of hard intertidal substrate, this habitat does not support special-status species. Therefore, the incremental loss of this habitat would not be significant.

A small permanent loss of benthic habitat would occur in the footprint of the piles. Despite this loss, however, the piles would create hard substrate subtidal and intertidal habitat in excess of the area of benthic impacts. Sufficient habitat to mitigate for the loss of benthic habitat would be available in the channel realignment fill area.

***Eelgrass.*** Eelgrass would be impacted by the harbor modifications. There would be a potential loss of up to 775 square feet, or approximately 0.02 acre, of eelgrass during construction of the harbor on Parcel HW-4. Impacts to eelgrass are significant and would require mitigation at a minimum ratio of 1.2:1 to reduce impacts to below a level of significance (**Significant Impact 4.9-4**).

***Salt Marsh and Mudflats.*** Bulkhead placement on Parcel HW-3 would result in the loss of about 1,200 square feet (0.03 acre) of intertidal mudflat inside the Marina. In addition, bulkhead placement on the northern side of the Chula Vista Marina would impact approximately 53.82 square feet (less than 0.001 acre) of the existing pickleweed (**Significant Impact 4.9-5**).

### c. Direct Impacts

Temporary direct impacts to water quality and marine resources would occur through the unintentional release of excavated sediments and water into the local environment during construction of phased improvements for the H Street Pier, the existing South Bay Boatyard Marina, Chula Vista Marina, and the realignment of the navigation channel. The process of driving in the piles during ~~Phase I~~ the first phase of construction of for the H Street Pier (in Phase II) would itself cause temporary direct impacts to water quality and marine resources. Excavated sediments and water may be released unintentionally, increasing turbidity and stirring up potentially contaminated soils (**Significant Impact 4.9-6**). However, implementation of required BMPs and stringent source control measures as discussed in greater detail in *Section 4.5, Hydrology/Water Quality*, would minimize potential impacts.

Turbid water from dredging can interfere with filter-feeding subtidal organisms, and introduced contaminants would potentially affect subtidal organisms. Construction of the South Bay Boatyard Marina (at Parcel HW-6) during Phase IV would require this area be dredged to a deeper level. Currently, no storage area for the dredged material, if contaminated, has been identified. This impact would be significant (**Significant Impact 4.9-7**).

#### d. Indirect Impacts

Construction and the driving of piles for the H Street Pier would have temporary adverse effects on marine resources. This would include a short-term increase in turbidity, a temporary loss of intertidal and subtidal benthic habitat in the construction zone, and noise and vibration disturbances of fish communities. However, the benthic community impacted would rapidly recolonize the area following pile driving. Although temporary noise and vibration from the pile driving may disturb fish species, the effect would not be significant because fish have a behavioral avoidance of high-intensity sound levels. Although noise disturbance would be temporary, the addition of hard substrate piles in the area of the H Street Pier would attract a wider variety of fish species than currently occur in the area.

Artificial light that alters the natural patterns of light and dark in ecosystems is known as “ecological light pollution” (Longcore and Rich 2004). Ecological light pollution includes direct glare, chronically increased illumination, and temporary, unexpected fluctuations in lighting. Sources of ecological light pollution include sky glow, lighted buildings and towers, streetlights, fishing, boats, security lights, lights on vehicles, flares on offshore oil platforms, and even lights on undersea research vessels. Artificial night lighting is known to disrupt ecological systems. The demonstrable effects on the behavioral and population ecology of organisms in natural settings derive from changes in orientation, disorientation, or misorientation and attraction or repulsion from the altered light environment, which in turn may affect foraging, navigation, reproduction, migration, and communication (Longcore and Rich 2004). Artificial night lighting can also indirectly cause water quality impacts. For example, many aquatic invertebrates, such as zooplankton, move up and down within the water column during a 24-hour period. This “vertical migration” presumably results from a need to avoid predation during lighted conditions; therefore, many zooplankton forage near water surfaces only during dark conditions. It is hypothesized that, with fewer zooplankton migrating to the surface to graze, algae populations may increase. Such algal blooms would then have a series of adverse effects on water quality (Longcore and Rich 2004). Impacts to marine resources related to lighting associated with construction and operation of the proposed marinas would be significant (**Significant Impact 4.9-8**).

2. **The Proposed Project would have a significant impact if it interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.**

The Proposed Project’s site, located at the southeast end of the San Diego Bay, does not function as a movement corridor for resident and migratory fish species. Although migratory fish, such as

the top smelt, deep body and northern anchovies, and Pacific sardine exist in the Bay, the project would not interfere with these species' movement patterns. No significant impacts would result.

**3. The Proposed Project would have a significant impact if it has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.**

**a. Phase II through IV (Program Level Impacts)**

***H Street Pier.*** The construction of a recreational pier as part of the Proposed Project would disturb marine resources. Impacts to mobile marine biological resources are anticipated to be less than significant because those resources would avoid the construction area during construction activities. The mobile marine biological resources that could occur in the project vicinity include green sea turtles, which are federally endangered; marine mammals (dolphins, seals, and sea lions), which are protected by the MMPA; and fish species covered under the MSA.

The development of the pier would occur over known eelgrass areas, displacing eelgrass equivalent to the aerial footprint of the pier (0.4 acre for the first phase of the pier in Phase II and 0.4 acre for the second phase of the pier in Phase IV). Shading of that area will likely prevent or limit the reestablishment of eelgrass. Construction of the pier in Phases II and IV would result in a significant impact to the eelgrass species as defined in the state and federal SCEMP (same as **Significant Impacts 4.9-1** and **4.9-2**).

Construction of the pier could increase turbidity by disturbing sediments, which may be contaminated. Increased turbidity and unintentional release of contaminated material can result in substantial adverse effects to marine habitats and species. Therefore, increased turbidity and potential unintentional release of contaminated sediments could result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS (same as **Significant Impact 4.9-6**).

***South Bay Boatyard.*** The Proposed Project includes reconfiguration of the existing South Bay Boatyard into a commercial marina. No sensitive marine biological species have been identified in the existing boat yard harbor, likely as a result of the existing commercial operations and depth (generally greater than that suitable for eelgrass). Mobile marine species would avoid the area. Commercial marina reconfiguration and operation would likely trigger that same response. None of the benthic organisms identified in the existing South Bay Boatyard harbor are considered special-status species, and the temporary displacement of such organisms during construction would not be considered significant. The benthic organisms may aid in the support of protected species including fish species covered by the MSA. However, benthic communities

would rapidly re-colonize the area and, overall, would not be affected. Therefore, reconfiguration of the existing South Bay Boatyard would not result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.

Reconfiguration of the existing South Bay Boatyard to a marina could increase turbidity by disturbing sediments, which may be contaminated. Increased turbidity and unintentional release of contaminated material could result in substantial adverse effects to marine habitats and species. Therefore, increased turbidity and potential unintentional release of contaminated sediments could result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS (same as **Significant Impact 4.9-6**).

The proposed marina would involve increased lighting, compared to existing operations and particularly increased lighting over water areas. The effects of lighting over water areas is that organisms that approach the surface at night (such as zooplankton) would cease to do so and algal blooms could result, which are toxic in nature and detrimental to Bay ecology. Therefore, the increase in lighting over water is considered a significant indirect impact, because algal bloom could adversely affect special-status species, such as eelgrass and turtles, within the Bay (same as **Significant Impact 4.9-8**)

***Marina Access Navigation Channel Realignment.*** The realignment of the existing access navigation channel as part of the Proposed Project would disturb marine resources. Impacts to mobile marine biological resources are anticipated to be less than significant because those resources would avoid the construction area during construction activities. The mobile marine biological resources that could occur in the project vicinity include green sea turtles, which are federally endangered; marine mammals (dolphins, seals, and sea lions), which are protected by the MMPA; and fish species covered under the MSA.

The dredging and filling for the realigned channel would occur over known eelgrass areas, displacing approximately 45.9 acres of eelgrass and establishing a depth over that area that would prevent the reestablishment of eelgrass. The dredging and maintaining of the realigned marina access and navigation channel would result in a significant impact to the eelgrass species as defined in the state and federal SCEMP (same as **Significant Impact 4.9-3**).

The existing marina access navigation channel would be filled to -3 to -5.5 feet MLLW. This would change currently deep or moderately deep open water into shallow-water habitat ideal for eelgrass. A total area of approximately 83 acres would become suitable for eelgrass as a result of filling the existing channel.

Realignment of the marina access navigation channel would substantially increase turbidity by disturbing sediments, which may be contaminated. Increased turbidity and unintentional release of contaminated material can result in substantial adverse effect to marine habitats and species. Therefore, increased turbidity and potential unintentional release of contaminated sediments would result in a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS (same as **Significant Impact 4.9-6**).

**Harbor Reconfiguration.** The Proposed Project includes reconfiguration of the existing Chula Vista Harbor, which would involve dredging and replacement of riprap with bulkhead. Mobile marine species would avoid the area during reconfiguration and operation, similar to responses to existing operations. None of the benthic organisms identified are considered special-status species, and the temporary displacement of such organisms during construction would not be considered significant. The benthic organisms may aid in the support of protected species including fish species covered by the MSA. However, benthic communities would rapidly recolonize the area and, overall, would not be affected.

The dredging of the harbor would result in the loss of approximately 0.02 acre of eelgrass, and activities associated with marina operation may inhibit the reestablishment of eelgrass. The dredging and maintaining of the realigned marina access and navigation channel would result in a significant impact to the eelgrass species as defined in the state and federal SCEMP (same as **Significant Impact 4.9-4**).

The replacement of the riprap with bulkhead on the northern side of the harbor would result in the loss of approximately 0.001 acre of pickleweed. Pickleweed is used as habitat and provides food and protection for fish and invertebrate species, which may include those covered under the MSA. The loss of pickleweed would be considered a significant impact (same as **Significant Impact 4.9-5**).

Reconfiguration of the Chula Vista Harbor could increase turbidity by disturbing sediments, which may be contaminated. Increased turbidity and unintentional release of contaminated material can result in substantial adverse effects to marine habitats and species. Therefore, increased turbidity and potential unintentional release of contaminated sediments would result in a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS (same as **Significant Impact 4.9-6**).

The reconfigured marina would involve lighting over water areas. The effects of lighting over water areas is that organisms that approach the surface at night (such as zooplankton) would cease to do so and algal blooms would result, which are toxic in nature and detrimental to Bay ecology. Therefore, the lighting over water is considered a significant indirect impact, because

algal bloom could adversely affect special-status species, such as eelgrass and turtles, within the Bay (same as **Significant Impact 4.9-8**)

b. Green Sea Turtles (Federal Endangered)

The green sea turtle is the only special-status marine species known to occur in or near the Proposed Project site. As noted above, the turtles have been observed in and around the discharge channel of the SBPP during the day, while at night they feed on eelgrass beds in the South Bay (Stinson 1984). Other than this unique population sustained by the warm waters of the discharge, this tropical species would normally be considered uncommon or perhaps even rare offshore, although they are more likely to occur offshore of Southern California during warm years (Eckert 1993).

Green sea turtles in San Diego Bay are accustomed to the warm effluent of the SBPP. Research has shown that during the winter months, green sea turtles forage in the South Bay at night, especially south of the Chula Vista Harbor, and return to the warm effluent channel during the day (Lyon et al. 2006). Combined with the fast somatic growth rates of these turtles (Dutton et al. unpublished data), researchers have inferred that the turtles in the Bay are using the warm water during the winter to digest their diet, growing continuously throughout the year. During the summer months, the turtles expand their range in the South Bay, spending less time in the effluent channel as the water temperature in the effluent channel during the summer months can be too warm for green sea turtles. Using acoustic telemetry, researchers have located tagged green sea turtles north of the harbor, near the Navy training area (Eguchi et al. unpublished data). Satellite telemetry has indicated that some adult turtles migrate to their nesting beaches in Mexico (Revillagigedos and Tres Marias Islands) during late spring and early summer (Dutton et al. unpublished data).

If the warm effluent of the power plant ceases, the thermal environment in the South Bay will change. Although the exact consequences of the change in the environment are unknown, it is likely that the turtles will remain in the Bay. Their seasonal behavior, however, will change according to the shift in their thermal environment. For example, green sea turtles may remain in the effluent channel during the summer months rather than dispersing, because water temperatures will no longer reach extremely high levels. In addition to the direct effect of the water temperature on the turtle behavior, the change in water temperature may affect the ecosystem in the South Bay. The change in water temperature may allow eelgrass to grow in the effluent channel and the surrounding area, which would enhance the usable habitat for green sea turtles in the Bay. The change in the thermal environment most likely will not be catastrophic to the turtles, however. The ecological and biological environment will become similar to what is found in Pacific Baja lagoons, where green sea turtles are abundant. Consequently, the green sea turtles in the Bay may exhibit overwintering behavior, such as prolonged inactivity (torpor), as

the water temperature decreases below 15°C. This behavior is normal for green sea turtles and has been documented for green sea turtles in the Gulf of California (Felger et al. 1976) and the East Coast of the United States during cold winter periods (Ogden and McVea 1995).

This EIR provides a programmatic discussion of potential effects associated with the proposed land use designation of Industrial Business Park on Parcel O-4 that could accommodate future industrial uses allowable under the proposed land use classification. As described above, if the warm-water effluent of the power plant ceases, the change in thermal environment may impact the behavior of the green sea turtle and the ecosystem in the South Bay. The changes would not likely substantially affect the green sea turtle population in the Bay but rather would alter the behavior of the turtle so as to adapt to the changing ecological and biological environment.

While the designation of Parcel O-4 as an Industrial Business Park would not directly impact the green sea turtle population, because the green sea turtle is known to occur near the discharge channel of the existing SBPP, potential impacts could result to the species if the existing power plant terminated its warm-water discharge. Subsequent review would be required to terminate operations at the existing plant (including the associated discharge of warm water). Such review would be subject to the exclusive jurisdiction of the California Energy Commission (CEC) pursuant to Public Resources Code Section 25500 and is beyond the scope of this EIR.

**4. The Proposed Project would have a significant impact if it has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrologic interruption, or other means.**

The Proposed Project includes dredging and filling operations within San Diego Bay. The reconfiguration of the harbor and marina could impact approximately 57.47 acres of USACE jurisdictional waters within the Harbor District during program-level activities. A total of approximately 0.8 acre of non-wetland waters of the United States would be impacted as a result of constructing the H Street Pier (in Phases II and IV) and reconfiguration of the Chula Vista Harbor. This impact would be significant (same as **Significant Impact 4.8-20** in *Section 4.8, Terrestrial Biological Resources*). Realignment of the marina access navigation channel involves dredging an approximately 83-acre area of sediments and filling the existing navigation channel. Dredging the new and filling the old navigation channel would be a significant impact (same as **Significant Impact 4.9-3**).

In addition, harbor reconfiguration and marina access navigation channel realignment may contain contaminants necessitating storage to enable testing, and possibly alternative disposal. No storage area for dredged material has been identified. This impact would be significant (same as **Significant Impact 4.9-7**).

**5. The Proposed Project would have a significant impact if it conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

The Port does not have any ordinances. The Port has no policies protecting biological resources beyond those addressed in *Section 4.8, Terrestrial Biological Resources* and as discussed under Significance Criterion No. 6 below. The City of Chula Vista has no ordinances or policies that protect biological resources beyond those addressed in *Section 4.8, Terrestrial Biological Resources* and none that protect specific marine biological resources within the Bay.

**6. The Proposed Project would have a significant impact if it conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.**

The City's Multiple Species Conservation Plan (MSCP) does not cover any of the water area of San Diego Bay because it is outside the City's jurisdiction. The Port does not have a MSCP and the Bay is not covered under any MSCP or Habitat Conservation Plan. The Port has adopted an INRMP that promotes ecological conservation and enhancement of the Bay. The SCEMP, which specifically addresses protection and mitigation of eelgrass, applies to the Bay.

The project impacts to approximately 32 acres of eelgrass—specifically from development of H Street pier, reconfiguration of the Chula Vista Harbor, and realignment of the marina access navigation channel—conflict with the INRMP and SCEMP. This is considered a significant impact (same as **Significant Impact 4.9-1** through **4.9-4**).

The project impacts to approximately 0.001 acre of pickleweed, specifically from reconfiguration of the Chula Vista Harbor, conflict with the INRMP. This is considered a significant impact (same as **Significant Impact 4.9-5**).

The increased turbidity and unintentional release of contaminated sediments during excavation and dredging activities associated with the H Street Pier, Chula Vista Harbor reconfiguration, and marina access navigation channel realignment components of the project would be detrimental to the ecology of the Bay. Impacts from these construction activities would conflict with the INRMP and indirectly with the SCEMP. This is considered a significant impact (same as **Significant Impact 4.9-6**).

The increased lighting from operation of the commercial marinas (new and reconfigured) and pier proposed as part of the project has the potential to result in increased algal blooms, detrimental to the health of the ecology of the Bay. This conflicts with the INRMP and indirectly with the SCEMP, which is considered a significant impact (same as **Significant Impact 4.9-8**).

#### 4.9.4 Mitigation Measures

##### Mitigation Measure 4.9-1

The following mitigation measure is required to reduce **Significant Impacts 4.9-1, 4.9-2, and 4.9-4** (associated with impacts to 0.8 acre of eelgrass habitat in South Bay resulting from completion of the H Street Pier construction and shading during Phases II and IV, and for 0.02 acre of impact to eelgrass habitat on Parcel HW-4) to a level less than significant.

- Port:**
- 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.
  - 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.
  - 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.
  - 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:
    - 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 for an additional 5 years.

- 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.

### Mitigation Measure 4.9-2

The following mitigation measure shall be implemented to reduce **Significant Impact 4.9-3** (associated with impacts to eelgrass and shallow-water habitat that would result from channel realignment during Phase IV) to a level less than significant:

- Port:**
- A. An estimated 83 acres of the existing navigation channel shall be filled to -3 to -5.5 feet MLLW. The fill would modify deep and moderately deep open-water habitat to create approximately 83 acres of shallow-water habitat. This area would provide enough transplantable habitat at a depth ideal for eelgrass in this section of the Bay to mitigate for the loss of eelgrass from the channel realignment and completion of the H Street Pier.
  - B. A mitigation plan with an implementation schedule shall be prepared 30 days prior to any construction or dredge activities. The loss of eelgrass habitat shall be mitigated at a 1.2:1 ratio as described in the SCEMP (NMFS 1991, Revision 11). Based on this formula, impacts to 45.9 acres of eelgrass would require approximately 55.1 acres of eelgrass restoration.
  - C. Prior to the commencement of in-water work on the channel realignment, a pre-construction eelgrass survey shall be conducted to confirm the exact area of impact at the time of dredging and fill operations. The pre-construction survey shall 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.
  - D. Subsequent to dredge and fill operations, 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 area 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:

- 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 for an additional 5 years.
- 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.

### Mitigation Measure 4.9-3

The following mitigation measure shall be implemented to reduce **Significant Impact 4.9-5** (associated with impacts to intertidal mudflat and pickleweed resulting from bulkhead placement in the marina during Phase IV) to a level less than significant.

- Port:**
- 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 0.0024 acre of comparable habitat.
  - B. Restoration shall occur in accordance with *Appendix 4.8-12*. 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.
  - C. Restoration shall occur in accordance with Mitigation Opportunities, *Appendix 4.8-12* 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

(*Salicornia virginica*) with subdominants including saltwort (*Batis maritime*), fleshy Jaumea (*Jaumea carnosa*), alkali heath (*Frankenia salina*), and others as listed in Table 4 of *Appendix 4.8-12*. Currently, the mitigation opportunities detailed in *Appendix 4.8-12* 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.

#### Mitigation Measure 4.9-4

The following mitigation measure shall be implemented to reduce **Significant Impact 4.9-6** (associated with temporary direct impacts to water quality resulting from the construction of phased improvements for the H Street Pier, the existing South Bay Boatyard Marina, Chula Vista Marina, and the realignment of the navigation channel). In-water construction activities shall be conducted in accordance with Mitigation Measure 4.5-4 in *Section 4.5, Hydrology/Water Quality*, which is repeated below:

- Port:**
- A.** 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 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 requirements of the RWQCB. The work plan shall include but not be limited to: dredging the sediment, allowing it to drain, and analyzing the nature and extent of any contamination. Pending the outcome of the analytical results, a decision by RWQCB shall prescribe the requirements for disposition of any contaminated sediment.
  - B.** Prior to issuance of a grading permit for marina redevelopment on 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 the confinement of 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 the Port/City an evaluation showing that the sediment would be suitable for ocean disposal.

### Mitigation Measure 4.9-5

The following mitigation measure shall be implemented to reduce **Significant Impact 4.9-7** (associated with impacts resulting from Phase IV dredging in the existing South Bay Boatyard Marina prior to identifying a suitable storage site for the dredged material) to a level less than significant:

**Port:** For the in-water construction components to be completed in Phase IV, the amount of dredging shall be determined during final design of the marinas and harbor reconfiguration. Prior to any dredging, the Port shall develop and implement a plan for the dredging and storage of material to the satisfaction of responsible resource agencies, including USACE. The storage and/or landside disposal of dredge material shall be performed in accordance with the provisions of Mitigation Measure 4.6-6 in *Section 4.6, Air Quality* and all applicable federal, state, and local regulations.

### Mitigation Measure 4.9-6

The following mitigation measure shall be implemented to reduce **Significant Impact 4.9-8** (associated with indirect impacts to marine resources from lighting during project construction and operation) to a level less than significant:

**Port:** 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.

### 4.9.5 Significance of Impacts After Mitigation

Implementation of Mitigation Measures 4.9-1 through 4.9-6 would reduce **Significant Impacts 4.9-1** through **4.9-8** to below a level of significance.

## 4.10 Cultural Resources

This section analyzes the potential impacts of the Proposed Project on cultural resources. RECON conducted a cultural resources survey of the Proposed Project site in April and November 2005. The following technical studies served as the basis of information for this section:

- Results of Cultural Resources Survey of the Chula Vista Bayfront Master Plan (November 2005) prepared by RECON (*Appendix 4.10-1*) and
- Chula Vista Business Park Expansion and Port Master Plan Amendments (September 1997), prepared by KEA Environmental (*Appendix 4.10-2*).

### 4.10.1 Existing Conditions

This section describes existing cultural resources at the Proposed Project site.

#### 4.10.1.1 Overview

Prior to the Spanish settlement, three distinct Native American cultures may have inhabited the project area. They include the San Dieguito Complex (9,000 years before the present (B.P.)), La Jolla Complex (8,600–2,000 B.P.), and late prehistoric age hunting and gathering Kumeyaay Indians (2,000 B.P.).

Artifacts found from the San Dieguito Complex period are generally described as finely made stone bifaces. Lanceolate projectiles, crescentics, and a variety of scrapers and choppers were typically made of fine-grained volcanic and metavolcanic rocks. The La Jolla Complex used tools often made from cobble-based core stones with undulating and imprecise edges. Typical artifacts left behind by the Kumeyaay Indians include ceramics and bedrock milling surfaces, particularly mortars and pestles.

Spanish colonization of Alta California began in 1769 when Spanish military and religious personnel entered the San Diego region. A settlement was established at what is now Presidio Park. Within a few years, the religious and military elements of the colonial forces were separated and the mission was moved to the east, in Mission Valley, where it was named Mission San Diego de Alcalá. The original settlement, eventually called Old Town, continued to grow slowly.

Originally, much of what is now Chula Vista was part of the lands attached to Mission San Diego de Alcalá but was taken over by the military in 1795 for grazing of the Presidio horses and cattle. Don Juan Foster, an English immigrant, obtained title to the grant in 1845. The land was purchased in 1868 by a group of land developers, and lot sales began in the 1880s. After the

Sweetwater Dam was built in 1888, water became a reliable resource and agriculture became the major industry in the Chula Vista area, and continued to play a role in the economy through the 1930s.

By the late 1800s, the recognizable downtown area had formed, and the gradual development of outlying communities had established themselves around previously defined ranchos and land grants.

In 1916, the Hercules Powder Company opened a plant that processed kelp to produce cordite (smokeless gunpowder) for the British government during WWI. The plant was located at the foot of D Street on land eventually known as Gunpowder Point and was one of the largest cordite plants in the United States. After WWI ended, the demand for explosives declined, and the San Diego Oil Products Corporation bought the plant and began operation. The plant operated until 1929 when it burned down.

In the 1940s, Rohr Aircraft Corporation moved its plant from downtown San Diego to the foot of H Street in Chula Vista where it has remained in what is now the central part of the Proposed Project property. The facility began with two factory buildings and an office building. Rohr produced aircraft engine units along with all of the components necessary to install the engine as a “power package.” Rohr was the largest producer of aircraft power packages in the United States, and the influx of workers doubled the population of Chula Vista to over 16,000, by 1950. The Rohr Corporation grew rapidly and by 1969 had expanded to include 47 large buildings at the Chula Vista site. It was the largest employer in the city. In 1997, Rohr was purchased by the BF Goodrich Company and became Aerostructures Group, one of four aerospace groups at Goodrich. Aerostructures Group continues to produce engine build-up packages for numerous aircraft corporations and airlines. In 2002, the southern portion of the Chula Vista facility was closed down, and all operations were moved to the buildings north of H Street. At that time, a negative declaration (Case No. IS-99-21, February 26, 1999) was approved by the City of Chula Vista to allow removal of structures on the South Campus. The Port subsequently acquired ownership and is completing demolition, which is assumed as a baseline condition for this analysis.

#### ***4.10.1.2 Regulatory Framework***

Pursuant to Section 15065 of the State CEQA Guidelines (California Code of Regulations Sections 15000–15387), a lead agency must find that a project would have a significant effect on the environment where the project has the potential to adversely affect a historical resource, which includes the destruction of significant cultural resources.

### 4.10.1.3 Cultural Resources Survey

In April and November 2005, RECON conducted a cultural resources survey to identify cultural resources that might be affected by the Proposed Project. As part of this survey, RECON performed: (1) a record search of the files at the Southern California Information Center (SCIC), San Diego State University, and the San Diego Museum of Man; (2) a review of historic aerial photographs at the County of San Diego Offices; and (3) an on-foot survey of the property.

#### a. Record Search

Record searches were conducted at the SCIC, San Diego State University, and the San Diego Museum of Man to determine the extent of previous archaeological work in the project area. SCIC lists two archaeological sites, CA-SDI-5,512 and CA-SDI-13,073H, within the project boundaries. CA-SDI-5,512, a prehistoric site, is at the far northeast end of the Sweetwater District. CA-SDI-5,512 is described as a sparse scatter of flakes, cores, and shell, covering approximately 300 meters in a north–south direction and 20 meters in an east–west direction. The site is on a low rise immediately west of the SD&AE tracks, around the SDG&E transmission line towers. In 1994, Caltrans conducted an Extended Phase I investigation at CA-SDI-5,512 as part of the South Bay Bikeway project (Crafts 1994). The portion of the site within the Caltrans area of potential effect (APE) was tested, and Caltrans concluded that the tested portion of the site had been extensively disturbed by historic and recent land use. Caltrans determined that no potentially significant cultural deposit extended into the APE.

CA-SDI-13,073H is the Coronado Belt Line Railroad Line Right-of-Way. The line runs along the eastern edge of the project in the Sweetwater and Harbor District portions of the project. The Coronado Belt Line Railroad was constructed in 1888 as part of the SD&AE Railway to service Coronado and the communities along San Diego Bay. Don Laylander originally recorded the railroad line in 1973, and features noted on the site form include tracks, ties, trestles, and the railroad grade itself. Andrew Pigniolo filed an update of the portion of the route, within the Western Salt Works property, in 1999.

In February 2002, the State Historic Resources Commission (SHRC) listed the Coronado Belt Line Right-of-Way on the California Register of Historic Resources. The State Historic Preservation Office requested a redetermination of this listing. In November 2002, the SHRC, based on new information, determined that the resource was ineligible for listing. It is not currently on the California Register.

#### b. Survey Results

No prehistoric cultural material, not already recorded, was found during the field survey for the proposed development. The entire project area has been disturbed by previous historic and

modern activities. The Sweetwater District was in agricultural production for a long period of time and as a result, was plowed and graded in the past. The Harbor District has been completely developed; in addition, much of this district is built on fill imported previously to expand the Bayfront. The Otay District had also been heavily disturbed by the construction of the existing power plant. The linear parcel located outside of the Proposed Project area between J and L streets within the LCP has been substantially affected by construction of I-5.

CA-SDI-5,512 was not found during the survey. CA-SDI-13,073H, the Coronado Belt Line Railroad Line, was found during the survey. The condition of the Belt Line appears the same as when it was recorded.

#### 4.10.2 Impact Significance Criteria

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on cultural resources if:

1. It causes a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5, including resources that are eligible for the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP), as well as resources that are locally designated as historically significant, or the City of Chula Vista finds the resource historically significant based on substantial evidence.
2. It disturbs any human remains, including those interred outside of formal cemeteries.

#### 4.10.3 Impact Analysis

1. **The Proposed Project would have a significant impact if it causes a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5, including resources that are eligible for the CRHR and the National Register of Historic Places and resources that are locally designated as historically significant, or the City of Chula Vista finds the resource historically significant based on substantial evidence.**

The prehistoric archaeological site, CA-SDI-5,512, was recorded within the project boundaries in an area proposed as a buffer zone. As described above, the site was tested by Caltrans, which determined that the tested portion of the site was not significant (Crafts 1994). There is no longer sufficient surface material to identify the site, and as a result, it could not be located during on-site investigations. Accordingly, the Proposed Project would not result in a significant impact on this resource because Caltrans previously determined the site had been extensively disturbed by historic and recent land use and was not a culturally significant site. No evidence of the site occurs within the project area, and the recorded site of the resource is within an area proposed as

a buffer zone on which development would not occur. However, should excavation occur below the fill line, a qualified archaeological monitor would be present.

The Proposed Project includes potential crossings of the Coronado Belt Line Right-of-Way (ROW) at H, J, and E streets and proposed C Street, as well as minor landscaping adjacent to the rail line. The Belt Line has been subject to extensive modification of its hardware, including encroachment on the right-of-way by road crossings and changes in the surrounding environment during 1888–1950, when the railroad was most heavily used. Crossings are an integral part of the evolution of a railroad right-of-way and occur throughout the life of a railroad. These ongoing alterations did not alter the basic integrity of the Belt Line and did not preclude it from being considered for listing as an historic site. The proposed improvements to the existing crossings at H, J, E, and I streets would not alter the basic integrity or any character-defining characteristic of the Belt Line and would not preclude it from future consideration for listing as an historic resource. Accordingly, the Proposed Project would not result in a significant impact on the Coronado Belt Line ROW.

The Proposed Project would not result in a potential significant impact to cultural resources in the project area. Accordingly, no mitigation measures would be required. Should there be any future redesign of the project such that significant impacts to the Belt Line ROW occur, a subsequent review of the impacts using CEQA guidelines would be necessary. According to CEQA, a significant impact is a project effect that may cause a substantial adverse change in the significance of a historical resource.

Although no impacts are anticipated, 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.

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.

**2. The Proposed Project would have a significant impact if it disturbs any human remains, including those interred outside of formal cemeteries.**

There are no cemeteries on the project site and no known or expected human remains within the project boundary. The possibility of encountering human remains on the project site is low because the Sweetwater District was extensively plowed and graded in the past years of agricultural production. The Harbor District has been completely developed and is largely built on fill previously imported to expand the Bayfront. The Otay District has also been heavily disturbed by the construction of the existing power plant. Therefore, impacts to human remains as a result of implementation of the Proposed Project would not be significant.

**4.10.4 Mitigation Measures**

The Proposed Project would not result in a potential significant impact to cultural resources in the project area. Accordingly, no mitigation measures would be required.

**4.10.5 Significance of Impacts After Mitigation**

No significant impacts to cultural resources were identified for the Proposed Project.

## 4.11 Paleontological Resources

This section analyzes the potential impacts of the Proposed Project on paleontological resources. Paleontological resources are the remains and/or traces of prehistoric plant and animal life (i.e., fossils, teeth, and bones) exclusive of human remains. Paleontological resources include not only the fossil remains, but also the localities in which they are collected and the geologic deposits (rock formations) in which the fossils were originally buried. Fossil remains are important as they provide indicators of the earth's chronology and history. They represent a limited, nonrenewable, and sensitive scientific and educational resource.

This paleontological resource discussion is based on the information contained in the following technical study:

- Paleontological Resource Assessment for the Chula Vista Bayfront Master Plan Technical Report, prepared by the Department of Paleoservices at the San Diego Natural History Museum (*Appendix 4.11-1*).

### 4.11.1 Existing Conditions

This section discusses the paleontological conditions that exist on the project site and the regulatory framework that governs the discovery and preservation of paleontological resources.

#### 4.11.1.1 Existing On-Site Conditions

According to the paleontological technical report prepared for the project study area, the geologic deposits that underlie the project area consist of artificial fill materials, Quaternary alluvium, and Pleistocene-age sedimentary rocks of the Bay Point Formation.

Artificial fill underlies essentially the entire Harbor District portion of the project site. These fill materials have a thickness ranging from 10 to 20 feet and provide topographically high areas for current and future development. Because of the disturbed nature of artificial fill materials within the project site, any contained organic (e.g., fossil) remains have lost their original stratigraphic/geologic context. Due to the loss of stratigraphic/geologic context, any organic remains occurring within the artificial fill materials are considered to possess no paleontological value.

Quaternary alluvial deposits and/or slopewash underlie the low-lying southern and western portions of the Sweetwater District, the easternmost portion of the Harbor District, and the entire Otay District. These deposits are comprised of modern bay sediments as well as sands and muds occurring in the isolated remnants of back bay marsh flats and tidal creeks that occur scattered along the Chula Vista Bayfront. Due to the youthful nature of the Quaternary alluvial deposits within the project site, they are considered to possess no paleontological resource value.

Bedrock deposits of the Pleistocene-age Bay Point Formation are confined to the northeastern portion of the Sweetwater District where they underlie the low coastal mesa adjacent to Bay Boulevard. The Bay Point formation here consists of at least 40 feet of loosely consolidated Pleistocene-age sedimentary rocks divisible into an upper 22-foot-thick sandstone unit and a lower 18-foot-thick claystone unit. Dense flora currently covers the area, thus no exposure of this formation is visible. Fossil localities are locally common in the Bay Point Formation and have been recorded from a number of coastal sites from Carlsbad to Chula Vista.

#### **4.11.1.2 Regulatory Framework**

Pursuant to Section 15065 of the State CEQA Guidelines (California Code of Regulations Sections 15000–15387), a lead agency must find that a project would have a significant effect on the environment where the project has the potential to eliminate important examples of the major periods of California prehistory, which includes the destruction of significant paleontological resources.

#### **4.11.2 Impact Significance Criteria**

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on paleontology if:

1. It directly or indirectly destroys a unique paleontological resource or site or unique geologic feature.

#### **4.11.3 Impact Analysis**

- 1. The Proposed Project would have a significant impact if it directly or indirectly destroys a unique paleontological resource or site or unique geologic feature.**

Development of the Chula Vista Nature Center parking lot and access road, proposed in Phase I, would not result in potential significant impacts to paleontological resources because the Bay Point Formation does not occur at the proposed location. However, development of the buildings proposed during Phase I could result in potential significant impacts to paleontological resources if the Bay Point Formation is penetrated during excavation activities required for structural support. This significant impact is the same as **Significant Impact 4.11-1**.

The off-site construction of sewer systems, water facilities, pipelines, and water mains during Phases I through III occur in previously developed areas and exist primarily in roadways. Temporary construction of utilities is not anticipated to adversely affect paleontological resources.

The sedimentary origin of the Bay Point Formation and its general fossiliferous character suggests that this rock formation has the potential to yield significant fossils. Because bedrock deposits of the Bay Point Formation occur in the northeastern portion of the Sweetwater District, more precisely underlying the low coastal mesa adjacent to Bay Boulevard, there would be the potential for significant impacts to sensitive paleontological resources to occur during construction of this portion of the project site in Phase IV (see *Appendix 4.11-1*). Parcels that would be affected include S-3, S-4, S-5, SP-4, SP-5, SP-6, SP-7, the eastern portion of the E Street extension, and the eastern portion of S-1. The Bay Point Formation in this area consists of at least 40 feet of loosely consolidated Pleistocene-age sedimentary rocks divisible into an upper 22-foot-thick sandstone unit and a lower 18-foot-thick claystone unit.

Mass grading in the Sweetwater District is proposed during Phase IV. The destruction of buried fossil remains could occur during mass grading of the low coastal mesa in this area. If excavation activities penetrate to a depth sufficient to encounter unweathered deposits of the Bay Point Formation, then these development activities would produce direct and significant impacts to potential paleontological resources of the Bay Point Formation (**Significant Impact 4.11-1**).

The material and formation that underlie the Harbor District and Otay District possess no paleontological resource value. Therefore, development proposed in the Harbor District and Otay District would not result in significant impacts to sensitive paleontological resources.

#### 4.11.4 Mitigation Measures

##### Mitigation Measure 4.11-1

Implementation of the following measure would reduce **Significant Impact 4.11-1** (potential impacts to paleontological resources during all phases of development) to below a level of significance:

**Port/City:** 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.

- 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.

All work shall be completed to the satisfaction of the Port or the City of Chula Vista, as appropriate.

#### **4.11.5 Significance of Impacts After Mitigation**

Implementation of Mitigation Measure 4.11-1 identified above would mitigate potential significant impacts to paleontological resources in the Sweetwater District to below a level of significance.

## 4.12 Hazards and Hazardous Materials/Public Safety

This section analyzes the potential impacts of the Proposed Project concerning hazardous materials contamination. Hazardous materials are any materials that, because of their quantity, concentration, or physical and chemical characteristics, pose a significant present or potential hazard to human health and safety or the environment. The primary reason to define potentially hazardous sites is to protect worker health and safety and to eliminate or minimize public exposure to hazardous materials during construction, waste handling, and operation of the Proposed Project. Where encountered, contaminated soil may qualify as hazardous waste, thus requiring handling and disposal according to local, state, and federal regulations.

Hazardous materials evaluations within the footprint of the project site date as far back as the 1980s. The Proposed Project area discussion is based on the following technical studies:

- Hazardous Materials Technical Study (HMTS) (April 2005), prepared by Ninyo & Moore Geotechnical and Environmental Sciences Consultants (Ninyo & Moore) (*Appendix 4.12-1*)
- Environmental Site Assessment for the Gaylord Parcel (H-3) Harbor District Option 2 (May 2006), prepared by Ninyo & Moore (*Appendix 4.12-2*)
- Chula Vista Bayfront Master Plan Report—Review of Environmental Documents for the Phase I Project Areas (April 2008), prepared by Geocon Consultants, Inc. (Geocon) (*Appendix 4.12-3*)
- Phase I Environmental Site Assessment, Sweetwater District Area S-2 (February 2008), prepared by Geocon Consultants, Inc. (*Appendix 4.12-4*)
- Limited Phase II Environmental Site Assessment, Sweetwater District Area S-2 (April 2008), prepared by Geocon Consultants, Inc. (*Appendix 4.12-5*)
- Human Health Screening Evaluation for the Harbor District (February 2006), prepared by Ninyo & Moore (*Appendix 4.12-6*)
- Preliminary Investigation of Soil and Groundwater Contaminants for the F & G Street Marsh and Sweetwater National Wildlife Refuge (April 2003), prepared by P & D Environmental (*Appendix 4.12-7*).

Appendix 4.12-2 was prepared for the RCC proposed by Gaylord on Parcel H-3. Gaylord has withdrawn its proposal to develop Parcel H-3 and is no longer a participant in the project. The technical study provided in Appendix 4.12-2 is still relied upon for the program-level analysis of the proposed RCC on Parcel H-3; therefore, it remains relevant to this section's analysis and is included as an appendix.

Other technical studies referenced in this section and attached as appendices include the following:

- Geotechnical Investigation for the Gaylord Hotels (January 2008), prepared by Geocon Consultants, Inc. (*Appendix 4.15-3*)
- Preliminary Geotechnical Investigation for the Pacifica Companies (February 2008), prepared by Geocon Consultants, Inc. (*Appendix 4.15-4*).

The reports prepared by Ninyo & Moore were prepared to evaluate existing, potential, or suspect conditions that would impose an environmental liability with respect to soil, soil gas, and/or groundwater contamination on or near the Proposed Project site.

The purpose of the Geocon review was to evaluate the geologic/hydrogeologic, soil, sediment, gas, and groundwater data presented in previous environmental assessments. The Geocon review focused on Phase I Parcels S-2, H-3, HP-1, H-8, H-18, HP-5, H-13, H-14 and Phase II Parcel H-15. In addition, Geocon Consultants provided a review of environmental documents that contain information pertaining to known or potential hazardous waste and petroleum impacts to the Phase I project and program level areas and one Phase II program level area. These documents incorporate the findings of previous hazardous materials evaluations as well as perform new surveys in order to evaluate existing conditions and determine applicable mitigation measures.

Several supplemental documents are incorporated for reference and can be made available for review at the San Diego Unified Port District, 3165 Pacific Highway, San Diego, California, 92101. These include the following:

- Facility Investigation Work Plan for the SDG&E SBPP (Haley & Aldrich 2005)
- City of Chula Vista General Plan Update Final Environmental Impact Report (2005a)
- Hydrogeologic and Ground Water Quality Evaluation Report, Goodrich South Campus Chula Vista (Rubicon 2004) in collaboration with Haley & Aldrich, Inc.
- Report on Supplemental Phase II Investigation, Goodrich South Campus Facility (Haley & Aldrich 2001)
- Report on Sediment Sampling for the L-Ditch, Goodrich South Campus Facility (Haley & Aldrich 2006)
- Report on Off-Site Groundwater Investigation, South Campus Facility (Haley & Aldrich 2007)
- Human Health Risk Assessment, South Campus Facility (Haley & Aldrich 2007)
- Phase I and Phase II Site Investigation, BF Goodrich Aerospace Aerostructures Group (Sector International Incorporated 1999)

- Phase II Subsurface Investigation Report—South Campus BF Goodrich Aerostructures Facility (URS Greiner Woodward Clyde 1999)
- Report of Groundwater Monitoring and Sampling First Quarter 2007, Goodrich Aerostructures North Campus (URS Corporation 2007).

#### 4.12.1 Regulatory Framework

Hazardous materials and wastes are identified and defined by federal and state regulations for the purpose of protecting public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous wastes are defined in the code of Federal Regulations Title 40 Part 20 and also in the California Code of Regulations (CCR), Title 22 Div. 4.5, Chapter 11, Article 1, Section 66261. Over the years the laws and regulations have evolved to deal with different aspects of the handling, treatment, storage, and disposal of hazardous substances.

##### a. Federal Regulations

The Federal Toxic Substances Control Act of 1976 and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. Environmental Protection Agency (EPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for clean up when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List (NPL), which is a list of contaminated sites warranting further investigation by the U.S. EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

The EPA released Guidelines for Ground-Water Classification Under the EPA Ground-Water Protection Strategy (EPA 1988), defining protection policies for three classes of groundwater

based on their respective value and their vulnerability to contamination. Under these guidelines, facilities located in areas where existing groundwater contamination is suspected, an appropriate groundwater impact study is a part of the environmental review and provides increased spill containment and inspection measures in addition to other identified mitigation.

The 1972 Federal Water Pollution Control Act (also referenced as the Clean Water Act, or CWA) established a federal framework for the regulation of water quality.

b. State Regulations

i. California Hazardous Waste Control Law (HWCL)

The California Hazardous Waste Control Law (HWCL) is administered by the California Environmental Protection Agency (Cal-EPA) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the U.S. EPA approves the California program, both the state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

The California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261.10 defines hazardous waste as a substance that may:

- (1) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible, illness; or
- (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed or otherwise managed.

According to CCR Title 22, substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated or is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances are hazardous because of their

flammable properties. Gasoline, hexane, and natural gas are examples of ignitable substances. Corrosive substances are chemically active and can damage other materials or cause severe burns upon contact. Examples include strong acids and bases such as sulfuric (battery) acid or lye. Reactive substances may cause explosions or generate gases or fumes. Explosives, pressurized canisters, and pure sodium metal (which reacts violently with water) are examples of reactive materials.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as “mixed wastes.” Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses.

The Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan that must include details, including floor plans, of the facility and business conducted at the site, an inventory of hazardous materials that are handled or stored on the site, an emergency response plan, a training program in safety procedures and emergency response for new employees, and an annual refresher course in the same topics for all employees.

The Porter-Cologne Water Quality Act (California Water Code, Section 13000 et seq.) established the authority of the State Water Resources Control Board (SWRCB) and provided the Regional Water Quality Control Board (RWQCB) with the primary responsibility of the protection of water quality in the State of California.

ii. Hazardous Materials Worker Safety

The California Occupational Safety and Health Administration (Cal-OSHA) and the Federal Occupational Safety and Health Administration (Fed-OSHA) are the agencies responsible for assuring worker safety by developing and enforcing workplace safety regulations in the handling and use of chemicals in the workplace. Cal-OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337–340, Chapter 3.2). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

iii. Handling and Storage of Hazardous Materials

The handling and storage of hazardous materials is regulated on the federal level by the U.S. EPA under the CERCLA as amended by SARA. Under SARA Title III, a nationwide emergency

planning and response program was established that imposed reporting requirements for businesses that store, handle, or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. SARA Title III required each state to implement a comprehensive system to inform federal authorities, local agencies, and the public when a significant quantity of hazardous, acutely toxic substances are stored or handled at a facility.

In California, the handling and storage of hazardous materials is regulated by Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a Hazardous Materials Business Plan. The business plan provides information to the local emergency response agency regarding the types and quantities of hazardous materials stored at a facility and provides detailed emergency planning and response procedures in the event of a hazardous materials release. In the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by the California code, facilities are required to prepare a Risk Management Plan and California Accidental Release Plan, which provide information on the potential impact zone of a worst-case release, and requires plans and programs designed to minimize the probability of a release and mitigate potential impacts.

iv. Transportation of Hazardous Materials

Transportation of hazardous materials is regulated by the U.S. Department of Transportation's Office of Hazardous Materials Safety (OHM). The OHM formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported, and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Asbestos-containing materials are regulated as a hazardous air pollutant under the Clean Air Act and by Cal-OSHA. The San Diego Air Pollution Control District, through the authority of the

California Air Resources Board (CARB) and Cal-EPA, is primarily responsible for enforcing asbestos regulations.

c. Regional and Local

i. San Diego County

The San Diego County Department of Environmental Health (DEH) Hazardous Materials Management Division (HMMD) is responsible for regulating hazardous materials business plans and chemical inventory, hazardous waste permitting, underground storage tanks (USTs), and risk management plans. The goal of HMMD is to protect human health and the environment by ensuring that hazardous materials, hazardous waste, medical waste, and USTs are properly managed. To accomplish this goal, the HMMD has several programs working with the regulated community and the public, which include the California Accidental Release Prevention Program, the Hazardous Incident Response Team, the Hazardous Materials Duty Desk, the Pollution Prevention Specialist, and the Underground Storage Tank Group.

The Land and Water Quality Division of DEH is responsible for administering the Site Assessment and Mitigation Program, which oversees environmental investigations and remedial actions, primarily those related to USTs, to protect health and water resources within San Diego County.

Water Quality Control Plan for the San Diego Basin (9) ((Basin Plan) SWRCB 1994) establishes policies and requirements for the protection of groundwater and surface water quality in the region. The Basin Plan also summarizes drinking water standards as specified in the California Department of Health Services, the California Inland Surface Waters Plan (SWRCB 1991), and Title 40 CFR Part 131, which establishes federal water quality standards under the CWA.

## **4.12.2 Environmental Setting**

### ***4.12.2.1 Regional Overview***

Existing and past land use activities are potential indicators of hazardous material storage and use. For example, many industrial sites, historic and current, are known to have soil or groundwater contamination by hazardous substances. Other hazardous materials sources include leaking underground storage tanks (LUSTs), surface runoff from contaminated sites, and migration of contaminated groundwater plumes.

Currently, the Proposed Project site generally consists of industrial facilities and undeveloped land. The Dynegy Power Plant/South Bay Power Plant (SBPP), the former Goodrich South Campus facility, and the existing South Bay Boat Yard occupy a majority of the project site. The northern portion of the project site is approximately 121 acres of currently undeveloped land

covered with native vegetation that is used as a wildlife preserve. The westernmost portion of the site to the west of the Goodrich facility currently consists of a marina, the Chula Vista Yacht Club, several restaurants, and the Chula Vista RV Resort.

The area adjacent to the north of the project site consists of the Sweetwater Marsh National Wildlife Refuge and the Sweetwater River. The area adjacent to the south of the project site consists of the Bayside Business Park. The area adjacent to the east of the project site consists of Bay Boulevard, railroad tracks, the San Diego County Health Department's community health facility, and a variety of commercial facilities. The area adjacent to the west of the project site generally consists of San Diego Bay, salt evaporation ponds, and a manmade wildlife refuge.

#### ***4.12.2.2 Historic and Existing Uses***

In order to present a thorough understanding of the hazardous materials conditions throughout the project site, the following discussion provides an overview of historic land uses, and a search of federal, state, and local hazardous materials regulatory databases.

##### **a. Historic Land Use**

A historic land use summary of the project site was determined by Ninyo & Moore based on a review of historical aerial photographs (dating from 1928 to 1995), interviews with site representatives, and review of additional environmental documents (see *Appendix 4.12-1*). In addition, Geocon conducted a review of environmental documents that contain information pertaining to known or potentially hazardous waste and petroleum impacts to the Phase I project and program level areas and one Phase II program level area. Specifically, the Geocon review focused on Phase I Parcels S-2, H-3, HP-1, H-8, H-18, HP-5, H-13, H-14 and Phase II Parcel H-15. Within and adjacent to the Proposed Project area, there are historic and existing land uses that have generated hazardous waste as part of daily business operations. These uses are described below. In addition, older structures may contain building materials such as asbestos and lead-based paint that are considered hazardous.

##### **i. Sweetwater District**

Land within the Sweetwater District north of Lagoon Drive was generally used for agricultural purposes between 1928 and 1941. Parcel S-2 is a vacant, undeveloped area located in the Sweetwater District and is described as having been used for agricultural purposes from at least the 1950s (possibly dating back as far as the 1920s) until the 1980s. As a result, the concern for this area is the potential presence of elevated concentrations of residual pesticides and herbicides in soil. Modern pesticides and herbicides are designed to break down and not accumulate in the environment; however, more persistent pesticides and herbicides may have been used in the past and may potentially still be present in soil in the area.

ii. Harbor District

Rohr Aircraft constructed a manufacturing plant within and adjacent to the Harbor District of the project site, in the area currently occupied by the north and south campuses of the Goodrich Aerospace Aerostructures (Goodrich) Facility, between 1928 and 1941. The South Campus is within the project boundary. Rohr facilities expanded between 1953 and 1966 and were taken over by Goodrich in 1997. The former Goodrich South Campus was purchased by the Port District in 1999 and stopped operations in 2002. The Yacht Club and the Chula Vista Marina are additional uses that may store and/or use hazardous materials within the Harbor District.

iii. Otay District

San Diego Gas & Electric (SDG&E) and Liquefied Natural Gas (LNG) occupied portions of the Otay District sometime between 1928 and 1953 until the Port District acquired the property in 1999 and it was subsequently occupied by Duke Energy, LS Power, and Dynegy. Portions of the SBPP were constructed in the Otay District between 1953 and 1966.

iv. Off Site/Adjacent to the Project Site

A gunpowder manufacturing plant was constructed to the northwest of the project site during World War I. This facility was demolished sometime between 1983 and 1989.

As stated in the discussion of the Harbor District above, Rohr Aircraft constructed a manufacturing plant within and adjacent to the Harbor District of the project site in the area occupied by the north and south campuses of the Goodrich Facility between 1928 and 1941. The North Campus is adjacent to the project boundary on three sides.

b. Environmental Database Findings

A computerized search of federal, state, and local environmental information databases was performed by TrackInfo Services, LLC (TrackInfo) on February 17, 2005 and January 17, 2008. The search evaluated whether properties on the project site and within approximately one-quarter mile of the boundaries of the project site have been identified as having experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects. An unauthorized release of hazardous materials may or may not constitute a significant adverse environmental impact to the subject property. The database search revealed several properties both on and off site that have experienced unauthorized releases of hazardous materials. Properties located within the boundaries of the project site were listed in six different databases, and properties located off site were identified in these same six databases as well as the U.S. EPA, RCRA No Longer Regulated (RCRA NLR) list and California EPA Toxic Substances Control Division, Calsites list (STATE). Below is a discussion that describes the

individual databases that contain properties with unauthorized releases of hazardous materials within the search radius. Approximate locations of identified sites that have experienced unauthorized releases of hazardous materials are further detailed below in *Section 4.12.3, Existing Site Conditions*.

The findings of the database search are further elaborated below in *Section 4.12.3, Existing Site Conditions*. Of the sites identified in the database search, only a portion represent a potential environmental concern to the project site. This was determined based on a combination of information obtained from regulatory agencies such as the DEH and RWQCB and the TrackInfo report. *Table 4.12-1, Areas of Environmental Concern Located within the Study Area*, provides a list of the on- and off-site areas determined to potentially impact the environmental integrity of the project site by district.

**TABLE 4.12-1**  
**Areas of Environmental Concern Located within the Study Area**

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
<b>Sweetwater District</b>					
All of district	Pesticides/ herbicides	S, possibly GW	Possibly	N/A	The entire subarea was used extensively for agricultural purposes from at least as early as 1953 (possibly pre-dating the 1920s) until the 1980s. Residual concentrations of pesticides and herbicides are expected to be present in this area.
<b>On Site: Area S-2</b>					
Borings 1 through 10— 29 soil samples and 18 groundwater samples	4,4'-DDD, 4,4'- DDE, 4,4'-DDT (pesticides)	S, GW	Possibly	Geocon report recommended that in the event that development is to occur at the site, the soil containing pesticides should be excavated and disposed of at an appropriately licensed facility.  The damaged well has been repaired and the possible source of cross- contamination has been eliminated.	Identified in 2008 Geocon Limited Phase II Environmental Site Assessment.  All detected concentrations for pesticides in both soil and groundwater fall below the industrial preliminary remediation goals (PRGs).  Presence of pesticides in one of the groundwater samples was likely the result of a damaged well, where the surface soil had spilled into the well and groundwater.  Toxaphene was detected in concentrations slightly above the industrial PRG in three soil samples at the surface interval. The presence of toxaphene is likely attributable to historic applications of pesticides.  Geocon report indicated that the vertical extent of pesticides detected in soil samples appeared to be surficial and that the pesticide concentrations detected did not represent a threat to human health or the environment.

TABLE 4.12-1 (Cont.)

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
Borings 1 through 10—29 soil samples and 18 groundwater samples	Arsenic	S	N	Geocon report concluded that areas sampled do not appear to warrant further investigation at this time.	Identified in 2008 Geocon Limited Phase II Environmental Site Assessment. Three of the ten soil samples collected had arsenic concentrations above the industrial PRGs. Geocon report indicated the presence of arsenic above the industrial PRG appeared limited and did not represent a threat to human health.
Borings 1 through 10—29 soil samples and 18 groundwater samples	Lead	S	N	Geocon report concluded that areas sampled do not appear to warrant further investigation at this time.	Identified in 2008 Geocon Limited Phase II Environmental Site Assessment. All detected concentrations for lead in soil fall below the industrial PRGs.
Borings 1 through 10—29 soil samples and 18 groundwater samples	Polynuclear aromatic hydrocarbons	S, GW	N	Geocon report concluded that areas sampled do not appear to warrant further investigation at this time.	Identified in 2008 Geocon Limited Phase II Environmental Site Assessment. Five soil samples and six soil interval and groundwater samples from monitoring wells 1 through 4 were submitted for Polynuclear Aromatic Hydrocarbon (PAH) analysis. Four of the five soil samples did not contain detectable concentrations of PAHs. One soil sample contained concentrations for three PAH compounds that slightly exceeded their respective industrial PRGs (benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene).
Borings 1 through 10—29 soil samples and 18 groundwater samples	Diesel, gasoline range organics, TEX, herbicides, & polynuclear hydrocarbons	S, GW	N	Geocon report concluded that areas sampled do not appear to warrant further investigation at this time.	Identified in 2008 Geocon Limited Phase II Environmental Site Assessment. All soil and groundwater samples analyzed for diesel and gasoline range organics, BTEX, herbicides, and polynuclear hydrocarbons were not detected at or above the laboratory detection limits.

TABLE 4.12-1 (Cont.)

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
<b>Harbor District</b>					
<b>On Site: Former Goodrich South Campus</b>					
Release No. 1 Location not mapped	TEH	S, GW	Y	Case closed 12/16/86.	This unauthorized release case was opened due to a failed precision test.
Release No. 3 Adjacent to Building 45	TPH	S	Y	Case closed 1/10/92.	This unauthorized release case was opened after contamination was discovered during tank removal activities.
Release No. 5 Near pretreatment facility	TPH, TRPH, HVOCS	S, GW	Y	Active case.	DEH requested additional investigation of groundwater contamination in 1994. More recent information not available in files reviewed.
Release No. 9 Salvage Yard	TRPH	S	Y	Case closed 6/8/98.	This unauthorized release case was opened after soil samples revealed that a release had occurred from a sump. The sump and most of the contaminated soil subsequently were removed.
Unnumbered Release Oil-water separator adjacent to Building 6	TPH	S	N	N/A	DEH documents referred to an additional unauthorized release associated with an oil/water separator located near Building 6. The impacted soil was excavated and removed from the site.
Borings 130, 148, 150, and DP-10 Building 45	TCE, VOCs, and some metals in central portion of building	S	Y	Additional assessment or remediation has not been performed since 2003.	Identified in 2001 Haley & Aldrich investigation. Additional assessment activities conducted in 2003 revealed that the contamination is localized in the vicinity of the soil borings, with the exception of the area in the vicinity of Boring 130, which was estimated to contain up to 70 cubic yards of impacted materials. Interim soil excavation was recommended in this area.
Boring 65 Building 30	VOCs	S	Y	Additional assessment or remediation has not been performed since 2003.	Identified in 2001 Haley & Aldrich investigation. Additional assessment activities conducted in 2003 revealed that the contamination was limited to the immediate vicinity of the boring.

TABLE 4.12-1 (Cont.)

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
Boring 172 Salvage Yard	TCE, VOCs	S	Y	Additional assessment or remediation has not been performed since 2003.	Identified in 2001 Haley & Aldrich investigation. Additional assessment activities conducted in 2003 revealed that the contamination was limited to the immediate vicinity of the boring.
Boring 164 Pretreatment area	VOCs, metals	S	Y	Additional assessment or remediation has not been performed since 2003.	Identified in 2001 Haley & Aldrich investigation. Additional assessment activities conducted in 2003 revealed that the volume of contaminated soil was approximately 267 cubic yards. Interim soil excavation was recommended.
Boring 159 Near Building 42	TRPH, PCBs, and metals	S/GW	Y	Additional assessment or remediation has not been performed since 2001.	Identified in 2001 Haley & Aldrich investigation. Not considered a residual source area; however, TRPH and PCBs were detected at a maximum concentration of 31,600 mg/kg at 4 feet below ground surface.
Boring 130 Building 45 (northern portion)	VOCs, TCE	GW – Zone A	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation. TCE found at maximum concentration of 201 µg/l.
Salvage Yard	TCE, PCE	GW – Zone A	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in URS investigation in 1999 and 2001 Haley & Aldrich investigation (TCE at 5,750 µg/l).
Southern portion of Building 3	TCE, 1,1,1- TCA, and vinyl chloride	GW – Zone A	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation.
Pretreatment Area	Metals (chromium, lead, nickel)	GW – Zone A	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation.
Boring 28 Northwestern corner of Chemical Stores Area	VOCs	GW – Zone A	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation.
Southern portion of Building 30	VOCs (TCE and vinyl chloride)	GW – Zone A	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation.

TABLE 4.12-1 (Cont.)

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
Northern portion of Building 45 and Salvage Yard	TCE	GW – Zone B	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation.
North of Building 42	TCE	GW – Zone B	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation.
Between Buildings 42 and 30	TCE	GW – Zone B (Deeper Zone)	Y	Groundwater monitoring is being performed on a quarterly basis.	Identified in 2001 Haley & Aldrich investigation (4,000 µg/l of TCE).
Boring 58 Building 30	VOCS	S	N	Contaminated soil was removed and confirmation samples collected.	A soil excavation pilot test was conducted by Haley & Aldrich in 2002; the study identified impacted soils primarily at 5–10 feet below ground surface.
Three 6,000-gallon gasoline and diesel USTs south of Building 25	TPH-d, VOCS	S	Y (very minor)	Tank closure considered complete by DEH after review of analytical data.	USTs were removed in 2002; minor amounts of soil contamination found in samples collected after removal of USTs.
Six vaults/sumps Buildings 45 and 30	Metals	S	Possible	Remediation may be required in future but no immediate action required.	Six vaults/sumps removed in 2003 in accordance with work plan.
One 40,000-gallon UST/sump pretreatment area south of Building 45	Metals	S	Possible	Additional remediation may be required in future but no immediate action required.	UST/sump excavated in 2003; contaminated soil excavated. Final confirmation samples contained metals at background concentrations.
Four Sumps Buildings 3 and 30, wastewater treatment area	Metals	S	N	Haley & Aldrich report indicated that RWQCB did not require additional remediation in vicinity of sumps.	Sumps removed in accordance with work plan in 2003. Final confirmation samples contained metals at background concentrations.

TABLE 4.12-1 (Cont.)

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
<b>Off Site: Goodrich North Campus</b>					
Release No. 11 Sump located in Oiler Shed adjacent to the west of southwest corner of Building 1	Hydrocarbons	S	Y	Active.	Sump removed in 1999. Release case has been made inactive by DEH due to lack of DEH funding and nature of release.
Release No. 12 Sump located in south-central portion of Building 1	TRPH	S	Y	Active.	Sump removed in 1999. Work plan approved by DEH in 2000. Release case has been made inactive by DEH due to lack of DEH funding and nature of release.
Release No. 13 500-gallon coolant oil UST located in Oiler Shed adjacent to the west of southwest corner of Building 1	TPH, VOCs, TCE	S	Y	Active.	UST removed in 2000. RWQCB classified the release as a low-risk soil case. Additional information not provided in documents reviewed.
<b>Otay District</b>					
<b>South Bay Power Plant</b>					
Unauthorized release associated with two USTs east of South Tank Farm	TPH-g, TPH-d	S, GW	Y (minor)	Case closed by DEH on 9/30/88.	DEH stated that since off-site impacts did not exist, concentrations of TPH were less than 1,000 mg/kg, and groundwater in the area had no beneficial uses, further assessment was not required.
Unauthorized release associated with two 500-gallon USTs east of South Tank Farm	TPH-g, TPH-d	S	Y (very minor)	No closure documentation was noted in DEH documents reviewed.	Based on low concentrations of TPH found in soil samples collected at time of tank removal, consultant concluded that additional assessment would not be required.

TABLE 4.12-1 (Cont.)

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
Two unauthorized releases Location not mapped	N/A	N/A	N/A	N/A	Based on information provided in the environmental database report, four unauthorized release cases have been opened for this facility. Information regarding two of the releases is presented above. Information regarding the remaining two releases was not available in the regulatory agency documents reviewed.
UST area east of South Tank Farm	TPH-g, benzene	S, G	Y (220 pounds of petroleum hydrocarbons and 1.5 pounds of benzene were estimated to remain in subsurface soils)	Corrective Action Plan being prepared.	Consultant (Fluor Daniel) recommended remediation of groundwater in this area; some contaminated soil and groundwater subsequently were remediated in 1999.
Jet fuel tank area south of Switchyard	Fuel hydrocarbons	GW (free product found)	Y	Corrective Action Plan being prepared.	Consultant (Fluor Daniel) recommended examining remediation of groundwater in this area.
First generation surface impoundment adjacent to north of Jet Fuel Tank Area	Metals and hydrocarbons	S, possibly GW	Y	Corrective Action Plan being prepared.	Consultant (Fluor Daniel) recommended remediation of soil in this area.
GW plume east of Switchyard	TCE, DCE	GW	Y	Corrective Action Plan being prepared.	Consultant (Fluor Daniel) recommended identification of source and remediation of groundwater.

TABLE 4.12-1 (Cont.)

Description of Area of Concern/Parcel	Constituents of Concern (COCs)	Medium Affected (S/GW)	Residual Contamination (Y/N)	Status	Comments
East Loop adjacent to south of Power Plant	TEH	S	Y	Corrective Action Plan being prepared.	Consultant (Fluor Daniel) recommended additional remediation of soil in this area.
North Tank Farm north end of facility	TPH-d	S	Y	No documentation regarding activities conducted in this area was on file after the 2001 report.	According to 2001 report prepared by Duke Engineering Services, Duke Energy planned to excavate the contaminated soil and perform ex-situ treatment of soils to industrial standards.

<sup>1</sup> Areas of potential environmental concern are shown in Figure 4.12-1. See also Figures 4.12--2 (Sweetwater District), 4.12-3 (Harbor District), and 4.12-4 (Otay District). Locations listed and mapped when available.

TABLE ACRONYMS

- DCE = dichloroethene
- DEH = San Diego County Department of Environmental Health
- GW = groundwater
- HVOCs = halogenated volatile organic compounds
- mg/kg = milligrams per kilogram
- N/A = not applicable or not available
- PCBs = polychlorinated biphenyls
- PCE = tetrachloroethene
- RWQCB = Regional Water Quality Control Board, San Diego Region
- S = soil
- TCA = trichloroanisole
- TCE = trichloroethene
- TEH = total extractable hydrocarbons
- TPH = total petroleum hydrocarbons
- TPH-d = total petroleum hydrocarbons as diesel
- TPH-g = total petroleum hydrocarbons as gasoline
- TRPH = total recoverable petroleum hydrocarbons
- µg/L = microgram per liter
- USTs = underground storage tanks
- VOCs = volatile organic compounds

Excluding the Sweetwater District, which does not appear on a list of hazardous materials sites despite its historical agricultural use, *Table 4.12-1* also provides a list pursuant to Government Code Section 65962.5. Residual soil and/or groundwater contamination exist in these areas. Included in this table are the chemicals of concern and likelihood of residual contamination for each area. Properties listed include the Sweetwater District, the former Goodrich South Campus, the SBPP, and the Rohr Industries/Goodrich North Campus.

i. United States Environmental Protection Agency, CERCLIS NFRAP List

This list identifies hazardous material sites or environmental incidents recognized and listed on the federal level. Sites identified by the U.S. EPA, which have the potential to release hazardous substances into the environment, are listed in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database. The No Further Remedial Action Planned (NFRAP) designation indicates that assessment has been completed and that the U.S. EPA has determined that no further steps will be taken to list this site on the National Priorities List. One on-site and one off-site facility were identified in this database. It was determined that there is a low likelihood that the off-site facility at 1150 Bay Boulevard would pose an environmental concern to the project site.

One listing appearing in this database, identified as San Diego Ship Building & Repair, was reported to have been associated with a property located approximately 0.05 miles southwest (downgradient) from Parcel S-2 in the Sweetwater District, at 980 F Street (now known as Lagoon Drive). This facility previously operated at the adjacent property southwest of Parcel S-2. This property also appeared on the State and Tribal Leaking Underground Storage Tank (LUST) database, identified as “the former Shangri La Site,” regarding a release of a hazardous waste. Based on the downgradient location of the property in relation to S-2, the fact that groundwater was not affected by the metals contamination, and the “closed” status of the case, there is a low likelihood that this DEH case represents an environmental concern to the S-2 site at this time.

ii. Multiple Agency—Underground Storage Tank (UST) and Aboveground Storage Tank (AST) Registration List

Information regarding underground and aboveground storage tanks registered with the SWRCB is provided on the agency’s UST and AST lists. The UST and AST lists consist of properties that have registered tanks, and are not necessarily indicative of sites where a release of hazardous substances has occurred. Rohr Industries and the SBPP reported in this database are associated with unauthorized releases of hazardous materials and are further discussed in the LUST section below. Exxon Mobil Oil Corporation (also operated under the names Hiram’s Mobil and Arco by the Bay; 765 E Street) was listed as a former operator of eight USTs, which have reportedly been removed from the property. A facility identified as Watt Development Co., located

approximately 0.01 mile northeast (upgradient) of the S-2 site in the Sweetwater District, reportedly operated two 500-gallon-capacity USTs containing gasoline and diesel fuel, which have reportedly been removed from the property.

iii. Multiple Agency—Leaking Underground Storage Tank List (LUST)

The LUST Information System is maintained by the SWRCB, pursuant to Section 25295 of the Health and Safety Code. Facilities appearing on this list are discussed below. Also listed in this database are facilities reported to be located within a one-quarter mile radius of the project site that fall under the jurisdiction of the RWQCB or on Local Oversight Program for unauthorized releases maintained by the DEH (County LUST).

Twelve LUST facilities were listed as being located within the project site boundaries, all of which are associated with the releases at Rohr Industries/Goodrich. In addition, 16 LUST facilities were reported to be located within a one-quarter mile radius of the project site. Five of these off-site listings are associated with the SBPP that is located within the project site boundaries. The 17 on-site listings associated with the two facilities are further addressed in *Section 4.12.3, Existing Site Conditions*, below.

The remaining 11 listings are associated with releases at six facilities, of which five of the listings are duplicates. Of these six off-site facilities, two are located adjacent to the site and are of environmental concern to the project site. Further information regarding the releases at these off-site facilities is discussed below in *Existing Site Conditions*.

iv. U.S. Environmental Protection Agency, Resource Conservation and Recovery Act Generator

This list identifies U.S. EPA-listed facilities that report generation of quantities of hazardous waste considered significant under the RCRA program for the identification and tracking of hazardous waste. The list consists of properties that generate hazardous waste, and is not necessarily indicative of sites where a release of hazardous substances has occurred.

Three facilities listed in this database were reported to be located within the project site boundaries. The three on-site facilities are discussed in more detail in *Section 4.12.3, Existing Site Conditions*. Seven facilities were reported to be located off site within a one-quarter mile radius of the site. One of the seven facilities, identified as Rohr Industries/Goodrich at 850 Lagoon Drive, is located adjacent to the site and is of environmental concern to the project site. Further information regarding this release of hazardous materials is discussed below under *Off-Site Properties of Potential Concern*. A second off-site facility, identified as Exxon Mobil Oil Corporation (also operated under the names Hiram's Mobil and Arco by the Bay; 765 E Street)

was classified as a large quantity generator (LQG) of hazardous waste, generating more than 1,000 kilograms (kg) of hazardous waste per month.

v. United States Environmental Protection Agency, RCRA No Longer Regulated List

This list identifies RCRA facilities that generate less than 100 kg of hazardous waste per month or do not meet other RCRA requirements. This database report indicated that no facilities within the site boundaries were listed on the database report; however, two of the five off-site listings are actually associated with facilities located within the project site boundaries. The two facilities are discussed in *Section 4.12.3*. The releases of hazardous materials at the other three facilities have a low likelihood of posing an environmental concern to the project site at the present time.

vi. California Environmental Protection Agency, Department of Toxic Substances Control, Brownfields Reuse Program Database (Formerly Known as CalSites) List

This list identifies sites in California where hazardous substances have been released, or where the potential for such a release exists. The types of properties in the Brownfields Reuse Program Database (formerly known as CalSites) database are categorized as Annual Work Plan, Backlogged Properties, Certified/De-listed Sites, No Further Action, Preliminary Endangerment Assessment Required, Removal Action Required, Expedited Remedial Action Program, Voluntary Cleanup Program, Deed Restricted Properties, and Referred Properties.

No facilities were reported to be located within the site boundaries. However, one facility was located within one-quarter mile of the project site (Western Magnesium at 1135 Bay Boulevard), located adjacent to the southeast of the site. The Department of Toxic Substances Control (DTSC) concluded that no further action was required under any land use and based on this information there is a low likelihood that this facility presents a significant environmental concern at present.

vii. California Integrated Waste Management Board—Solid Waste Information System, Solid Waste Landfill

The California Integrated Waste Management Board maintains a database of solid waste facilities, operations, and disposal facilities located throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery stations, composting sites, and waste tire facilities.

The SBPP is the only facility located within the project site boundaries that appeared in this database. Information regarding this facility is included in *Section 4.12.3* below.

viii. United States Environmental Protection Agency—Emergency Response Notification System (ERNS)

The ERNS is a national database used to collect information on reported releases of oil and hazardous substances to waterways of the United States. The database contains information from spill reports made to federal authorities including the U.S. EPA, the United States Coast Guard, the National Response Center, and the Department of Transportation. The ERNS list contains records of reports dating from October 1986.

Eight listings were determined to be located within the project site boundaries, five of which are associated with the SBPP. Information regarding these eight listings is discussed in *Section 4.12.3* below.

ix. County of San Diego Department of Environmental Health, Hazardous Materials Establishment (HE17)

This list identifies businesses that use hazardous materials or generate hazardous waste at quantities that require regulation by the DEH. These businesses report quantities of hazardous materials used, and hazardous wastes generated and stored for tracking purposes, and are subject to inspection by DEH officials.

After a review of the database report, nine listings were noted to be located within the site boundaries and associated with six addresses. These nine listings are discussed in *Section 4.12.3* below. Five off-site listings are associated with addresses that have experienced an unauthorized release of hazardous material. These facilities are further discussed in the LUST section above.

### **4.12.3 Existing Site Conditions**

The following discussion provides a summary of the project site conditions by district, taking into consideration both historical uses, the database findings, as well as previous environmental technical studies.

The hazardous materials technical studies prepared for the project site and environmental database findings identify releases or discharges of contaminants to soil, soil vapor, and groundwater within the plan area and determinations regarding whether these releases pose a potential environmental impact to the project site (see *Appendices 4.12-1* through *4.12-7*). A Human Health Screening Evaluation (HHSE) was also conducted for portions of the project site, which presents estimates of potential adverse health risks to future human receptors from exposure to contamination during and after development (see *Appendix 4.12-6*). Contaminants of potential concern (COPC) may take the form of intrusion of subsurface vapors (volatile organic compounds (VOCs)) into indoor air in structures. The following incorporates information

derived from these sources, as well as historical site data and findings of the database search presented above with emphasis on Phase I project and program level parcels. The districts and parcels included in these hazardous materials and human health evaluations are illustrated on a site plan for the project area as shown in *Figure 4.12-1*.

#### **4.12.3.1 Sweetwater District**

Although not identified on a search of federal, state, and local hazardous materials databases, this entire site is considered an area of environmental concern due to historic agricultural uses. As mentioned in *Section 4.12.2.2*, agricultural uses continued in the northern portion of the project site (the majority of the Sweetwater District) between the late 1920s and early 1950s, and into the 1980s. Between 1916 and 1929, a gunpowder manufacturing plant operated northwest of the project site at Gunpowder Point, within the existing Sweetwater Marsh, until it burned down in 1929. By 1970, several structures (possibly greenhouses) were added and then removed by the 1990s. The Sweetwater National Wildlife Refuge (NWR) access road traverses the site. Currently, the land is generally fallow with no active agricultural operations. A site vicinity map of the Sweetwater District is shown on *Figure 4.12-2*. Residual concentrations of pesticides and herbicides were expected to be present in this area.

On February 6, 7, and 8 of 2008, Geocon conducted site assessment activities on Parcel S-2, including drilling 10 soil borings using hand augers (see *Appendix 4.12-4*). A total of 29 soil samples and 18 groundwater samples were collected. Based on the soil sample results, the vertical extent of pesticides detected in soil samples at the site appeared to be surficial. All pesticide concentrations in soil were considered low and fell below the industrial preliminary remediation goals (PRGs). No threat to human health or the environment exists. The Geocon investigation concluded that the presence of pesticides in one of the groundwater samples was likely the result of a damaged well that allowed surface soil to spill into the well and groundwater. The well had since been repaired and the possible source of cross contamination eliminated. As a result, the single detection of pesticides in groundwater was below the PRG for tap water and does not represent a threat to human health or the environment.

All detected concentrations for lead in soil fell below the industrial PRGs. Based on soil sample results, the presence of arsenic above the industrial PRG appeared limited and does not represent a threat to human health or the environment. All soils and groundwater samples analyzed for diesel and gasoline range organics, BTEX, herbicides, and polynuclear hydrocarbons were not detected at or above the laboratory detection limit.

According to the Geocon report, the areas sampled do not appear to necessitate further investigation at this time, although the lateral extent of pesticides in surficial soils may not be fully assessed. The Geocon report recommended that in the event development is to occur at the S-2 site, soils containing pesticides should be excavated and disposed of at an appropriately licensed facility.

The S-2 parcel reflects the conditions presented above for the entire Sweetwater District. The concern for this area is the potential presence of elevated concentrations of residual pesticides and herbicides in the soil. Threat to impact groundwater may also be a concern depending on the concentrations and other factors such as depth to groundwater, soil type, and climate.

#### 4.12.3.2 Harbor District

The Harbor District is almost entirely covered with asphalt, concrete, or buildings, except for an open field area (shown as H-3, H-13, H-14, and H-21), which is unpaved. A site vicinity map of the Harbor District is shown on *Figure 4.12-3*. Rohr Industries/Goodrich facility, the existing South Bay Boatyard, and the Chula Vista Marina where various boat repair services currently exist, are the major locations in which the use or storage of hazardous substances and petroleum products have been identified. The approximately 59-acre former Goodrich South Campus site is currently vacant and undergoing remediation in accordance with a Cleanup and Abatement Order (CAO), as discussed below. Other commercial and industrial uses in the Harbor District include the existing South Bay Boatyard; marina/yacht club operations; and commercial uses, which transport, store, and dispose of small amounts of hazardous materials in the course of daily operations in accordance with current regulations. Examples include cleaning solvents, paint, and fuel. At the existing South Bay Boatyard, two large ASTs were observed and hydraulic lifts with below-grade hydraulic oil reservoirs may be present.

*Table 4.12-2* provides a list of sites identified in the Harbor District that were identified in the search of hazardous materials databases. As already detailed in *Table 4.12-1*, only a portion of these sites are considered a potential environmental concern, but for purposes of disclosure all sites are listed herein.

##### a. Release Cases

Thirteen unauthorized release cases are associated with the former Rohr Industries/Goodrich facility. Specific information regarding the closed cases (DEH Case Numbers 4 and 10) was not available in the DEH and RWQCB files reviewed. In closed cases, the soil contaminated with hazardous materials has either been excavated or disposed of at a landfill and/or the remaining residue has a maximum concentration that is too small to significantly impact the environment. Case Numbers 2, 6, 7, 8, 11, 12, and 13 are associated with the North Campus, located adjacent to the north portion of the Harbor District. These releases are discussed in further detail in the section below titled *Off-Site Properties of Potential Concern*.

The remaining releases associated with the former Goodrich South Campus facility (Case Numbers 1, 3, 5, and 9), are discussed below, in numeric order (see *Table 4.12-1*). In addition, information regarding an additional unauthorized release, which was not identified by number, is provided below.



SOURCE: GEOCON Consultants, Inc.

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Hazardous Materials Site Plan for Project Area**

**FIGURE**  
**4.12**<sup>56462</sup><sub>271</sub>

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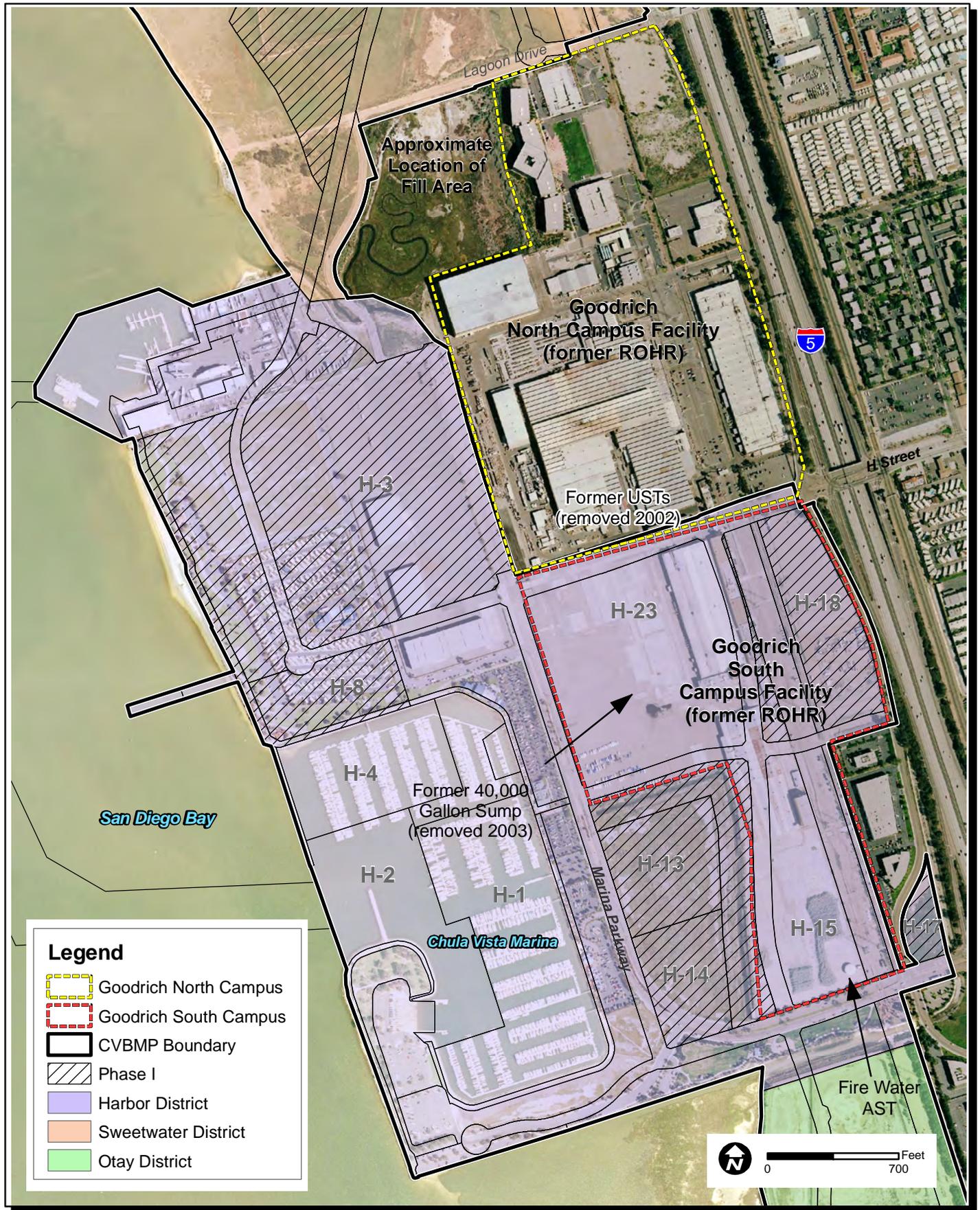
AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Site Vicinity Map of Sweetwater District

**FIGURE**  
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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Site Vicinity Map of Harbor District

FIGURE 4.12  
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**TABLE 4.12-2  
Facilities of Potential Environmental Concern Located within Harbor District Boundaries**

Address <sup>1</sup>	Proposed CVBMP District	Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
<b>Comprehensive Environmental Response, Compensation, and Liability Information Systems (CERCLIS) No Further Remedial Action Planned (NFRAP)</b>			
South Bay Boatyard 997 G Street	Harbor	N	A preliminary assessment was conducted at this facility in 1993 and no further action was planned by the DTSC. Based on this information, there is a low likelihood that this listing poses an environmental concern to the subject site at the present time.
<b>Underground Storage Tank (UST) List</b>			
Rohr Industries H Street	Harbor	Y	Rohr Industries formerly occupied a portion of the Harbor District as well as the area adjacent to the north of it. Therefore, USTs listed at this facility could have been located both on and off the subject site. According to the database report, at least 23 USTs were reported to be present at this facility. Additional USTs are present at this facility and could not be described in the database report due to the fact that each listing in a database report is limited to 30 pages. A report by Haley & Aldrich in 2001 reports approximately 37 USTs present at this facility. The USTs ranged in size from 120 gallons to 10,000 gallons and contained waste oil, a mixture of waste oil and gasoline, unleaded gasoline, leaded gasoline, diesel, and wastewater. Nine of the USTs have been closed by removal, four have been closed in place, three are inactive, six have permits to operate, and the status of one of the USTs is unknown.
<b>Leaking Underground Storage Tank (LUST) List</b>			
Rohr Industries H Street	Harbor	Y	Rohr Industries formerly occupied the southern portion of the Harbor District as well as the area adjacent to the north of it. Therefore, the release cases associated with this facility could have been located on or adjacent to the site. Thirteen releases were on file for this facility. The releases occurred between August 1986 and April 2000. The releases were generally tank-related, and involved both soil and groundwater contamination. Releases of waste oil, diesel fuel, chlorinated hydrocarbons, and unknown substances occurred at this facility. Of the 13 releases, five were reported as having been granted closure by the DEH.
<b>Resource Conservation and Recovery Act (RCRA) Generator List</b>			
MHE Repair Facility Navy 96 A Sandpiper Way	Harbor	N	According to the database report, this facility is a small-quantity generator of hazardous waste (100–1,000 kg per month). Additional information or violations were not listed for this facility. Based on the fact that this facility does not appear on a list that reports the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to the development of the subject site at the present time.
Thomas Dinanno 550 Marina Parkway	Harbor	N	According to the database report, this facility is a small-quantity generator of hazardous waste. Additional information or violations were not listed for this facility. Based on the fact that this facility does not appear on a database that reports the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to the redevelopment of the subject site.

TABLE 4.12-2 (Cont.)

Address <sup>1</sup>	Proposed CVBMP District	Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
<b>Emergency Response Notification System (ERNS)</b>			
Rohr Industries Foot of H Street	Harbor	N	According to the database report, one gallon of delimitate water and one gallon of oil were spilled on the ground of this facility in 1993 due to equipment failure. The spill was cleaned up by Rohr. Based on the nature of the release and the time that has passed since it occurred, there is a low likelihood that this release has adversely impacted the environmental integrity of the subject site.
Unknown 550 Monna Parkway	Harbor	N	The street name associated with this listing is believed to have been misspelled (the spill is believed to have occurred at the Chula Vista Marina adjacent to Marina Parkway) This release involved 120 gallons of gasoline that were spilled at a fixed facility in 1992 as a result of equipment failure. A tank on a boat ruptured into a bilge and was subsequently cleaned up. Based on the nature of the release and the time that has passed since the release occurred, there is a low likelihood that this release poses an environmental concern to redevelopment of the subject site.
Unknown 550 Marina Boulevard	Harbor	N	According to the database report, a release of unleaded gasoline occurred to water in 1997. A sheen was observed around a vessel while the owner was doing maintenance work on the vessel. The actions taken are not known. Based on the nature of the release and the time that has passed since this incident, there is a low likelihood that this release poses an environmental concern to redevelopment of the subject site.
<b>Permits List</b>			
Rohr Industries H Street	Harbor	Y	According to the database report, violations were issued to this facility in 1996 and 1999 for the disposal or causing disposal of hazardous waste to an unauthorized point. In addition, one violation was issued to the facility in 1999 for the improper reporting or response to an unauthorized release. Additional violations issued to this facility were administrative in nature.
University Cogeneration, Inc. H Street	Harbor	N	According to the database report, this facility is an inactive public utilities facility that generated used oils and diesel fuel waste, used oil filters, absorbent pads, and sump sludge waste. Violations were not reported for this facility. Based on the fact that this facility does not appear on any databases that report the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to the redevelopment of the subject site.
California Crane & Rigging 979 G Street	Harbor	N	According to the database report, this facility generates waste oil. One violation was issued to this facility for an unknown reason. Based on the limited types of hazardous materials maintained, and the fact that this facility does not appear on any databases that report the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to redevelopment of the subject site.

TABLE 4.12-2 (Cont.)

Address <sup>1</sup>	Proposed CVBMP District	Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
Ecocrete, Inc. 596 Sandpiper Way	Harbor	N	According to the database report, this facility maintains contact adhesive, coat additive, Thrift Kote E, Sto Granitex 171, primer, multipurpose floor adhesive, panel adhesive, acrylic coating, propane gas, compressed gases, latex coating, resin latex, adhesive primer, and cement and silica sand. This facility generates waste oil, unspecified oil with waste, and paint sludge. Three violations were issued to this facility in 1998 and 1999 for the unauthorized disposal of hazardous waste to an unauthorized point. However, based on the fact that this facility does not appear on any databases that report the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to the development of the subject site.
Pacific Yacht Refitter 997 G Street	Harbor	N	According to the database report, this facility generated only paint sludge as waste. Violations were not listed for this facility. Based on the nature of the listing, and based on the fact that this facility does not appear on any databases that report the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to redevelopment of the subject site.
South Bay Boatyard 97 G Street	Harbor	N	According to the database report, this facility reportedly maintains compressed gases, propane gas, resin, and diesel fuel. Hazardous wastes generated by this facility include paint sludge, used oil filters, hydrocarbon solvents, used batteries, organic liquid mixture, and an aqueous solution. Violations issued to the facility were generally administrative in nature, with the exception of one violation issued in March 2000 when the facility was cited for disposing, or causing the disposal of, hazardous waste to an unauthorized point. However, based on the fact that this facility does not appear on any databases that report the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to redevelopment of the subject site.
Swath Ocean Systems, Inc. 997 G Street	Harbor	N	According to the database report, this facility maintains motor oil and compressed gases and generates paint sludge waste, waste oil, and used oil filters. Violations issued to this facility were administrative in nature. Based on this information, as well as the fact that this facility does not appear on any databases that report the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to redevelopment of the subject site.
Elite Yacht Painting International, Inc. 997 G Street	Harbor	N	According to the database report, this facility only generates paint sludge waste. No violations were reported for this facility. Based on this information, and the fact that this facility does not appear on any databases that report the unauthorized release of hazardous materials, there is a low likelihood that this facility poses an environmental concern to redevelopment of the subject site.

<sup>1</sup>Areas of potential environmental concern are shown in *Figure 4.12-1*. See also *Figure 4.12-2* (Sweetwater District), *Figure 4.12-3* (Harbor District), and *Figure 4.12-4* (Otay District).

<sup>2</sup>The Environmental Concern determination is based on a review of information contained in the TrackInfo report and information obtained from regulatory agencies.

i. Release 1—Failed Precision Test

The location of this release is unknown, but the release is associated with a failed precision test for a UST. A case summary form completed by the DEH noted total extractable hydrocarbons (TEH) in groundwater. Although detailed information regarding the UST was not available, it may have been located within the boundaries of the former Goodrich South Campus. The case was granted closure by the DEH in 1986.

ii. Release 3—Removal of USTs

This release is associated with the removal of three 10,000-gallon diesel USTs and one 500-gallon waste oil UST located adjacent to Building 45 (northern portion of the Harbor District, just south of H Street). TPH was detected in groundwater. A Site Assessment Case Closure Summary report indicated that off-site impacts did not exist from this release. In addition, the majority of the TPH-impacted soil was excavated by Rohr and transported to the Otay Landfill. The case was granted closure by the DEH in 1992.

iii. Release 5—Contamination Encountered During Construction Activities

This release is associated with an underground pipe rupture near the pretreatment facility. Soil samples contained TPH and total recoverable petroleum hydrocarbons (TRPH). Additional assessment indicated the presence of halogenated volatile organic compounds in groundwater samples collected from monitoring wells. In 1994, the DEH required additional investigation into the extent of halogenated volatile organic compounds in groundwater in this area. A work plan for additional investigation, dated June 1994, was prepared by Woodward Clyde Consultants. (see *Appendix 4.12-1*). Additional information regarding this release was not on file. The RWQCB is reportedly the lead agency for this release.

iv. Release 9—Contamination from Concrete Sump in Salvage Yard

This case is associated with contamination discovered in an area identified as the Salvage Yard. The salvage yard was used to store coolant-coated metal filings prior to recycling. The bins containing the metal filings were allowed to drain into the sump prior to off-site disposal. Soil samples were collected and revealed the presence of TRPH at a depth of two feet below ground surface (bgs). Subsequently, Woodward Clyde Consultants removed the tank, excavated the hydrocarbon-contaminated soil, and conducted confirmation sampling in this area (see *Appendix 4.12-1*). Approximately 127 tons of impacted soil was removed from this facility, and approximately 20 cubic yards of soil with TPH still exists in this location. This release case was granted closure on June 8, 1998.

v. Unnumbered Release

This release is associated with an unauthorized release; however, specific information regarding the release number was not available in the DEH files or in the database report. This release reportedly was associated with an oil–water separator located adjacent to Building 6. According to the URS Greiner Woodward Clyde Consultants report, the case was granted closure by the DEH (see *Appendix 4.12-1*).

Due to the presence of the contamination, in 1998, the RWQCB, San Diego Region issued CAO No. 98-08 to the Aerostructures Group of Goodrich Aerospace (formerly Rohr, Inc.) and the Goodrich Company (dischargers). The CAO addresses all current and former property used, leased, or otherwise controlled by Goodrich since its inception on the Chula Vista waterfront as Rohr Aircraft Corporation. This includes contaminant releases within the former Goodrich South Campus (Parcels H-15, H-18, H-23, and HP-23A), and the Goodrich North Campus (off site), as well as discharges within adjacent parcels such as H-3, HP-1, HP-5, H-8, H-9, H-13/H-14, and H-21. Compliance with the CAO is ongoing. The results of the CAO are detailed in the Ninyo & Moore Hazardous Materials Technical Study (*Appendix 4.12-1*) and summarized below.

Contaminants were found in soil and/or shallow and deep groundwater at 19 locations identified by RWQCB (see *Appendix 4.12-1*). The constituents of concern (COCs) for the South Campus facility included trichloroethene (TCE); tetrachloroethene (PCE); vinyl chloride; 1,1,1-trichloroethane (1,1,1-TCA); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans 1,2,-DCE); Freon; 2-butanone (MEK); benzene; toluene; ethylbenzene; xylenes; cadmium; 1,1-dichloroethene (1,1-DCE); 1,1-dichloroethane (1,1-DCA); chromium; copper; nickel; thallium; barium; lead; and PCBs. Subsequent investigations included soil collection and groundwater samples and additional tests which further identified impacted soils at Building 45, the Salvage Yard, and the central portion of Building 45 (see *Figure 4.12-3*).

In addition, the tests have revealed TCE and vinyl chloride are present in groundwater. Elevated concentrations of VOCs have been found in the upper portion of the deep groundwater aquifer in the northwestern corner and west-central portion of the Goodrich site. TCE has been detected near the western property boundary, and the contamination appears to have extended off site to the west.

All work associated with the Goodrich CAO will be completed under the oversight of the RWQCB. The analysis of the Proposed Project assumes the existing HP-5 drainage ditch will be remediated as required by the CAO. Information from the order was considered by Ninyo & Moore during preparation of updated technical reports for this report.

vi. Aboveground Storage Tanks and Underground Storage Tanks

During site reconnaissance, ASTs were observed at the former Goodrich South Campus facility. According to a 2001 site assessment report prepared by Haley & Aldrich, approximately 37 USTs have been present at the former Goodrich South Campus facility. According to the environmental database report, this facility generated organic solid waste, paint sludge, used oil filters, hydrocarbon solvents, used batteries, an aqueous solution, and an organic liquid waste.

Several containers of waste were observed at the Rohr Industries/Goodrich facility, but no leaks or stains were observed in the vicinity of these waste materials at the time of the site reconnaissance. Based on a review of documents at the DEH, the following hazardous wastes were generated at the former Goodrich South Campus: alkaline solution, laboratory wastes, paint sludge, halogenated solvents, photo processing wastes, asbestos-containing wastes, liquids with chromium, liquids with metals, infectious wastes, inorganic solid waste, organic solids, contaminated soil, metal dust, used batteries, waste oil, solvent mixtures, oil-water separation sludge, and polychlorinated biphenyls.

vii. Wastewater Systems

Although no longer in operation, a three-stage wastewater separation system operated at the former Goodrich South Campus facility. The Phase I Environmental Site Assessment of the Goodrich facility indicated the floor drains located within the buildings were sealed with concrete plugs and no significant stains or odors were present.

viii. Wells and Groundwater

Groundwater monitoring wells were observed throughout the entire project area. Long-term industrial activity on the project site has resulted in chemical releases to the environment and contamination of the shallow water aquifer.

The Hydrogeologic and Ground Water Quality Evaluation Report, Goodrich South Campus Chula Vista (Rubicon 2004) discussed the following: hydrogeologic and groundwater quality of the South Campus site, hydraulic connection between select aquifers, migration behavior of chemicals of potential concern, effects of tides on groundwater flow direction, and degree of sea water intrusion. The report determined that groundwater in the vicinity of the South Campus has concentrations of VOCs, metals, and total dissolved solids. Hydrology and water quality issues are discussed in greater detail in *Section 4.5* of this report. The environmental site assessment conducted for the Resort Conference Center (RCC) site by Ninyo & Moore in May 2006 updated sampling and analysis of groundwater and soil gas at 23 locations down gradient from Goodrich (see *Appendix 4.12-1*).

ix. Other Potential Issues

Minor surficial staining was noted on the concrete floors in the buildings at the former Goodrich South Campus facility, and on the asphalt pavement throughout exterior portions of the Goodrich facility. The staining appeared to be generally surficial in nature. In addition, numerous concrete/asphalt patches were observed at the former Goodrich South Campus facility during the site reconnaissance. These saw cuts and patches are suspected to be the result of site assessment and tank removal activities. More information regarding the tank removal and site investigation activities associated with these two facilities is contained in Sections 6 and 7 of the HMTS (see *Appendix 4.12-1*).

In general, a number of unresolved issues regarding hazardous materials still exist at the Goodrich facility and monitoring is still taking place. Currently, hazardous material residue is present in various locations throughout the Goodrich site. The RWQCB will be requesting that a Corrective Action Plan be prepared for the remediation of soil and groundwater at the Goodrich South Campus. According to Mr. Bill Hays of the Port, the storm drain connection has been severed between the Goodrich North and South Campuses. The various site investigation reports suggest that the central and northwestern portions of the Goodrich South Campus are the focus of remediation efforts. Future redevelopment of the property requires final approval by the regulatory agencies that are coordinating cleanup of the site as a separate action.

b. Phase I ~~Project Level~~ Components and H-15

A summary of the environmental conditions on Phase I parcels within the Harbor District is provided below. Parcels H-18, HP-5, and H-15 are within the former Goodrich South Campus. Parcels H-13 and H-14 are adjacent to the southwestern boundary of the former Goodrich South Campus. Of all the areas within the Proposed Project, HP-5, H-13, H-14, H-23, and H-15 have undergone the most extensive environmental investigation to date along with several interim remedial measures to address source areas of contamination. Parcel H-3 is adjacent to the Goodrich North Campus. Information presented below is incorporated from the Chula Vista Bayfront Master Plan Report—Review of Environmental Documents for the Phase I Project Areas, prepared by Geocon (see *Appendix 4.12-3*).

i. H-18 (Former Goodrich South Campus Eastern Parking Lot)

This area has been used as a parking lot for the former Goodrich South Campus and former Rohr facility. A map from the Adrian Brown Phase I Environmental Site Assessment for the former Goodrich South Campus depicts four former USTs in the southern portion of H-18. Subsequent sampling by Secor in 1999 in the area shown as having had USTs found only one very low concentration of total recoverable petroleum hydrocarbons. Analysis of soil, soils gas, and groundwater samples from this area did not detect chlorinated volatile organic compounds

(CVOCs) or levels of metals that would suggest that this area has been impacted by its use as a parking lot. Furthermore, migration of CVOCs identified on the former Goodrich South Campus is towards the west, away from this parcel.

ii. HP-5, H-13, and H-14 (Pacifica Parcels)

These three contiguous areas are located on or adjacent to the southwestern portion of the former Goodrich South Campus. Area HP-5 contains an L-shaped drainage (L-Ditch) along the southwestern edge of the former Goodrich South Campus that receives stormwater runoff from the former South Campus. Environmental sampling has been conducted throughout HP-5, H-13, and H-14. Haley & Aldrich's Human Health Risk Assessment (HHRA) July 2007 provides the most comprehensive evaluation of the risks to humans from exposure to contamination on these parcels. The HHRA (2007) was included as part of Geocon's review of environmental documents (see *Appendix 4.12-3*). The following numbers and types of environmental samples were collected:

- Twenty-eight soil borings for soil and shallow groundwater sampling
- Eleven cone penetrometer test (CPT) borings for multiple depth groundwater sampling
- Forty-one soil gas samples
- Ten groundwater monitoring wells
- Four additional groundwater monitoring wells
- Forty-eight soil gas samples
- Six drainage ditch sediment/soil samples.

The results of soil, soil gas, and groundwater studies are summarized in the following sections.

**Soil.** Soil found on Parcel HP-5 is impacted with CVOCs, most of which were detected in soil sampled between former Buildings 42 and 30, beneath former Building 30, and in the Chemical Stores area. CVOCs were not detected in soil samples collected from Parcels H-13 or H-14.

Soil sampled in three locations on HP-5 contained elevated concentrations of polychlorinated biphenyls (PCBs). PCBs were not detected in soil samples collected from H-13 or H-14. One soil sample collected on HP-5, from the west side of Building 42, contained elevated total recoverable petroleum hydrocarbons (TRPH).

Metal concentrations in soil samples collected from all three parcels are within naturally occurring background ranges. Total chromium may be slightly elevated, however concentrations are well below human health screening criteria.

There are three exposure areas that are within or overlap onto Parcel HP-5 that have COPC in the soil that exceed health-based remediation criteria. The contaminants that exceed remediation criteria on exposure area 10 (EA-10) are PCBs, metals, PAHs, and CVOCs.

CVOCs and PCBs were not detected in soil samples from Parcels H-13 or H-14. No exposure areas are known to exist on Parcels H-13 or H-14.

**Soil Gas.** Acetone is the only VOC that was detected beneath H-13 or H-14, which may be due to laboratory related contamination since it has not been routinely encountered. Three exposure areas were identified on Parcel HP-5 with concentrations of CVOCs in soil gas that exceed health-based remediation. Contamination is concentrated in the area of former Building 42 and former Building 30 at the northeast corner of HP-5.

**Groundwater.** Groundwater is impacted with CVOCs beneath HP-5, H-13, and H-14; however, only one exposure area on Parcel HP-5 exceeds health-based remediation criteria.

**UST.** Up to six USTs may exist on Parcel HP-5. One of the USTs was the site of a release case that received regulatory closure in 1991. It is not known if the other USTs have been removed since Goodrich ceased operations on the South Campus.

**Sediment.** The only location in which sediments were identified was the L-Ditch on Parcel HP-5. The L-Ditch was first evaluated in 2000 when Haley & Aldrich collected six sediment samples from the ditch and had them analyzed for VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), petroleum hydrocarbons, and metals. This study found that the sediments had not been impacted by VOCs or SVOCs. Metal concentrations in all samples except the one collected from a point near former Building 42 were within the range of naturally occurring concentrations. Additionally, low levels of PCBs and petroleum hydrocarbons were detected in the sample near former Building 42. Haley & Aldrich concluded that impacted sediment appeared to be confined to the one location and that impacted sediment was not migrating away from this area (Haley & Aldrich 2001).

A report on sediment sampling for the L-Ditch as part of the Goodrich South Campus facility (Haley & Aldrich 2006) summarized a more extensive sediment sampling for the L-Ditch and the stormwater conveyance system on the former Goodrich South Campus and presented the results of analysis of 146 sediment/soil samples collected from 52 locations within the L-Ditch. The findings are as follows:

- The stormwater conveyance system and weirs contain limited amounts of sediment.
- The contact between sediments within the L-Ditch and the underlying Bay deposits ranged from approximately 2 feet to greater than 6 feet bgs, which shows that the ditch was constructed in fill placed over Bay deposits.

- Relatively low PCB and SVOC concentrations appear to be sporadic in the samples in the L-Ditch.
- Of the 17 metals analyzed for in the L-Ditch sediments, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc are considered to be COPCs.
- Of the 17 metals analyzed for in the SWCS weir sediments, cadmium, copper, lead, mercury, nickel, silver, and zinc are considered to be COPCs.
- Building materials and rain gutter downspouts may have contributed to the elevated zinc concentrations.
- Elevated COPC concentrations are limited to the upper 1 to 2 feet of sediment.
- Elevated COPCs were confined primarily to the northeast corner of the L-Ditch and a few localized areas along the north to south trending portion of the L-Ditch.
- The data for sediment from the east to west portion of the L-Ditch, which flows to Outfall #3, shows lower concentrations of COPCs in the L-Ditch, indicating Outfall #3 is not impacted.
- The data for sediment from the north to south portion of the L-Ditch, which flows to Outfall #4, shows that higher concentrations of COPCs are limited to the northeast corner of the L-Ditch with relatively lower concentrations at two locations downstream.
- The surface metals analysis results indicate that surface water quality has not been adversely affected.

The results of the L-Ditch sampling were not compared to human health screening criteria but were only evaluated with respect to potential effects on ecological receptors. The lack of a human health screening is likely due to the limited access to and human use of the L-Ditch. A comparison of the sampling results against human health screening criteria suggests that the L-Ditch would not appear to be a significant source of contamination that would be a threat to human health under a commercial land use scenario.

### iii. H-15 (Former Goodrich South Campus)

H-15 consists of the southeast portion of the former Goodrich South Campus and is adjacent to and east of HP-5. Environmental sampling throughout H-15 includes the following:

- Two CPTs for groundwater sample collection
- Approximately 35 soil borings for soils and groundwater sample collection
- Three groundwater monitoring wells

- Two direct-push borings for soil and groundwater sample collection
- 15 soil gas samples.

Impacts to soil, soil gas, and groundwater are generally lower in concentration and less extensive than in other areas of the former Goodrich South Campus. The results of soils, soil gas, and groundwater studies are summarized below.

**Soil.** Soil in H-15 is impacted with CVOCs in the areas of former Building 30 and between former Building 32 and 67. Minimal detections of TRPH and no PCBs were reported from the soil samples. Metal concentrations in the samples were within naturally occurring background ranges. Total chromium are well below human health screening criteria. A total of five exposure areas were identified on H-15.

**Soil Gas.** Most of the CVOC detections were reported beneath the southern portion of the former Building 30 and northern half of former Building 5. The majority of the CVOC concentrations were lower than reported for other CVOC-impacted areas of the former South Campus. Two overlapping exposure areas are present that exceed health-based remediation criteria.

**Groundwater.** Groundwater beneath H-15 is impacted with CVOCs primarily beneath the southern portion of former Building 30 and the northern half of former Building 5. Groundwater monitoring has demonstrated that the concentrations of CVOCs in groundwater beneath H-15 are much lower than other areas of the former South Campus.

iv. H-3 (Gaylord Resort and Convention Center (RCC))

The H-3 area includes undeveloped land, a portion of the Chula Vista RV Resort, Marina Parkway, a portion of the existing South Bay Boatyard, and asphalt-paved areas. A Phase I environmental site assessment identified soil and groundwater impacted by CVOCs located on the adjacent Goodrich North Campus and extending beneath the eastern portion of H-3. Ninyo & Moore performed an environmental assessment of this area in May 2006, which consisted of collection and analysis of soil, soil vapor, and groundwater (see *Appendix 4.12-2*). Soil vapor testing, soil testing, and groundwater sampling was conducted at 23 locations under a work plan prepared in accordance with DEH requirements.

The major sources of known contaminants were found to be chlorinated solvents located up gradient and east of the parcel at the present and former Goodrich facilities. The sources have caused impacts to three zones of groundwater up gradient of the parcel: Zone A (5–20 feet bgs), upper Zone B (UB) (25–50 feet bgs), and lower Zone B (LB) (50–125 feet bgs).

Chemicals of potential concern were considered “non-detect” for all locations on the parcel. Of all sites sampled, the highest levels of chemicals of potential concern were identified at sample

locations NM21 (northeast corner of H-9) and NM17 (beneath Building 910). Although levels at all locations were low (including aromatic volatile organic compounds), the highest sample levels were used to predict the risk to human health in this area. Based on results presented in the study, cumulative cancer risk for each contaminant from the various exposure routes to future receptors on H-3 were quantified and found to be at an acceptable level of 1 in 17 million, well below the significance threshold of one in one million. The cumulative hazard index was calculated as 0.0006, which is within the acceptable limit of one.

v. HP-1 and H-8 (Signature Park)

Historical and aerial photographs show that these areas were created by placement of fill into the San Diego Bay sometime between 1957 and 1964. Given the relatively recent development of these areas and lack of industrial activities, it is not likely that these areas would have been impacted by hazardous waste or petroleum products. There are no regulatory records of a UST leaking or other petroleum or hazardous waste incidents for this site. Based on the above findings, further environmental investigation of these areas does not appear to be warranted. If CVOCs are present beneath HP-1 and H-8, they are likely at depths that do not present a health risk to future site occupants given the distance from the Goodrich North Campus.

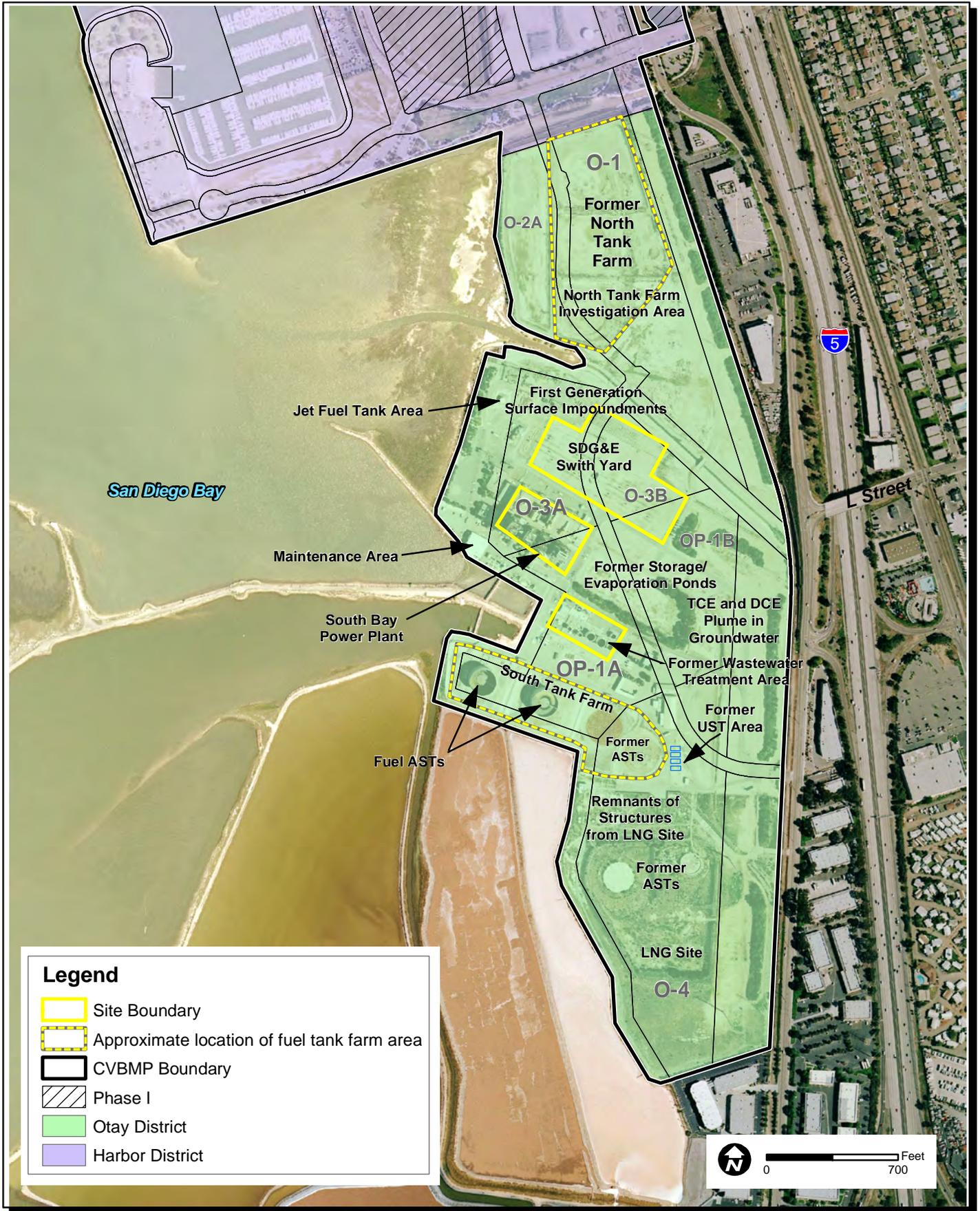
#### **4.12.3.3 Otay District**

In 1953, the SBPP was developed in the southern project area now proposed as the Otay District. A site vicinity map of the Otay District is shown on *Figure 4.12-4*. The SBPP is located south of J Street and occupies approximately 115 acres of land in the Otay District.

*Table 4.12-3* provides a list of sites identified in the Otay District that were identified within the search of hazardous materials databases. As previously detailed in *Table 4.12-1*, only a portion of these sites are considered a potential environmental concern, but for purposes of disclosure all sites are listed herein.

The SBPP includes an outdoor plant constructed around generators and boilers located at 990 Bay Boulevard along the eastern shore of San Diego Bay and within the Otay District of the project. In 1999, SDG&E divested the SBPP and was acquired by the Port District, which was in turn leased to Duke Energy South Bay, LLC (Duke Energy). In 2006, LS Power assumed ownership of the SBPP. Dynegy subsequently acquired SBPP and currently operates the power plant to provide electricity to the San Diego region on land leased from the Port.

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AERIAL SOURCE: DIGITAL GLOBE, MARCH 2007

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Site Vicinity Map of Otay District

FIGURE 4.12  
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**TABLE 4.12-3  
Facilities of Potential Environmental Concern Located Within Otay District Boundaries**

Address <sup>1</sup>	Proposed CVBMP District	Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
<b>Underground Storage Tank (UST) List</b>			
South Bay Power Plant 990 Bay Boulevard	Otay	Y	This facility is reported as having seven USTs. The USTs ranged in size from 15 gallons to 500 gallons in capacity. The USTs contained diesel fuel, unleaded gasoline, and waste oil. The contents of one of the USTs are unknown. The USTs have reportedly been removed from the facility. Information regarding the ASTs present at this facility was not available in the database report.
<b>Leaking Underground Storage Tank (LUST) List</b>			
South Bay Power Plant 990 Bay Boulevard	Otay	Y	This facility is reported as having four unauthorized release cases. The releases occurred from 1986 to June 2001. Three of the releases affected soil only, while the extent of the fourth was not listed. The releases reportedly involved gasoline and diesel fuel. One of the four releases had reportedly been granted closure from the DEH, while the remaining three releases are listed as active.
<b>Resource Conservation and Recovery Act (RCRA) Generator List</b>			
South Bay Power Plant 990 Bay Boulevard	Otay	Y	According to the database report, this facility is a large-quantity generator of hazardous waste, generating more than 1,000 kilograms of hazardous waste per month. Four violations were reported for this facility and were listed as violations of generator requirements.
<b>RCRA No Longer Regulated List</b>			
Liquefied Natural Gas Plant 990 Bay Boulevard	Otay	Unknown	Detailed information was not available from the database report. This facility historically operated on the southernmost portion of the subject site. This facility historically maintained large ASTs that have been removed from the facility.
San Diego Gas & Electric 990 Bay Boulevard	Otay	Y	This facility provided electrical and natural gas services, and was taken over by Duke Energy. Additional information regarding this facility was not available in the database report.
<b>Solid Waste Landfill (SWL) List</b>			
South Bay Power Plant 990 Bay Boulevard West	Otay	Y	According to the database report, this facility is an industrial facility that discharges waste cooling water. Secondary waste is limited to non-hazardous solid waste. Three cease and desist orders were issued in 1987, 1988, and 1991.

TABLE 4.12-3 (Cont.)

Address <sup>1</sup>	Proposed CVBMP District	Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
<b>Emergency Response Notification System (ERNS)</b>			
Duke Energy 990 Bay Boulevard	Olay	N	According to the database report, approximately 200 gallons of fuel oil was released to land from a tank overflow in 2001. The facility used absorbents to clean up the release. Based on the nature of the release, the cleanup activities, and the limited amount of fuel oil released, there is a low likelihood that this release poses an environmental concern to redevelopment of the subject site.
South Bay Power Plant/Switch Yard 990 Bay Boulevard	Olay	N	According to the database report, a release of 125 gallons of mineral oil occurred due to a device failure at this facility in 2001. Soil was impacted and the material was contained, the soil was excavated, and the clean up was reportedly underway. Based on the nature of the material released, and the cleanup activities that occurred, there is a low likelihood that this release poses an environmental concern to redevelopment of the subject site.
South Bay Power Plant 990 Bay Boulevard	Olay	Y	According to the database report, a release of fuel oil occurred in one of the tank farms at this facility in 2000. The cause of the release was listed as unknown and the amount released was also listed as unknown. It was noted that after demolition was complete, the clean up would begin.
San Diego Gas & Electric 990 Bay Boulevard	Olay	Y	According to the database report, fuel oil was released from a fuel line in 1994. Land was impacted by the release. The facility used absorbents to clean up the release.
"At the Plant" 990 Bay Boulevard	Olay	N	According to the database report, 25 gallons of lubricating oil was released to land when the oil spilled out of a reservoir for an unknown reason in 1991. The contaminated soil was excavated. Based on the nature of the material released, the limited volume of material released, and the cleanup activities that occurred, there is a low likelihood that this release poses an environmental concern to redevelopment of the subject site.
<b>Permits List</b>			
South Bay Power Plant 990 Bay Boulevard	Olay	Y	According to the database report, one violation was issued to this facility in 1998 for the disposal of hazardous waste to an unauthorized point.

<sup>1</sup> Areas of potential environmental concern are shown in Figure 4.12-1. See also Figure 4.12-2 (Sweetwater District), Figure 4.12-3 (Harbor District), and Figure 4.12-4 (Otay District).

<sup>2</sup> The Environmental Concern determination is based on a review of information contained in the TrackInfo report and information obtained from regulatory agencies.

The power plant is fueled primarily by natural gas, which is transported to the facility through a network of local underground pipelines. However, the power plant retains the ability to revert to using fuel oil at any time. The facility includes a 728-megawatt thermal power plant, small gas turbine plant, switchyard, ASTs for fuel oil, a cooling water system, and ancillary systems. The gas turbine unit is fueled with jet-A fuel oil in a 100,000 AST. The power plant has four steam-driven generating units fired by natural gas or residual No. 6 fuel oil as back-up. Natural gas has been the primary fuel used during the past 14 years. Fuel oil was formerly stored at the North and South Tank Farms in Tanks 1–7. Portions of the North and South Tank Farms have gone through decommissioning and Tanks 3–7 have been removed. A former wastewater treatment plant, which consisted of six wastewater holding ASTs and six treatment ASTs is located southeast of the power plant. The entire wastewater treatment plant is provided with secondary containment although it is no longer in use.

The businesses observed in the project area during the site reconnaissance that are expected to store hazardous substances and petroleum products include the SBPP. Large quantities of hazardous materials contained at the SBPP are used in the operation of the power plant and include materials such as fuel oil; diesel fuel; jet fuel; compressor, transformer, and turbine oil; batteries; kerosene; Fyrquel hydraulic fluid; propane gas, acetylene gas, and other compressed gases; asbestos gaskets and pipe insulation; ammonium hydroxide; calcium nitrate tetrahydrate; sodium hydroxide; sodium hypochlorite; duo power alkaline detergent; scale inhibitor; oxygen scavenger; nitric oxide; and refrigerated liquid.

Site investigation and remediation activities for unauthorized release cases and site-wide assessment activities have occurred in several locations at the SBPP facility. The SBPP facility in the Otay District is currently being reviewed by SDG&E/DTSC for health risk due to on-site contamination. In 2001, SDG&E began coordination with DEH for assessment and remediation. The DTSC subsequently advised DEH that it retained jurisdiction of the SBPP as a tiered-permitting facility. DTSC issued a letter of comment in 2003 suggesting preparation of a work plan to address solid waste management units (SWMUs) and areas of concern identified by the DTSC. SDG&E has been acting under an Interim Agreement with DTSC Cypress office with respect to site investigations. Ongoing negotiations are also underway regarding the issuance of a Corrective Action Consent Agreement to formalize corrective actions and identify SWMUs and areas of concern on the site that require further investigation.

A Facility Investigation Work Plan for the SBPP was prepared by Haley & Aldrich in June 2005 on behalf of SDG&E. The purpose of this plan is to obtain representative soil and groundwater quality data to allow an assessment of potential chemical impacts at specific SWMUs and areas of concern and to gather data on the soil stratigraphy to assess migration potential and support subsequent investigations.

Site-wide assessment activities were conducted at the SBPP from 1998 to 2001. Based on the results of the Phase I Environmental Site Assessment, a Phase II Environmental Site Assessment was conducted by Fluor Daniel that included the sampling of soils at various locations and the installation of multiple temporary and permanent groundwater monitoring wells. Results of a baseline human-health risk assessment indicated that the human health risk was acceptable for continued industrial uses of the site. However, the report identified five areas of contamination that would require remediation.

The following five areas in which contaminated soil and groundwater was reported include the UST area adjacent to and east of the South Tank Farm, the Jet Fuel Tank Area (south of switchyard), the area adjacent to the north of the Jet Fuel Tank Area (south of switchyard), TCE and DCE Plume in Groundwater (east of the switchyard), and East Loop (adjacent to south of the power plant). These five areas are shown on *Figure 4.12-4*. These sites were found to contain contaminants such as TCE, DCE, benzene, free-phase fuel hydrocarbons, metal and hydrocarbon contaminants. More detailed information regarding these five sites is summarized in Section 7 in *Appendix 4.12-1*. The Fluor Daniel report recommended remediation of groundwater and soil in these areas. *Appendix 4.12-1* summarizes the UST Site Remediation Report conducted by Ogden in December 1999. Corrective action plans for the five areas of potential environmental concern are currently being prepared for submittal to the DTSC (Hays pers. comm. 2006).

Approximately 21,000 cubic yards of soil has been excavated and removed since removal of the ASTs and piping as part of a decommissioning process by Duke Energy. SDG&E's work plan proposes borings in these and additional locations throughout the Otay District. In general, the purpose is to characterize chemicals of potential concern if present, including VOCs, semi volatile organic compounds, benzene, toluene, ethylbenzene, and xylenes, and metals; complete post removal investigations; and/or to confirm the need, if any, for post-remediation activities.

No. 6 fuel is stored in ASTs on site. Fuel has also been stored in ASTs located in the Jet Fuel Tank Area and two areas, which were identified as the North Tank Farm and the South Tank Farm (see *Figure 4.12-4*).

#### a. Release Cases

Four unauthorized release cases have been opened in association with this facility, three of which remain open. Release 1 was a result of a failed precision test associated with a UST. The UST from Release 1 and another UST located east of the South Tank Farm have been removed. Section 7 in *Appendix 4.12-1* summarizes the Site Assessment conducted by Woodward-Clyde Consultants in January 1988 (see *Appendix 4.12-1*). By September 1988, the DEH determined the case closed.

A second unauthorized release case (believed to be associated with one of the remaining three release cases) was opened on January 1, 2000, as a result of observations made by DEH personnel during the removal of one 500-gallon diesel UST and one 500-gallon gasoline UST from the UST area located adjacent to the east of the South Tank Farm. A UST Removal Report prepared by Ogden Environmental (Ogden), dated January 2000, indicated that six soil samples were collected from the tank excavation pit during the removal activities. TPH-g was detected at a maximum concentration of 0.53 mg/kg. Based on the analytical results, Ogden concluded that further investigation would not be required. Additional information regarding this release was not on file at the regulatory agencies.

Specific information regarding the remaining two unauthorized releases was not available in the DEH or RWQCB files reviewed. According to the environmental database report, three releases at this facility are still considered active. DEH documents indicated that the file for this facility was transferred to the DTSC and are available at the DTSC Cypress office (SDGE Comment O-18).

i. Aboveground Storage Tanks and Underground Storage Tanks

During site reconnaissance, ASTs were observed at the SBPP. According to the environmental database report, USTs have been associated with the SBPP.

An open metal scrap bin containing metal waste exists adjacent to the machine shop. However, no leaks, stains, or metal waste was observed on the ground surface in the vicinity of this trash bin. The facility also contains fuel oil, sodium bicarbonate, and other chemicals stored in large ASTs, several flammable storage cabinets, and a compressed gas storage area located on the facility. No leaks or stains were observed in the vicinity of these hazardous materials during reconnaissance.

The former North Tank Farm area is located north of the Telegraph Creek Channel in the northern Otay District. Remaining SWMU areas are within areas proposed for the future RV Park and South Park (Parcels O-3A/O-3B, OP-1A/OP-1B, and O-1). Four ASTs have been identified at the former North Tank Farm area. Prior to removal, three fuel oil tanks each held a capacity of 375,000 barrels of stored fuel oil. In addition, this site had one 10,000-barrel AST stored displacement of cutter oil (diesel), pump pit/deck, and aboveground piping connecting the pump pit/deck to each of the tanks.

ii. Polychlorinated Biphenyls

Electric transformers can be a source of PCBs. Pole-mounted and pad-mounted transformers, which may use hydraulic or dielectric fluid, were observed within the project site boundaries. Although these types of transformers may contain PCBs, according to an SDG&E representative,

SDG&E has never specified PCB transformers for its distribution service. Furthermore, no leaks or stains were observed in the vicinity of the transformers during site reconnaissance.

iii. Wastewater Systems

A wastewater treatment facility historically operated at the SBPP and the oil–water separator is currently being processed for deactivation through the City and/or Port.

iv. Wells

Groundwater monitoring wells were installed at the former UST area within the SBPP facility (see *Figure 4.12-4*). Information regarding the monitoring wells and site investigation activities associated with these two facilities is briefly discussed later in this chapter and described in detail in Sections 6 and 7 of the HMTS *Appendix 4.12-1*. In addition, there are permitted wells for the Jet Fuel area and an open area on Parcels O-3A and OP-1A (SDG&E Comment O-19).

v. Other Potential Issues

In addition, numerous concrete/asphalt patches were observed at the SBPP. These saw cuts and patches are suspected to be the result of site assessment and tank removal activities. More information regarding the tank removal and site investigation activities associated with these two facilities is contained in Sections 6 and 7 of the HMTS (see *Appendix 4.12-1*).

vi. Off-Site Properties of Potential Concern

The following sections describe information obtained from various sources regarding properties of potential environmental concern located near the project site. Identified facilities include the Goodrich North Campus facility, the proposed Bay View RV Park and Boat Facility site, and the Sweetwater Marsh NWR. Groundwater and soil contamination are the primary issues of concern regarding hazardous materials off site. More detailed information can be referenced in *Appendix 4.12-1*.

vii. Goodrich North Campus Facility

As mentioned above, of the 13 releases associated with the Rohr Industries, Release Numbers 2, 6, 7, 8, 11, 12, and 13 occurred in the portion of the facility that is located adjacent to the north of the Harbor District at the Goodrich North Campus. Information regarding these releases is described below. It is important to note that the extent of contamination associated with three areas, identified as Releases 11, 12, and 13, has not been fully delineated. These three areas of potential concern are located off site, at the south end of the Goodrich North Campus facility.

**Release 2.** This release is associated with the removal of a 10,000 gallon diesel UST that was located adjacent to the west of Building 57 (see *Figure 4.12-4*). TPH-d was detected in groundwater in this area. In 2002, the case was granted closure by the DEH after the majority of the soils and groundwater contaminated with hazardous materials were excavated. Based on the distance of this release from the site (approximately 1,500 feet from the Sweetwater District), there is a low likelihood that this release has impacted the project (see *Appendix 4.12-1*).

**Release 6.** This release is associated with a damaged C-70 Salt Bath tank located in Building 1. Hexavalent chromium was found in groundwater samples. Currently, the site is being remediated as part of the assessment/remediation activities being conducted in response to CAO 98-08. Based on the distance of this release from the site (approximately 1.25 miles from the Sweetwater District and 650 feet from the Harbor District) and the direction of groundwater flow, there is a low likelihood that this release has impacted the project site.

**Release 7.** This release is associated with a solvent AST located approximately 60 feet north of the former UST area (i.e., Release 2). Measurable concentrations of VOCs were detected in groundwater adjacent to Building 57 while monitoring groundwater for Release 2. Pursuant to CAO 98-08, additional delineation activities have been conducted for this release as part of the required assessment and remediation activities. Again, based on the distance of this release from the project site, there is a low likelihood that this release has impacted the project site.

**Release 8.** This release is associated with the closure of a vapor degreaser located in Building 1. TCE was detected in groundwater. This release is being dealt with under CAO 98-08. Again, based on the distance of this release from the project site, there is a low likelihood that this release has impacted the project site.

**Release 11.** An unauthorized release was detected during the removal of a concrete sump/emergency containment vault from the Oiler Shed located adjacent to the west of southwest corner of Building 1 on June 15, 1999. This sump was utilized to collect and recycle machine and cooling oils from the area. Seven samples were collected from the sump at the time of removal of the sump. Hydrocarbon contamination was reported to be present beneath the sump. The most recent report on file for this release was a work plan for subsurface investigation that was prepared by URS Greiner Woodward Clyde and dated May 9, 2000 (*Appendix 4.12-1*). The report indicated that an additional three borings would be drilled in this area for delineation purposes. A letter from the DEH, dated April 5, 2004, stated that the release was a low priority and, due to lack of funding, it was to be placed inactive until additional funding became available. Because of the proximity of this release from the northern boundary of the Harbor District (approximately 100 feet), there is a moderate likelihood that this release has impacted parcels within the Harbor District.

**Release 12.** An unauthorized release was detected during the removal of the Machine Shop Collection Sump from the south-central portion of Building 1 on June 15, 1999. This sump was utilized to collect hydraulic oil from large floor-mounted milling machines. The oil was subsequently pumped out of the sump and into a 55-gallon drum that was then disposed off site by a waste hauler. In 1993, the machines in this area were retrofitted with individual hydraulic systems, so the sump was no longer utilized for oil collection. A soil sample collected during removal activities contained TRPH. A work plan for additional site investigation, dated May 9, 2000, was on file for this release. The work plan was approved by the DEH on May 16, 2000. More recent information regarding this release was not on file. Based on the information contained in the DEH file for Release No. 11, this release has been made inactive for the time being. Because of the proximity of this release from the northern boundary of the Harbor District (approximately 300 feet), there is a moderate likelihood that this release has impacted parcels within the Harbor District.

**Release 13.** An unauthorized release case was opened on April 24, 2000, after odors and staining were observed by DEH personnel during the removal of a 550-gallon coolant oil UST from the Oiler Shed adjacent to the west of the southwest corner of Building 1. The undocumented UST had been encountered during remodeling activities being conducted in the Oiler Shed. The contents of the UST were unknown (approximately 24 inches of liquid still remained in the UST). Samples of the liquid in the tank collected during and prior to the UST removal revealed the presence of TPH and volatile organic compounds. In addition, TCE was detected in soil samples collected from the UST excavation pit. The UST Removal Report indicates that groundwater had not been impacted by the release. Based on information obtained from the RWQCB files, this release case has been classified as a low-risk soil case. More recent information was not available regarding this release. Based on the proximity of this release from the northern boundary of the Harbor District (approximately 175 feet), there is a moderate likelihood that this release has impacted parcels within the Harbor District.

viii. Proposed Bay View RV Park and Boat Facility

This property is addressed 995 Bay Boulevard and shows up as an active LUST facility in the environmental database report. This facility is located on the east side of Bay Boulevard adjacent to the east of the central portion of the Otay District. The property owner was required by the City to conduct Phase I and Phase II environmental site assessments regarding suspect contamination at this facility in anticipation of redeveloping the property with an asphalt-paved parking lot for the parking of boats and RVs.

A 12-foot by 10-foot stained area was observed and subsequently, CERES Environmental conducted multiple soil samples and a soil vapor survey at the facility. The soil vapor sampling points were collected from this facility and analyzed for halogenated solvents and VOCs. The

soil samples did not contain TRPH and VOCs at concentrations greater than the method detection limits. After the stained area was excavated and disposed off site, CERES Environmental concluded that the potential for adverse impacts to the property from VOCs was low. The DEH agreed that there did not appear to be significant contamination at this facility. Based on the above information, there is a low likelihood that this facility poses an environmental concern to the project site at the present time.

ix. Sweetwater Marsh National Wildlife Refuge

This 17.5-acre area consists of the portion of the Sweetwater Marsh NWR located between G Street and Lagoon Drive adjacent to the south of the Sweetwater District. A screening investigation of the marsh was performed by P & D Environmental (April 2003) to determine whether an approximately 3.9-acre area of undocumented fill in the northern portion of the marsh contained contaminants at concentrations that would require special treatment and disposal if excavation and removed from the marsh. The investigation was funded by a private developer in connection with planning for proposed development on private property situated north of the F & G Street Marsh. The report revealed that prior to fencing by the U.S. Fish and Wildlife Service (USFWS) in 1988, the undocumented fill area was readily accessible to public dumping via Lagoon Drive. The report stated that the fill contains a wide range of discarded materials, including construction debris, municipal street sweepings, and ash from municipal trash burning.

Multiple soil borings were advanced as part of the assessment activities. The samples were analyzed for Title 22 metals, hexavalent chromium, TRPH, VOCs, semi-volatile organic compounds, PAHs, PCBs, polychlorinated dibenzo-p-dioxins (PCDDs), and polychlorinated dibenzofurans (PCDFs). Analysis of the samples revealed that metals did not PRGs for residential use, with the exception of lead, mercury, and cadmium. TRPH was detected in three borings. Zinc in excess of the regulatory limit was found in two groundwater samples. With regard to Boring B-1, cadmium was detected in soil at a level that barely exceeded the PRG. Other contaminants were not detected above the PRGs in the soil and groundwater samples collected from this boring (see *Figure 4.12-2*). Based on the results of the sampling activities, the report concluded that removal of the fill material would require a hazardous waste remediation effort. Based on the analytical results associated with the samples analyzed from Boring B-1 located within the Sweetwater District (see *Figure 4.12-2*), there is a low likelihood that the disposal activities that occurred in the 3.9-acre area of undocumented fill in the northern portion of the marsh will have a significant impact on the project site (see *Appendix 4.12-2*).

#### 4.12.4 Impact Significance Criteria

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on public safety if it:

1. Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
3. Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. Is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment would be created.
5. Is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would result in a safety hazard for people residing or working in the project area.
6. Impairs implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan.

#### 4.12.5 Impact Analysis

Based on the significance criteria and the findings of the technical studies referenced above, the potential environmental impact areas/issues have been identified in the study area and are discussed below:

1. **The Proposed Project would have a significant impact if it creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**
  - a. Program Level
    - i. Excavation, Demolition, and Construction

During excavation, demolition and construction activities associated with the Proposed Project, hazardous materials will be encountered within or adjacent to the boundaries of the site in the vicinity of several on-site areas of concern and three off-site areas of concern as presented in *Table 4.12-1*.

On-site areas of concern include the areas identified within the boundaries of the former Goodrich South Campus facility (Harbor District) and the SBPP (Otay District), and the Sweetwater District. Several unauthorized releases of hazardous materials/wastes have occurred at both the former Goodrich South Campus and SBPP. Residual soil and groundwater contamination associated with these unauthorized releases exists at these two facilities. The aerial extent of several unauthorized releases has not been fully delineated to date. The Sweetwater District, which was used extensively for agricultural purposes until the 1980s, is expected to contain residual concentrations of pesticides and herbicides. In general, many pesticides applied to soil are immobile and do not generally leach downward to groundwater. In addition, because most pesticides tend to persist in the upper 1 to 2 feet of topsoil, such contamination will be redistributed over the site during grading activities. There is also a possibility that other areas of contamination exist within the boundaries of the site that have not been identified to date.

Three off-site areas of concern have been identified located at the south end of the Goodrich North Campus facility identified as releases No. 11, 12, and 13. The aerial extent of this contamination associated with these three areas has not been fully delineated to date. Additional assessment would be required to determine the lateral and vertical extent of the contamination in these areas.

Although excavation, demolition, and construction activities are short-term, the potential to encounter contamination during such activities associated with the Proposed Project is considered a significant impact (**Significant Impact 4.12-1**). Mitigation measures would be required in order to reduce impacts.

Excavation, demolition, and construction activities would temporarily involve the transportation, use, and/or disposal of hazardous materials. Relatively small amounts of hazardous substances such as gasoline, diesel fuel, lubricating oil, grease, solvents, caulking, paint, and welding gases would be used on site for construction activities. There is the potential for construction debris to accumulate and for hazardous materials to be contained in stockpiles on the project site. Storage and use of such substances would be short term and would be subject to federal, state, and local health and safety requirements. The Proposed Project would include the proper removal and disposal of all construction debris as mandated by applicable regulations. Consequently, the Proposed Project would not have a significant hazardous materials impact associated with the transportation, use, and/or disposal of hazardous substances during excavation, demolition, and construction activities. Although not expected to occur, a spill or unintentional discharge of fuel, lubricants, or hydraulic fluid from the transportation of construction materials and/or the equipment used during construction, including dredge and fill activities, would result in significant impacts on water quality in a worst-case scenario (**Significant Impact 4.12-2**).

Groundwater level within the project area varies and it is likely that groundwater would be encountered during construction. Short-term water quality impacts during construction will be minimized by complying with federal and state regulations for groundwater discharge. All discharges will be in compliance with RWQCB requirements. If dewatering activities associated with trenching, boring, and excavation result in potential exposure to contaminated groundwater and/or soils, the Port of San Diego will ensure compliance with the State of California CCR Title 23 Health and Safety Regulations. The potential for exposure to contaminated soils during dewatering activities is considered a significant impact (**Significant Impact 4.12-3**) and will require mitigation.

Implementation of specific design measures will be required to avoid potential impacts from cross contamination of groundwater during dewatering activities. If contaminants have extended in the subtidal areas of the harbor basin, dredging fill and bay sediment would potentially upset and suspend or release hazardous contaminants into the marine environment. The suspension and/or release of contaminants in the water could create a significant hazard to the marine resources living at this location and in the surrounding area (**Significant Impact 4.12-4**).

Because of the previous uses throughout the project site, both existing and undocumented USTs are located throughout the site and may require removal during construction activities. Any USTs that are removed during redevelopment activities should be removed under permit by the DEH. The potential to encounter contaminated soils associated with removal of identified and unidentified USTs is considered a significant impact (**Significant Impact 4.12-5**) and would require mitigation.

Demolition of existing structures within the Sweetwater, Harbor, and Otay Districts would be necessary in order to construct the Proposed Project components. Based on the dates of construction of structures located within the boundaries of the project sites (prior to 1980), there is a high likelihood that asbestos-containing materials (ACMs) and lead based paints (LBPs) are present within these structures. Other hazardous materials may also be encountered in site structures, such as mercury-containing thermostats, fluorescent light tubes, and Freon-containing refrigeration systems. Furthermore, the environmental database report determined that facilities at 596 Sandpiper Way, 997 G Street, and 979 G Street have permits to store hazardous materials on site. Demolition activities at these locations could result in a potential exposure to hazardous substances. The potential for exposure of ACMs, LBPs, and other hazardous materials during demolition activities is considered a significant impact (**Significant Impact 4.12-6**) and would require mitigation.

Construction workers and individuals working on site and within proximity to hazardous materials and contaminated soil conditions would be at a potential risk of exposure to these

sources. The potential for construction workers to be exposed to contaminated soil, soil gas, and/or groundwater is considered a significant impact (**Significant Impact 4.12-7**).

ii. Operation

Operation of the Proposed Project may involve the use and/or storage of hazardous materials. Toxic and/or caustic substances, including oil and gasoline, would be used by proposed land uses and water-related activities throughout the life of the project. Any facilities in the Proposed Project area that intend to transport, use, and dispose of hazardous materials must obtain the applicable regulatory permits and must comply with applicable laws and regulations. These laws, regulations, and permitting requirements have been adopted by federal, state, and local legislatures and are enforced by the regulatory agencies to prevent a significant hazard to the public or the environment. All activities would be in compliance with current regulations and strictly adhere to applicable guidelines pertaining to hazardous materials storage. Therefore, the Proposed Project would not have a significant hazardous materials impact associated with the use, storage, or routine transportation of hazardous substances during operation.

Leakages from vehicles using the parking structures and on-site parking at the residential development are another source of contamination associated with operation of the Proposed Project. Leakages from vehicles have the potential to be carried off in the stormwater runoff. This would be minimized via implementation of the Stormwater Pollution Prevention Plan (SWPPP), which would identify best management practices (BMPs) to prevent contamination of soils and groundwater (see *Section 4.5, Hydrology and Water Quality*). Therefore, impacts from vehicle leakages would be less than significant.

In regards to operation of the signature park throughout the site, fertilizers and landscape chemicals may be used for regular maintenance activities. The potential for hazardous irrigation runoff to contaminate surface waters and/or habitat areas is considered a significant impact (**Significant Impact 4.12-8**) that must be addressed in all parks throughout the program.

The human health risk associated with operation of the project site was assessed in order to determine whether development would be acceptable for future site occupants/users and prevent exposure to the extent practicable. The Human Health Screening Evaluation of the Harbor District (Ninyo & Moore 2006) provided a conservative worst-case scenario screening, finding a potentially significant hazard risk for one or more receptors in six parcels within the Harbor District. The report declared that the calculated risk values for the six parcels were inherently conservative and may overestimate actual risk. The report concluded that the uncertainties would be reduced in the planned HHRA by using more realistic and current site characterization data, site-specific physical characteristics of the subsurface, a more accurate representation of the building siting and building features, and an improved estimate of the receptor exposure parameters. A HHRA of the South Campus Facility was completed by Haley & Aldrich in July

2007 as a project level analysis for Phase I development. The findings and recommendations of this report are discussed in greater detail below, at a project level analysis, and are summarized in Geocon's 2008 Phase I Report (see *Appendix 4.12-3*).

Results of a baseline HHRA of the SBPP indicated that the human health risk was acceptable for continued industrial uses of the site.

In the Sweetwater District, it would be necessary to prevent exposure to future site occupants from pesticides/herbicides in the soil and groundwater. Given the existing hazardous materials conditions throughout the project site, operation of the Proposed Project could result in exposure to residents and/or users of the site to health risks, depending on type of contamination and the proposed use of the site. Methods of exposure can be via dermal exposure, ingestion, and/or inhalation. This impact would be considered significant (**Significant Impact 4.12-9**).

An assessment of human health risk associated with future development in the Sweetwater, Harbor, and Otay Districts in subsequent phases has not been determined for all parcels and for all land use types. The potential for development in Phases II through IV of the Proposed Project to expose residents and/or users of the site to health risks would be a significant impact (**Significant Impact 4.12-10**).

b. Project and Program Level (Phase I) and H-15

The proposed Phase I project and program level components do not propose any features that would regularly emit hazardous materials into the water, ground, or air as part of its function. Operation of Phase I project and program level components may, however, involve the use and/or storage of hazardous materials. Operation on Parcels H-13 and H-14 would include the use of typical household cleaning and maintenance products. Hazardous materials associated with the Signature Parks (Parcels S-2, H-8, and HP-1) may include fertilizers and landscape chemicals for regular maintenance activities. The potential for hazardous irrigation runoff to contaminate surface waters and/or habitat areas is considered a significant impact (same as **Significant Impact 4.12-8**) that must be addressed in all parks throughout the project area.

Any facilities in the Proposed Project area which intend to transport, use, and dispose of hazardous materials must obtain the applicable regulatory permits and must comply with applicable laws and regulations. These laws, regulations, and permitting requirements have been adopted by federal, state, and local legislatures and are enforced by the regulatory agencies to prevent a significant hazard to the public or the environment. All activities would be in compliance with current regulations and strictly adhere to applicable guidelines pertaining to hazardous materials storage. Therefore, the Proposed Project would not have a significant hazardous materials impact associated with the use, storage, or routine transportation of hazardous substances during operation.

Existing contamination in the soil and/or groundwater may pose a concern to future users of the project and program level component sites. An evaluation of the health risk associated with development of Phase I project and program level components, as well as one Phase II program level area, has been completed and is presented below for each ~~project level~~ parcel. Known concentrations of COPCs in the soil and CVOCs associated with soil gas and groundwater that exceed health-based criteria, are greater than the cumulative cancer risk of 1 in 1 million and/or present uncertain conditions involving COPCs and CVOCs would result in a significant health risk and significant impact to public safety.

i. S-2 (Signature Park)

A risk assessment of the site prepared by P & D Environmental determined that no threat to human health or the environment currently exists from soil contamination resulting from detected concentrations of pesticides, arsenic, or lead (see *Appendix 4.12-7*). Furthermore, the single detection of pesticides in groundwater was likely the result of a damaged well that has been repaired, thereby eliminating the possible source of cross contamination. Consequently, the single detection of pesticides in groundwater was below the PRG for tap water and does not represent a threat to human health or the environment. All soils and groundwater samples analyzed for diesel and gasoline range organics, BTEX, herbicides, and polynuclear hydrocarbons were not detected at or above the laboratory detection limit. The areas sampled do not appear to necessitate further investigation at this time, although the lateral extent of pesticides in surficial soils may not be fully assessed. Should development occur at the site, the soil containing pesticides would be excavated and disposed of at an appropriate facility, as required by applicable law.

ii. H-3 (~~Gaylord~~ Resort and Conference Center (RCC))

Ninyo & Moore completed a site-specific HHRA on the Parcel H-3 area in February 2006 (*Appendix 4.12-6*). No sources of contamination were identified on the H-3 area and the only direct exposure pathway identified was potential vapor intrusion into indoor air spaces of structures to be built on H-3. The report concluded that the risk to future site users from vapor intrusion is less than significant. Although the risk assessment concluded that the inhalation risk from intrusion of CVOC vapors into future building is less than significant, the uncertainty with regard to future migration of CVOCs from the Goodrich North Campus beneath H-3 presents a significant impact (**Significant Impact 4.12-11**).

Chemicals of potential concern were considered “non-detect” for all locations on Parcel H-3. Although excavation, demolition, and construction activities would be short-term, the potential to encounter contamination during such activities associated with development of the ~~Gaylord~~ RCC is considered a significant impact (**Significant Impact 4.12-12**). In addition, the potential for exposure to contaminated soils during dewatering activities is considered a significant impact

(**Significant Impact 4.12-13**). Implementation of specific design measures will be required to avoid potential impacts from cross contamination of groundwater during dewatering activities.

iii. HP-1 and H-8 (Signature Park)

Because these parcels are planned for development as a signature park, and because of the depth of CVOC contamination (upper B and lower B zones), the potential for volatilization to the ground surface would be low and the resulting health risk to future site occupants of HP-1 and H-8 would be less than significant.

iv. H-18 (Former Goodrich South Campus Eastern Parking Lot)

Analysis of soil, soil gas, and groundwater samples from this area did not detect CVOCs or levels of metals that would suggest that this area has been impacted by its use as a parking lot. No investigation appears to be warranted and the area appears to be suitable for development for its intended use as a parking structure.

v. HP-5, H-13, and H-14 (Pacifica Parcels)

A HHRA prepared by Haley & Aldrich (July 2007) assesses the potential adverse health risks to future human receptors from exposures during and after redevelopment. These results are summarized in Geocon's April 2008 Phase I report (*Appendix 4.12-3*). As stated above, Haley & Aldrich's HHRA shows three exposure areas (EAs) that are within or overlapping into HP-5 that have COPC concentrations in soil that exceed health-based remediation criteria. The EAs depicted in the HHRA are based on assumed "typical lot exposure areas" and "building footprint exposure areas." However, these areas are based on only one to three samples that exceed the health-based remediation criteria. The existence of soils on Parcel HP-5 that exceed health-based remediation criteria is considered a significant impact (**Significant Impact 4.12-14**).

The HHRA also depicted three EAs near or overlapping onto HP-5 with concentrations of CVOCs in soil gas that exceed health-based remediation criteria. This would be considered a significant impact (**Significant Impact 4.12-15**).

According to the HHRA, groundwater is impacted with CVOCs beneath HP-5, H-13, and H-14. One EA on the northeast corner of HP-5 exceeds health-based remediation criteria. The location of CVOCs at this EA is relatively shallow (A zone). The route of exposure to CVOCs in shallow A zone is through volatilization to indoor air. The uncertainty with regard to future migration of CVOCs from the northeast corner of HP-5 presents a significant impact (**Significant Impact 4.12-16**). No EAs are depicted on H-13 and H-14.

The results of the L-Ditch sampling were not compared to human health screening criteria but were only evaluated with respect to potential effects on ecological receptors. The lack of a

human health screening may be due to the limited access to and human use of the L-Ditch. A comparison of the sampling results against human health screening criteria suggests that the L-Ditch would not appear to be a significant source of contamination that would be a threat to human health under a commercial land use scenario. While the Haley & Aldrich report did not provide recommendations for further assessment or remedial action, a letter from the RWQCB to B.F. Goodrich, dated March 1, 2007, acknowledges and supports further study of potential remedial alternatives for the L-Ditch.

CVOCs and PCBs were not detected in soil samples from Parcels H-13 or H-14 and no exposure areas are known to exist on H-13 or H-14. Groundwater impacted with CVOCs beneath Parcels H-13 and H-14 did not exceed health-based remediation criteria. Although excavation, demolition, and construction activities would be short-term, the potential to encounter contamination during such activities associated with development of Parcels H-13 or H-14 would be considered a significant impact (**Significant Impact 4.12-17**). In addition, the potential for exposure to contaminated soils during dewatering activities would be considered a significant impact (**Significant Impact 4.12-18**). Implementation of specific design measures will be required to avoid potential impacts from cross contamination of groundwater during dewatering activities.

vi. H-15 (Former Goodrich South Campus)

Project level analysis for hazardous materials was also conducted for Parcel H-15. Haley & Aldrich's HHRA depicts five EAs based on soil samples on H-15. The HHRA does not specify remediation based on findings of low or non-detected concentrations of COPCs in the soil on this parcel.

Two overlapping EAs with concentrations of CVOCs in soil gas that exceed health-based remediation criteria exist on Parcel H-15. Both of these EAs are near or overlap onto the adjacent HP-5 parcel. The uncertainty with regard to future migration of CVOCs from the EAs on H-15 presents a potentially significant impact (**Significant Impact 4.12-19**).

Similar to the soil gas findings, groundwater beneath H-15 is also impacted with CVOCs, primarily beneath the southern portion of former Building 30 and the northern half of former Building 5. The uncertainty with regard to future migration of CVOCs in groundwater on Parcel H-15 presents a significant impact (**Significant Impact 4.12-20**). Remediation of groundwater prior to development would not be required.

2. **The Proposed Project would have a significant impact if it creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.**

#### All Phases

The potential exists for spills of hazardous materials during construction activities that could potentially cause soil or groundwater contamination. This is considered a significant impact (same as **Significant Impact 4.12-2**).

Any facilities in the Proposed Project area which intend to transport, use, and dispose of hazardous materials must obtain the applicable regulatory permits and must comply with applicable laws, regulations, and permitting requirements to prevent a significant hazard to the public or the environment. Every business using hazardous materials must be licensed and is required to submit a Hazardous Materials Business Plan to County DEH/Hazardous Materials Division. This plan must provide a hazardous materials inventory, site plan, employee training, and contact information to assist with emergency response. Should such an event occur, response would be provided by the County of San Diego Hazardous Incidence Response Team.

3. **The Proposed Project would have a significant impact if it emits hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

#### All Phases

Two schools are located within a quarter mile of the project site's eastern boundary. These schools consist of the Feaster Edison Charter Elementary School located at 670 Flower Street, approximately 900 feet east of the Sweetwater District, and the Robert L. Mueller Elementary School located at 715 I Street, approximately 600 feet east of the central Harbor District. The nearest school to the Otay District is Harborside Elementary, located at 681 Naples Street and east of I-5, located approximately 0.75 mile from the existing SBPP. All nearby schools are located to the east of I-5. Currently, no businesses or facilities emitting hazardous materials are located within a quarter mile of these schools.

- i. Construction, Excavation, and Demolition

During construction, demolition, and excavation activities, there is a potential that hazardous materials would be transported within one-quarter mile of an existing school facility. However, this impact would be short term (during excavation, demolition, and construction activities) and there exists a low probability of an incident. Transportation of materials would be in compliance

with all DOT, California Department of Transportation (Caltrans), US EPA, DTSC, California Highway Patrol, and California State Fire Marshal regulations. Therefore, impacts would be less than significant.

ii. Operation

The Robert L. Mueller Elementary School and the Feaster Edison Charter Elementary School are located within a quarter mile of Parcel H-15, which is proposed for a mixed commercial office/retail/hotel use. Although a specific user for this location is not yet planned, the land use designation allows for a range of development including, but not limited to, dry cleaning facilities, medical/dental facilities, and hotels, which would emit or handle hazardous materials under an operating permit. Such uses that require permits to operate would be evaluated for risks to sensitive receptors, such as schools, prior to receiving a permit to operate. The operation of such facilities, if sited at this location, is subject to the specific hazardous waste siting and design requirements listed in the Countywide Siting Element of the General Plan. Furthermore, the operation of such facilities is required to comply with the regulatory rules and procedures associated with the handling and use of hazardous materials. The Proposed Project's compliance with all applicable federal, state, and local laws, regulations, and permitting requirements for the proposed operations would ensure that any potential impacts to Robert L. Mueller Elementary and Harborside Elementary would be less than significant.

**4. The Proposed Project would have a significant impact if it is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment would be created.**

a. Project and Program Level (Phase I) and H-15

i. S-2 (Signature Park)

This parcel is planned for development as a signature park in Phase I of the CVBMP. The Earthwork Plan developed by Kimley-Horn for the Proposed Project shows that most of the S-2 area will require placement of fill (up to 3 feet) to meet design grade. Lesser areas of cut are also planned. Placement of fill soil over much of the S-2 area would cover residual pesticide/herbicide impacted soil, minimizing the potential for park users to be exposed to pesticide impacted soil. The potential human health risk for this area is considered less than significant.

ii. H-3 (Gaylord Resort and Convention Center (RCC))

As stated under the existing conditions discussion above, soil and groundwater impacted by CVOCs extend beneath the northeastern portion of Parcel H-3. In Geocon's Phase I Environmental Site Assessment performed in 2006, soil and groundwater impacted by CVOCs were identified on the adjacent Goodrich North Campus and extending beneath the eastern portion of H-3. The Environmental Site Assessment identified these areas as "recognized environmental conditions" (*Appendix 4.12-2*). Chemicals of potential concern were considered "non-detect" for all locations on the parcel. Regardless, demolition, excavation, and construction activities would result in the potential to encounter contamination (same as **Significant Impact 4.12-12**). In addition, dewatering to depths greater than 10 feet could result in the potential for cross-contamination of water zones (between Zone A and UB). Specific design measures will be required to avoid potential impacts from cross contamination of groundwater during dewatering activities. This impact would be significant (same as **Significant Impact 4.12-13**).

iii. HP-1 and H-8 (Signature Park)

These areas were created by placement of fill into San Diego Bay sometime between 1957 and 1964. Given the relatively recent development and lack of industrial activities, it is not likely that these areas would have been impacted by hazardous waste or petroleum products. There are no records of USTs and further environmental investigation is not warranted. While it is not anticipated, a potential still exists that future construction on these parcels will encounter contamination.

iv. H-18 (Former Goodrich South Campus Eastern Parking Lot)

This area is upgradient of the source areas of CVOCs on the former Goodrich South Campus, so migration of CVOCs in groundwater is towards the west away from this area. Further environmental investigation of this site is not warranted. While it is not anticipated, a potential still exists that future construction on these parcels will encounter contamination. Activities on these parcels will be subject to mitigation measures presented under the program level analysis (see below) regarding the potential exposure to contamination during construction, excavation, and demolition activities.

v. HP-5, H-13, and H-14 (Pacifica Parcels)

Haley & Aldrich's HHRA shows three EAs that are within or overlapping into HP-5 that have COPC concentrations in soil that exceed health-based remediation criteria and three EAs with concentrations of CVOCs in soil gas that exceed health-based remediation criteria. Groundwater is impacted with COVCs beneath HP-5, H-13, and H-14, and one EA exists on the northeast corner of HP-5 that exceeds health-based remediation criteria. CVOC concentrations may be

present in deeper groundwater beneath H-13 and H-14; however, there is no direct route of exposure to CVOCs in deeper groundwater. No EAs are depicted on H-13 and H-14.

Kimley-Horn's Earthwork Plan depicts placement of fill over all H-13 and H-14, and portions of HP-5. Therefore, excavation for construction purposes will likely be limited to temporary excavation for reworking of undocumented fill, excavation for utility trenches, and drilling of foundation pilings. Remediation of the areas of HP-5 that contain COPCs at concentrations exceeding remediation criteria may be required in order to mitigate for **Significant Impacts 4.12-14** through **4.12-16** related to Parcel HP-5.

Up to six USTs are present on Parcel HP-5. It is not known if the other USTs have been removed since Goodrich ceased operations on the South Campus. This parcel will be subject to all requirements regarding handling of soils associated with USTs as presented under **Significant Impact 4.12-5**.

Chemicals of potential concern were considered "non-detect" for all locations on Parcels H-13 or H-14 and no exposure areas are known to exist. Groundwater impacted with CVOCs beneath Parcels H-13 and H-14 did not exceed health-based remediation criteria. Regardless, demolition, excavation, and construction activities would result in the potential to encounter contamination (same as **Significant Impact 4.12-17**). In addition, the potential for exposure to contaminated soils during dewatering activities would be considered a significant impact (same as **Significant Impact 4.12-18**).

vi. H-15 (Former Goodrich South Campus)

Haley & Aldrich's HHRA depicts five EAs based on soil samples on Parcel H-15. Two overlapping EAs with concentrations of CVOCs in soil gas that exceed health-based remediation criteria exist on site. Groundwater is also impacted with CVOCs beneath H-15. Kimley-Horn's Earthwork Plan depicts placement of fill over all of H-15. Therefore, excavation for construction purposes will likely be limited to temporary excavation for reworking of undocumented fill, excavation for utility trenches, and drilling of foundation pilings. The uncertainty with regard to future migration of CVOCs from the EAs based on soil samples and groundwater on H-15 presents potentially significant impacts (see **Significant Impacts 4.12-19** and **4.12-20**).

b. Program Level (Phases II through IV) Analysis

Excluding the Sweetwater District, which does not appear on a list of hazardous materials sites, *Table 4.12-1* above provides a list of hazardous materials sites pursuant to Government Code Section 65962.5. Properties listed include the following: the former Goodrich South Campus, the SBPP/Dynege Facility, and the Rohr Industries/Goodrich North Campus. Impacts associated

with these properties could result in potentially significant impacts as addressed in significance threshold one, above. (See **Significant Impacts 4.12-1** through **4.12-20**.)

5. **The Proposed Project would have a significant impact if it is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would result in a safety hazard for people residing or working in the project area.**

#### All Phases

The Proposed Project site is not located within two miles of an airport land use plan, or where such a plan has been adopted. Therefore, no impact would occur regarding public safety hazards relating to an airport.

6. **The Proposed Project would have a significant impact if it impairs implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan.**

#### All Phases

The Port does not have an adopted emergency response plan; therefore, no impact would result. This project would not interfere with a city emergency response plan or evacuation plan. Therefore, no impact is identified.

### 4.12.6 Mitigation Measures

#### Mitigation Measure 4.12-1

Implementation of the following mitigation measure reduces **Significant Impacts 4.12-1, 4.12-3, 4.12-7, 4.12-12, 4.12-13, 4.12-17, and 4.12-18** (associated with the exposure of contamination or hazardous materials as a result of excavation, demolition, grading or related construction activities, and dewatering activities that disturb existing soil or groundwater contamination or areas with contaminated materials from other sources) to a level below significance:

**Port/City:** 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:

- 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).

- 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.
- 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 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.

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.

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.

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.

- 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.

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.

Dewatering activities during construction shall be limited to the extent practicable and water generated by dewatering shall be tested to determine treatment and disposal options in accordance with all applicable laws and regulations.

### **Mitigation Measure 4.12-2**

Implementation of the following mitigation measure reduces **Significant Impact 4.12-2** (associated with accidental spills during construction) to below a level of significance:

**Port/City** 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.

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.

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.

Hazardous materials spill kits shall be maintained on site for small spills.

### Mitigation Measure 4.12-3

Implementation of the following mitigation measure reduces **Significant Impact 4.12-4** (associated with the suspension and/or release of contaminants in the water during in-water construction). In-water construction activities shall be conducted in accordance with Mitigation Measure 4.5-4 in *Section 4.5, Hydrology/Water Quality*, which is repeated below:

- Port:**
- A.** 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 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 requirements of the RWQCB. The work plan shall include but not be limited to dredging the sediment, allowing it to drain, and analyzing the nature and extent of any contamination. Pending the outcome of the analytical results, a decision by RWQCB shall prescribe the requirements for disposition of any contaminated sediment.
  - B.** Prior to issuance of a grading permit for marina redevelopment on 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 for 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.

#### **Mitigation Measure 4.12-4**

Implementation of the following mitigation measure reduces **Significant Impact 4.12-5** (associated with contaminated soils associated with USTs):

**Port/City:** 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.

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.

#### **Mitigation Measure 4.12-5**

Implementation of the following mitigation measure reduces **Significant Impact 4.12-6** (associated with exposure to ACMs, LBPs, and hazards during demolition):

**Port/City:** 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.

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.

#### **Mitigation Measure 4.12-6**

Implementation of the following mitigation measure reduces **Significant Impact 4.12-7** (associated with exposure of contaminated soils, soil gas, and/or groundwater to construction workers) to a level less than significant:

**Port/City:** 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.

#### **Mitigation Measure 4.12-7**

Implementation of the following mitigation measure reduces **Significant Impact 4.12-8** (potential for contamination from hazardous runoff associated with park maintenance) to a level less than significant:

**Port/City:** 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.

#### **Mitigation Measure 4.12-8**

Implementation of the following mitigation measure reduces **Significant Impact 4.12-9** (associated with risk of exposure to residents and/or users in the Sweetwater District of elevated concentrations of residual pesticides and herbicides) to below a level of significance.

**Port/City:** 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).

#### **Mitigation Measure 4.12-9**

Implementation of the following mitigation measure would reduce **Significant Impact 4.12-10** (associated with potential health risks during operation of the Proposed Project in Phases II through IV) to below a level of significance:

**Port/City:** 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.

**Port/City:** 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:

- 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.

**Mitigation Measure 4.12-10**

Implementation of the following mitigation measure would reduce **Significant Impacts 4.12-11, 4.12-16, 4.12-19, and 4.12-20** (associated with risk of exposure to CVOC vapors beneath Parcels H-3, H-13, H-14 and H-15 and risk of VCOC volatilization on HP-5) to below a level of significance:

**Port/City:** 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.

**Mitigation Measure 4.12-11**

Implementation of the following mitigation measure reduces **Significant Impacts 4.12-14 and 4.12-15** (associated with risk of exposure to COPC concentrations and CVOCs on Parcel HP-5) to below a level of significance:

- Port/City: 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.
- 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.
- 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.

**4.12.7 Significance of Impacts After Mitigation**

Implementation of the Mitigation Measures 4.12-1 through 4.12-11 detailed above would reduce potential impacts associated with hazards, hazardous materials/substances, and public safety (**Significant Impacts 4.12-1 through 4.12-20**) to below a level of significance.

## 4.13 Public Services

This section analyzes the Proposed Project's potential impacts on existing and planned public services including fire protection, police protection, parks and recreation, schools, and libraries. Public services throughout the Proposed Project area, including Port lands, are provided according to the City of Chula Vista's service standards. The only exception is the Harbor Police, which operates under the direction and jurisdiction of the Port.

The following document is incorporated as an appendix to this report:

- Agreement Between San Diego Unified Port District and City of Chula Vista for Police, Fire, and Emergency Medical Services (SDUPD Doc. No. 52382), in force through June 30, 2009 (*Appendix 4.13-1*).

In 1987, the City Council of Chula Vista adopted the Growth Management Threshold Standards Policy, which established "quality of life" parameters for the five public service topics addressed in this section. Each topic was addressed in the Policy in terms of a goal, objective(s), a threshold, and implementation measures. These standards are intended to preserve and enhance the environment and quality of life as growth occurs. These standards were last updated in 2005 and apply to the provision of public services throughout the Proposed Project area. While these policies specifically apply to the land under the jurisdiction of the City and not the Port, they were incorporated into the impact criteria used in this report.

In recognizing that new development places substantial pressure on existing public facilities, the City Council established a public facilities development impact fee (PFDIF) to finance the construction of new service facilities, including but not limited to fire protection, police protection, major recreation facilities, and library services. The fee applies to all developments under the City's jurisdiction and payment of the PFDIF is required prior to the City's issuance of building permits (Municipal Code, Chapter 3.50).

Currently, police, fire, and emergency medical services within the Port's jurisdiction within the City are provided by the City in accordance with the "Agreement for Police, Fire, and Emergency Medical Services between the City of Chula Vista and the San Diego Unified Port District" (Service Agreement). This agreement covers the reimbursement of the cost of police, fire protection, and emergency medical services to be provided by the City upon the Port's tidelands and property within the City limits, which do not generate ad valorem tax revenues. The agreement establishes the services to be provided and a mechanism for annual review and adjustment of those services as needed.

### 4.13.1 Fire Protection

#### 4.13.1.1 Existing Conditions

This section discusses the existing services related to fire protection for the project site. The Chula Vista Fire Department provides fire protection for the Proposed Project area. For properties under the City's jurisdiction, this protection is provided directly. For non ad valorem properties under the Port's jurisdiction, this protection is provided under a Service Agreement, which "covers reimbursement of the cost of police, fire protection, and emergency medical services to be provided by the City upon the District's filled tidelands and property within the City's limits.

Fire protection services are addressed in the adopted City of Chula Vista Fire Station Master Plan and the City's Growth Management Threshold Standards Policy. The Fire Station Master Plan evaluates the planning area's fire coverage needs and makes recommendations to meet those needs. In addition, the City established development impact fees to finance the development and construction of certain public facilities, including fire suppression system expansion (Chula Vista Municipal Code, Chapter 3.50).

The Chula Vista Fire Department maintains approximately 136 permanent full-time employees. The department currently serves an area over 50 square miles and responds to more than 10,000 calls annually. There are currently nine fire stations located within the City of Chula Vista. The City plans to build two additional permanent stations in the immediate future; these additional fire stations are proposed under the Fire Department's forthcoming Fire Facility Master Plan.

For the first time in several years, the Fire Department met the emergency response times for the reporting period of July 2004 through June 2005. As indicated on *Table 4.13-1*, 85.2 percent of emergency calls were responded to within 7 minutes during the most recent reporting period, compared with the 80 percent requirement in the threshold standard.

The City's Fire Department is in the process of updating its Fire Facility Master Plan to address the plans for the number and location of future fire stations and facilities to meet future growth. These locations may also be determined by the Fire Department Five-Year Strategic Plan, which uses updated response threshold criteria and performance criteria. The Fire Facility Master Plan is pending review and approval by the City Council.

**TABLE 4.13-1**  
**Emergency Response Times**

Review Period	Call Volume	Percentage of Calls Responded to within 7 Minutes
<b>Emergency Response Threshold</b>		<b>80.0%</b>
CY 2006	10,390	85.2%
CY 2005	9,907	81.6%
FY 2003-04	8,420	72.9%
FY 2002-03	8,088	75.5%
FY 2001-02	7,626	69.7%
FY 2000-01	7,128	80.8%
FY 1999-2000	6,654	79.7%

SOURCE: Growth Management Oversight Commission Annual Report 2006.

CY = Calendar Year

FY = Fiscal Year

Currently, Fire Stations 1 and 5, located at 447 F Street and 391 Oxford Street, respectively, serve the project area. *Table 4.13-2* lists the existing fire station locations, equipment, and staffing.

**TABLE 4.13-2**  
**Fire Station Facilities**

Station	Location	Equipment	Staffing
Station 1	447 F St Chula Vista, CA 91910	Engine 51 Truck 51 Battalion 52	Assigned: 24 On Duty: 8
Station 2	80 East J Street Chula Vista, CA 91910	Engine 52 Brush 52	Assigned: 9 On Duty: 3
Station 3	1410 Brandywine Avenue Chula Vista, CA 91911	US & R 53	Assigned: 12 On Duty: 4
Station 4	850 Paseo Rancho Chula Vista, CA 91910	Engine 54	Assigned: 9 On Duty: 3
Station 5	391 Oxford Street Chula Vista, CA 91911	Engine 55	Assigned: 9 On Duty: 3
Station 6	605 Mount Miguel Road Chula Vista, CA 91914	Engine 56	Assigned: 9 On Duty: 3
Station 7	1640 Santa Venetia Chula Vista, CA 91913	Engine 57 Truck 57 Battalion 52	Assigned: 24 On Duty: 8
Station 8	1180 Woods Drive Chula Vista, CA 91914	Engine 58	Assigned: 9 On Duty: 3
Station 9	291 East Oneida Street Chula Vista, CA 91911	Engine 59	Assigned: 9 On Duty: 3

SOURCE: City of Chula Vista Fire Department (Justin Gipson, July 20, 2006).

The City also has Mutual Aid Agreements with:

- City of San Diego
- City of Imperial Beach
- City of National City
- Bonita-Sunnyside
- San Diego County.

In addition to the Chula Vista Fire Department, fire protection for boats within the marina is provided by the Port Harbor Police and the Coast Guard. The Harbor Police currently maintain a fire/police vessel at Shelter Island (located at the north end of San Diego Bay), which is dedicated to serving the South Bay area on a 24-hour basis.

#### ***4.13.1.2 Impact Significance Criteria***

The City's Threshold Standards Policy states that the Proposed Project would have a significant impact on fire protection services if the Proposed Project:

1. Reduces the ability to respond to calls throughout the City within the City's threshold standard to respond to calls within 7 minutes in 80 percent of the cases.

Additionally, according to Appendix G of the CEQA guidelines, impacts to fire protection and emergency services would be significant if the Proposed Project:

2. Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the fire protection and emergency services.

#### ***4.13.1.3 Impact Analysis***

1. **The Proposed Project would have a significant impact if it reduces the ability to respond to calls throughout the City within the City's threshold standard to respond to calls within 7 minutes in 80 percent of the cases.**

##### **a. Project Level Analysis**

Fire protection and emergency medical services would be provided by the City of Chula Vista Fire Department within the plan area. The Port would continue to participate in the existing Service Agreement for non ad valorem properties. The Growth Management Oversight

Commission reported that the Chula Vista Fire Department was in compliance for response time during the most recent reporting period. The City is including the Proposed Project in the update to the Fire Facility Master Plan. The Fire Facility Master Plan establishes fire station sites based on the City's Growth Management Thresholds outlined in Chapter 19.09 of the City's Municipal Code. Although the Fire Facility Master Plan is currently being revised, the Fire Department indicated that after a review of the Proposed Project, they have determined that the Proposed Project area is underserved by the current fire station network. As documented by the City's Fire Department, the two engines that currently cover the Bayfront area are Engine 51 at Station 1, located at 447 F. Street, and Engine 55 at Station 5, located at 391 Oxford Street. These two engines are the busiest companies in the City. The call volume statistics for calendar year 2007 show that Engine 51 responded to 3,845 calls for service, and Engine 55 responded to 3,309 calls for service. Station 1 also houses Truck 51, which responded to 1,032 calls for service in calendar year 2007.

Fire Department staff determined that both Station 1 and Station 5 currently receive a significant number of calls, which impact current workloads. In addition, future growth from the Bayfront development will increase and further exacerbate the current workload impacts. Future workload impacts will require additional resources to meet the demand for fire service. The current and projected workload impacts would decrease performance below the acceptable Growth Management Thresholds and require that new assets be added to the system.

As part of the Proposed Project, a fire station shall be constructed on an approximately 2-acre lot at the corner of J Street and Bay Boulevard. This property is currently within the Port's jurisdiction and will be acquired by the City prior to any use as a fire station. The Bayfront Fire Station will be constructed as a Phase I project level component on Parcel H-17 in the Harbor District. Access to the fire station will be provided via Bay Boulevard. The proposed 9,500-square-foot fire station will consist of two apparatus bays and associated work and living areas. An emergency generator enclosed with a masonry structure is proposed along the western property boundary. The living quarters will accommodate seven personnel and staff a three-person engine company and a four-person ladder truck. Approximately 15 on-site parking spaces are proposed, including handicapped spaces.

The new fire station will be constructed, equipped and staffed to serve the increased demand for fire protection services generated by the Proposed Project. Impacts to the Fire Department's existing ability to respond to calls throughout the City within the City's required response time threshold will therefore be less than significant. The proposed fire station shall be constructed, staffed, and operational prior to the issuance of any certificate of occupancy for the RCC and prior to issuance of the first building permit for development on Parcels H-13 and H-14. An interim facility may be utilized until final construction is completed.

b. Program Level Analysis

As stated under the project level analysis, the Fire Department indicated that the project area is currently underserved by the current fire station network. As a result, the project proposes construction of a new fire station on Parcel H-17 at the corner of J Street and Bay Boulevard within the Harbor District. As part of the Proposed Project, the fire station would reduce any program level impacts to below a level of significance.

**2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the fire protection and emergency services.**

a. Project and Program Level Analysis (Phase I)

Phase I project level components would increase the demand for fire protection services due to the change in land uses to that of an RCC, residential uses, and associated facilities. In order to meet the increased demand for fire protection services generated by the Proposed Project, a fire station is proposed as a Phase I project level component. As discussed above, the proposed fire station shall be constructed, staffed, and operational prior to the issuance of any certificate of occupancy for the RCC and prior to issuance of the first building permit for development on Parcels H-13 and H-14.

Construction of the new fire station could cause temporary impacts to water quality, air quality, noise, and geology and soils resulting from construction-related activities. These impacts will be less than significant. Construction of the new fire station could result in potentially significant impacts to water quality, air quality, noise, hazards, and geology and soils unless mitigated (**Significant Impact 4.13.1-1**). Potentially significant impacts in these areas resulting from construction of the fire station are analyzed in the related sections of the EIR as follows: *Section 4.5, Hydrology and Water Quality*; *Section 4.6, Air Quality*; *Section 4.7, Noise*; *Section 4.12, Hazards and Hazardous Materials/Public Safety*; and *Section 4.15, Geology and Soils*.

b. Program Level Analysis (Phases II through IV)

Similar to the project level impacts, development associated with the subsequent phase program level components would increase the demand for fire protection services because land use will change from vacant and underutilized land to mixed-use office, commercial recreation, retail, resort hotel, and park uses. Build-out of Phases II, III, and IV would exacerbate the need for fire facilities as identified in Phase I. The Proposed Project would include construction of a new fire

station in Phase I to meet the increased demand for fire protection services generated by the Proposed Project.

#### **4.13.1.4 Mitigation Measures**

The mitigation measures outlined in *Section 4.5, Hydrology and Water Quality*; *Section 4.6, Air Quality*; *Section 4.7, Noise*; *Section 4.12, Hazards and Hazardous Materials/Public Safety*; and *Section 4.15, Geology and Soils* are required to reduce **Significant Impact 4.13.1-1** to below a level of significance. Specifically, Mitigation Measures 4.5-2, 4.5-3, 4.6-1, 4.7-5, 4.7-9, 4.12-1, 4.12-2, 4.12-4, 4.12-6, and 4.15-1 will reduce these impacts to below a level of significance.

Impacts associated with construction of the new facility will therefore be less than significant.

#### **4.13.1.5 Significance of Impacts After Mitigation**

Implementation of the mitigation measures referenced in *Section 4.5, Hydrology and Water Quality*; *Section 4.6, Air Quality*; *Section 4.7, Noise*; *Section 4.12, Hazards and Hazardous Materials/Public Safety*; and *Section 4.15, Geology and Soils* would reduce the potential significant impacts on fire protection services to below a level of significance.

### **4.13.2 Police Protection**

#### **4.13.2.1 Existing Conditions**

This section discusses the existing services provided by the City and Port related to police protection for the project site.

##### **a. Chula Vista Police Department**

There is one central police station within the City of Chula Vista, located at 315 Fourth Avenue, approximately 2 miles east of the project site. All police operations are based in this central facility. The department is currently authorized 1.07 sworn employees per 1,000 residents and has a total of 250 sworn officers and an authorized staffing level of 244 sworn officers. In addition to sworn officers, the department also has 98 full-time and 27 temporary civilian staff and is authorized to have 102 civilian staff members.

The service area for the project site is composed of Patrol Sectors One and Two, including beats 11, 12, 13, and 21. The department currently maintains 12 officers, six agents, six sergeants, three lieutenants, and one non-sworn community service officer in the service area during a 24-hour period. Citywide, at a minimum, 10 officers are on duty during the daytime shift, 15 officers are on duty during the swing shift, and 10 officers are on duty during the late evening/early morning shift.

Police response times are addressed in the City of Chula Vista's Growth Management Threshold Standards Policy, which requires that 81 percent of Priority I emergency calls (i.e., life threatening) be responded to within 7 minutes, and police units shall maintain an average response time of 5.5 minutes or less. In addition, the police units shall respond to 57 percent of Priority II urgent calls (i.e., misdemeanor in progress) within 7 minutes and shall maintain an average response time of 7.5 minutes or less.

In 2007, the Chula Vista Police Department received 73,896 citizen-initiated calls for service. Despite increasing population and traffic volumes, emergency response in the City has improved over the last year. During the most recent reporting period of July 2006 through June 2007, 84.5 percent of Priority I emergency calls and 43.3 percent of Priority II urgent calls were responded to within 7 minutes (*Tables 4.13-3 and 4.13-4*). Consequently, while the Police Department does meet the existing Priority I threshold standard, the Department does not meet the existing Priority II threshold standard.

**TABLE 4.13-3**  
**Priority I Emergency Response Times to Calls for Service**

Review Period	Call Volume	Percent of Call Response within 7 Minutes (Percent)	Average Response Time (Minutes)
<b>Emergency Response Threshold</b>		<b>81.0</b>	<b>5:30</b>
FY 2006-07	976 of 74,277	84.5	4:59
FY 2005-06	1,068 of 73,075	82.3	4:51
FY 2004-05	1,289 of 74,106	80.0	5:11
FY 2003-04	1,322 of 71,000	82.1	4:52
FY 2002-03	1,424 of 71,268	80.8	4:55
FY 2001-02	1,539 of 71,859	80.0	5:07
FY 2000-01	1,734 of 73,977	79.7	5:13
FY 1999-2000	1,750 of 76,738	75.9	5:21
CY 1999*	1,890 of 74,405	70.9	5:50

\* The 1998-99 Fiscal Year Report used calendar year (CY) 1999 data due to implementation of new CAD system mid-1998.

CY = Calendar Year

FY = Fiscal Year

**TABLE 4.13-4**  
**Priority II Urgent Response Times to Calls for Service**

Review Period	Call Volume	Percent of Call Response within 7 Minutes (Percent)	Average Response Time (Minutes)
<b>Emergency Response Threshold</b>		<b>57.0</b>	<b>7:30</b>
FY 2006-07	24,407 of 74,277	43.3	11:18
FY 2005-06	24,876 of 73,075	40.0	12:33
FY 2004-05	16,889 of 74,106	40.5	11:40
FY 2003-04	16,526 of 71,000	48.4	9:50

TABLE 4.13-4 (Cont.)

Review Period	Call Volume	Percent of Call Response within 7 Minutes (Percent)	Average Response Time (Minutes)
FY 2002-03	15,024 of 71,268	50.2	9:24
FY 2001-02	22,199 of 71,859	45.6	10:04
FY 2000-01	25,234 of 73,977	47.9	9:38
FY 1999-2000	23,898 of 76,738	46.4	9:37
CY 1999*	20,405 of 74,405	45.8	9:35

\* The 1998-99 Fiscal Year report used calendar year (CY) 1999 data due to implementation of new CAD system mid-1998.

CY = Calendar Year

FY = Fiscal Year

The City has implemented measures to improve police response time. These measures range from maintaining full staffing to technological improvements. Additionally, the City has experienced an 8 percent decline in crime rates over the last 5 years. The comprehensive use of crime prevention through environmental design (CPTED) principles as part of the City's design review process helps to alleviate potential impacts on police services.

Police protection in the project area is currently provided by the Chula Vista Police Department, pursuant to the Service Agreement between the Port and City for non ad valorem properties (*Appendix 4.13-1*). In addition, responses to calls for service are supplemented by the Port Harbor Police.

#### b. Port Harbor Police

The Port provides independent police protection to Port properties. The Port Harbor Police augment the City of Chula Vista Police Department's police protection services within the project area. The Port Harbor Police is a service-oriented, law enforcement agency. As a service-oriented agency, the Harbor Police officers respond to all calls for service, and the priority of the incident determines the officers' response times.

The Port Harbor Police maintain a headquarters facility located at 3380 North Harbor Drive. The Port provides police and emergency waterborne services to South Bay from a substation located at Chula Vista Bayfront Park

#### 4.13.2.2 Impact Significance Criteria

The City's Threshold Standards Policy states that the Proposed Project would have a significant impact on police protection services if the Proposed Project:

1. Reduces the ability to respond to calls within the City's threshold standard for:
  - Priority One emergency calls within 7 minutes in 81 percent of cases and maintain an average response time to all Priority One calls of 5.5 minutes or less.
  - Priority Two urgent calls, within 7 minutes in 57 percent of cases and maintain an average response time to all Priority Two calls of 7.5 minutes or less.

Additionally, according to Appendix G of the CEQA guidelines, impacts to police protection would be significant if the Proposed Project:

2. Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.

#### 4.13.2.3 *Impact Analysis*

1. **The Proposed Project would have a significant impact if it reduces the ability to respond to calls within the City's threshold standard for Priority One emergency calls within 7 minutes in 81 percent of the cases and maintain an average response time to all Priority One calls of 5.5 minutes or less or Priority Two urgent calls, within 7 minutes in 57 percent of cases, and maintain an average response time to all Priority Two calls of 7.5 minutes or less.**

##### a. Project and Program Level Analysis (Phase I)

Development of the Proposed Project would result in an increase in calls for police service. Development of Phase I in the Harbor District, including up to 1,500 residential units, 2,000 hotel rooms, 415,000 square feet (net) conference space, 100,000 square feet restaurant, 20,000 square feet retail, 15,000 square feet ancillary retail, and associated parking land uses, would substantially strain the existing public services, which includes police protection services and facilities expected to serve the project site.

To estimate calls for service for different land use types, the Chula Vista Police Department uses local per acre (or per room/unit/parking space) averages for similar properties or areas. The Department then uses a nationally recognized staffing model, which takes into account the numbers of calls for service for these land uses to calculate the number of officers required to maintain adequate levels of service.

The Department indicated that development of Phase I of the Proposed Project (scaled down from the 2006 proposal) would result in a 2 percent increase (approximately 1,618) in citizen-

initiated calls for service. Based on the additional 1,618 calls for service, and the proximity of the Bayfront development to higher call for service areas, the Department recommends establishing a Bayfront beat. According to the Department, up to six additional police officers, along with related equipment, would be required to serve the project area. These six officers would be allocated to different shifts/days to provide 24-hour-a-day coverage for the Bayfront beat. Additionally, depending on the final configuration and use of the Phase I developments, the Department will require a two-person officer team be assigned to patrol the Bayfront beat on foot during peak hours, similar to the way the Gaslamp District in San Diego is patrolled. A foot patrol assignment may require an additional four officers for a full week's coverage. The additional staffing required will be provided by the City and will be funded by revenues generated by the Proposed Project. Impacts to police protection services would therefore be less than significant.

Given the location of the project, officers should be able to respond to calls for service without increased travel time. However, in order to maintain response times, more police officers, as identified above, and support staff would be needed to serve the project. Additionally, adherence to police protection standards would be necessary to ensure that adequate levels of service are maintained.

b. Program Level Analysis (Phases II through IV)

Phases II, III, and IV would result in additional increased demand on the Chula Vista Police Department. Calculations regarding the generation of citizen-initiated calls for service and estimated need for more police officers as a result of the proposed program level project components would be evaluated at the project level analysis. It is anticipated that the program level components would substantially strain the police protection services and facilities expected to serve the project site. The additional staffing and equipment required will be provided by the City and will be funded by the City and/or other funding agreements. Impacts to police protection services would therefore be less than significant.

**2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.**

a. Project and Program Level Analysis (All Phases)

The central police station at Fourth Avenue and F Street would be sufficient to accommodate the additional officers needed to meet the law enforcement needs created by the increased demand

associated with project level and program level components of the Proposed Project. No additional police facilities are needed to serve the Proposed Project. Therefore, the Proposed Project would not result in a significant impact.

#### 4.13.2.4 *Mitigation Measures*

The Proposed Project would not result in a potential significant impact to police protection services in the project area. Accordingly, no mitigation measures would be required.

#### 4.13.2.5 *Significance of Impacts After Mitigation*

No significant impacts to police protection services were identified for the Proposed Project.

### 4.13.3 Parks and Recreation

#### 4.13.3.1 *Existing Conditions*

This section discusses the existing parks and recreation conditions for the project site. The existing community parks located in the Proposed Project area include Bayside, Marina View, and Bayfront parks. These parks provide public use amenities such as volleyball, play equipment, a fitness course, open green space, picnicking, concessions, restrooms, a boat dock, ramp, and a fishing pier. In addition, there is an existing mini-park (City Park) on Bay Boulevard, comprised of open green space and a picnicking area. *Table 4.13-5* summarizes the existing parks in the Proposed Project area (Chula Vista Parks and Recreation Master Plan).

**TABLE 4.13-5  
Existing Parks**

Park Name	Acres
Bayside Park	9.2
Marina View Park	5.7
City Park	1.4
Bayfront Park	10.5
<b>Total</b>	<b>26.8</b>

SOURCE: City of Chula Vista.

#### a. Regulatory Plans and Policies

Park land is subject to compliance with the 1975 Quimby Act. In addition, parks and recreation are addressed in the Port Master Plan (PMP), City of Chula Vista's General Plan, Parks and Recreation Master Plan, and the Greenbelt Master Plan. These plans and policies are described below.

The PMP plans for public uses to enhance the natural areas and also provide recreational opportunities for the public. According to the PMP, parks, open space, recreation, and other areas should:

- Provide a variety of public access and carefully selected active and passive recreational facilities suitable for all age groups, including families with children, throughout the year.
- Enhance the marine, natural resource, and human recreational assets of San Diego Bay and its shoreline for all members of the public.
- Provide clear and continuous multilingual information throughout Port lands and facilities about public accessways and recreational areas.

The PMP emphasizes marine-oriented activities, and also states that public recreation uses operated by the Port “must be of the appropriate type and size to be efficiently developed, administered, and maintained” at a reasonable cost.

Passage of the 1975 Quimby Act (California Government Code Section 66477) authorized cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Pursuant to the authority granted by the Quimby Act, the Chula Vista Municipal Code Chapter 17.10 Parklands and Public Facilities set applicable standards requiring park acreage dedication and improvement based on development type in the City of Chula Vista.

The applicable standards, as outlined in City Municipal Code Section 17.10.040, require park acreage dedication and improvement based on development type. Single-family dwelling units are required to dedicate 460 square feet of parkland for each unit. Multifamily dwelling units (including attached condominiums, townhouses, duplexes, triplexes, and apartments) are required to dedicate 341 square feet of parkland for each unit, or approximately 3 acres per 1,000 residents. Residential and transient motels/hotels are required to dedicate 196 square feet of parkland for each unit (Gamble, pers. comm. 2005).

The City of Chula Vista Parks and Recreation Master Plan seeks to create a comprehensive parks and recreation system that uses public and quasi-public resources to meet the needs of the City. The Plan distributes park types, recreational facilities, and programs to locations where they provide the most benefit to the community. In addition, the Plan contains several policies which address the siting and acreage of community and neighborhood parks.

Recreation facilities, generally located within community parks, include community centers, gymnasiums, swimming pools, youth centers, and senior centers. In addition to parkland dedication, recreation facilities are currently provided through development impact fees collected as part of the recreation component of the City’s PFDIF Program. Both the Parks and Recreation

Master Plan and PFDIF Program provide direction and financing for the size and location of parks and recreation facilities, based on population, density, and land use designation.

The Land Use and Transportation Element of the General Plan includes a broad range of goals and objectives relating to open space and recreation. Furthermore, the Public Facilities and Services Element and the Environmental Element discuss specifics such as existing and future park needs. The Public Facilities and Services Element also discusses minimum size standards for each type of park, as well as location policies such as the development of parks and recreation facilities adjacent to elementary schools. The Growth Management Element establishes a park thresholds standard for new development. It addresses the requirement to provide park facilities in concert with new residential development.

The City adopted a Greenbelt Master Plan (Master Plan) on September 16, 2003. The Chula Vista Greenbelt is described as the backbone, consisting of 28 miles of open space and parks that encircles the City and links city parks. The Master Plan ensures public access within the Greenbelt through an active and passive recreation park system with trails connecting each segment.

#### ***4.13.3.2 Impact Significance Criteria***

According to the Chula Vista Municipal Code Chapter 17.10.040 Parklands and Public Facilities, the Proposed Project would have a significant impact on parks and recreation if it:

1. Results in the inability to provide an adequate level of service in accordance with the Chula Vista Municipal Code Chapter 17.10.040 Parklands and Public Facilities.

Additionally, in accordance with Appendix G of the CEQA guidelines, impacts to park and recreation services would be significant if the Proposed Project:

2. Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental or recreational facilities, need for new, expanded, or physically altered governmental or recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for park and recreation services.
3. Increases the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

### 4.13.3.3 Impact Analysis

1. **The Proposed Project would have a significant impact if it results in the inability to provide an adequate level of service in accordance with the Chula Vista Municipal Code Chapter 17.10.040 Parklands and Public Facilities.**

The Chula Vista Municipal Code Chapter 17.10.040 Parklands and Public Facilities requires that developers dedicate 341 square feet of parkland for each multifamily dwelling unit (including attached condominiums, townhouses, duplexes, triplexes, and apartments), and 196 square feet of parkland for each residential and transient motel/hotel unit. Temporary impacts related to construction and reconfiguration would be potentially significant.

#### a. Project and Program Level Analysis (Phase I)

Table 4.13-6 shows the number of parkland acres required by the City for the number of residential units proposed for Harbor District development on Parcels H-13 and H-14. Although the Port is not subject to the City's requirements, for purposes of this project, the tables below utilize the City's park requirements to evaluate impacts for hotel units proposed in the Harbor District on Parcel H-3 during Phase I.

**TABLE 4.13-6  
Required Parkland for Phase I**

Proposed Development	Development	Parkland Dedication Requirement Per Unit/Room (Square Feet)	Parkland Required (Square Feet/Acres)
Residential Units	1,500	341	511,500 / 11.74
Hotel Rooms	Up to 2,000	196	392,000 / 9.0
<b>Total</b>			<b>903,500 / 20.74</b>

Table 4.13-7 summarizes the proposed park space for Phase I, excluding open space, promenades, and piers.

**TABLE 4.13-7  
Proposed Parkland for Phase I**

Phase I Parcels	Description	Acreage
S-2	Signature Park (Parcel 1)	17.6
H-8	Signature Park (Parcel 2)	6.1
HP-1	Signature Park (Parcel 4)	11.4
<b>Total</b>		<b>35.1</b>

As proposed, Phase I of the project would establish approximately 35 acres of developed parkland by reconfiguring 9 acres of existing parkland (Bayside Park) and developing

approximately 26 acres of new parkland in the Sweetwater and Harbor districts (Signature Park, consisting of Parcels S-2, H-8, and HP-1), thus exceeding the minimum requirement.

As identified in *Table 4.13-6*, Phase I of the Project would result in the need for an additional 20.74 acres of parkland. The Project would result in an increased demand to park and recreation levels of service due to the addition of multifamily dwelling units and hotel rooms. The increase in demand is a significant impact. With the provision of approximately 26 acres of new parkland in Phase I, an adequate amount of parkland would be available to meet the level of services related to parks and recreation facilities. The Pacifica Retail and Residential project is within the City's jurisdiction and would therefore be required to satisfy all applicable City parkland requirements, as set forth in Chapters 3.50 and 17.10 in the City's Municipal Code.

Construction activity related to implementation of the Proposed Project's Phase I development includes the reconfiguration and reconstruction of the existing Bayside Park. The reconstruction would result in the temporary closure of the park and therefore would result in a temporary short-term impact to the delivery of park and recreation levels of service. At the completion of Phase I, development of the reconstructed Bayside Park would be complete, resulting in the provision of reconstructed and expanded parkland acreage and thereby mitigating the temporary and short-term impacts to park and recreation levels of service.

The new park acreage on the Bayfront (State Trust Lands) would satisfy the City's requirement stated above (Lukes, pers. comm. 2005). The Port/City would be the responsible party for construction and maintenance of the proposed parkland. Therefore, the demand for park space created by Phase I development under the Proposed Project would not result in a significant adverse impact to the provision of parkland.

**b. Program Level Analysis (Phases II through IV)**

*Table 4.13-8* shows the number of parkland acres required by the City for the proposed development within the City's jurisdiction in Phases II, III, and IV. Although the Port is not subject to the City's requirements, for purposes of this project, the tables below utilize the City's park requirements to evaluate impacts.

**TABLE 4.13-8  
Required Parkland for Phases II, III, and IV**

Proposed Development	Development	Parkland Dedication Requirement Per Unit/Room (Square Feet)	Parkland Required (Square Feet/Acres)
<b>Phase II</b>			
Residential Units	—	341	—
Hotel Rooms	up to 750	196	147,000 / 3.37
<b>Phase III</b>			
Residential Units	—	341	—
Hotel Rooms	—	196	—
<b>Phase IV</b>			
Residential Units	—	341	—
Hotel Rooms	up to 750	196	147,000 / 3.37
<b>Total</b>			<b>294,000 / 6.74</b>

Table 4.13-9 summarizes the proposed park space for Phases II, III, and IV, excluding open space, promenades, and piers.

**TABLE 4.13-9  
Proposed Parkland for Phases II, III, and IV**

	Description	Acreage
<b>Phase II</b>		
HP-6	Marina View Park	1.3
HP-7	Marina View Park	3.9
HP-8	Marina View Park	2.5
<b>Phase III</b>		
HP-14	Bayfront Park	2.9
HP-15	Bayfront Park	3.5
OP-1A and 1B	South Park	24.4
<b>Phase IV</b>		
S-5	Existing Park	1.3
H-1A	Signature Park (Parcel 4)	5.2
<b>Total</b>		<b>45.0</b>

Development of Phases II, III, and IV would result in approximately 45 acres of developed parkland by reconfiguring the existing Marina View Park (5.7 acres), modifications to Bayfront Park (10.5 acres), and the development of new parks (South Park, 24 acres, and Signature Park Parcel H-1A, 5 acres). As identified in Table 4.13-8, Phases II, III, and IV of the Proposed Project would result in the need for an additional 6.74 acres of parkland in addition to the 17.6 acres currently available. The Project would result in an increased demand to park and recreation levels of service due to the addition of hotel rooms.

With the delivery of approximately 27 acres of new parkland in Phases II, III, and IV, an adequate amount of parkland would be available to meet the level of services related to parks and recreation facilities.

Construction activity related to implementation of Phases II, III, and IV development includes the reconfiguration and reconstruction of the existing Bayfront Park and Marina View Park. The reconstruction would result in the temporary closure of the parks and therefore would result in a short-term impact to the delivery of park and recreation levels of service. At the completion of Phases II, III, and IV, development of the reconstructed Bayfront Park and Marina View Park and the addition of South Park would be complete, resulting in the delivery of reconstructed and expanded parkland acreage and thereby mitigating the temporary, short-term impacts to park and recreation levels of service.

Development of the Proposed Project would result in temporary, short-term significant impacts to park and recreation levels of service due to temporary closure of existing area parks during project construction (**Significant Impact 4.13.3-1**). The introduction of residential units and hotel rooms within the City's jurisdiction in the project area would result in potentially significant impacts due to an increase in demand for developed parkland and recreation facilities (**Significant Impact 4.13.3-2**).

**2. The Proposed Project would have significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental or recreational facilities, need for new, expanded, or physically altered governmental or recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for park and recreation services.**

a. Project and Program Level Analysis (All Phases)

As indicated above, the Proposed Project would be required to create approximately 27 acres of dedicated parkland. The Proposed Project would exceed the minimum parkland requirement by designating approximately 80.1 acres of parkland total. This includes reconfiguration of the existing parkland as well as new parkland. No parkland is required outside of the Proposed Project to meet the established standard; therefore, no impact would result. Impacts associated with the construction and maintenance of the proposed parkland have been addressed within this EIR.

**3. The Proposed Project would have a significant impact if it increases the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.**

a. Project and Program Level Analysis (All Phases)

The existing parks in the area consist of regional parks on Port tidelands and a City neighborhood park on Parcel S-5 in the Sweetwater District. The regional parks include Marina View Park located in portions of Parcels HP-7 and HP-6; Bayside Park located on portions of Parcels HP-1 and H-8; and Bayfront Park located on portions of Parcels HP-14 and HP-15. Temporary closures of the existing regional and neighborhood parks may result from construction activities associated with the Proposed Project; however, these parks would be reopened after construction activities that are obstructive are completed. The Proposed Project includes an overall expansion of parks. No change to the neighborhood park on Parcel S-5 is proposed.

The Proposed Project will provide a variety of recreational facilities, distributing park types and facilities throughout the project area. As proposed, Phase I of the project would develop approximately 26 acres of new parkland in the Sweetwater and Harbor districts. In addition, approximately 27 acres of new parkland will be provided in Phases II, III, and IV. The Proposed Project also includes reconfiguration of existing parkland, for a total delivery of approximately 80.1 acres of parkland. Physical deterioration of existing regional and neighborhood parks would therefore not occur as a result of the Proposed Project.

**4.13.3.4 Mitigation Measures**

**Mitigation Measure 4.13.3-1**

The following mitigation measure is required to reduce **Significant Impact 4.13.3-1** (associated with temporary closure of existing area parks) to below a level of significance.

**Port:** 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.

### **Mitigation Measure 4.13.3-2**

The following mitigation measure is required to reduce **Significant Impact 4.13.3-2** (associated with increased demand for developed parkland and recreational facilities) to below a level of significance.

**City:** 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.

#### ***4.13.3.5 Significance of Impacts After Mitigation***

Significant impacts to parks and recreation services were identified for the Proposed Project. However, mitigation measures including dedication of parks, noticing, and payment of fees mitigate impacts to below a level of significance.

### **4.13.4 Schools**

#### ***4.13.4.1 Existing Conditions***

This section discusses the existing school facilities for the project site. Two public school districts provide all public primary and secondary school facilities and services in the City of Chula Vista: Chula Vista Elementary School District (CVESD) and Sweetwater Union High School District (SUHSD). Currently, no schools from either district exist within the Proposed Project boundary. The schools located within the City's northwest and southwest planning areas are the facilities closest to the Proposed Project area.

#### **a. Chula Vista Elementary School District**

CVESD operates 34 schools and serves approximately 25,600 students (grades K–6). Approximately 2,600 people are employed district-wide. Mueller Elementary School, located at 715 I Street, is the school closest to the project site and within a quarter-mile of the Harbor District boundary. Current enrollment is 889, with a capacity of 930 students. At this time, the Mueller school site utilizes portable classrooms and there are no plans to expand the facilities at this school.

Three schools are situated within 1 mile of the project site and are currently operating at or near capacity (Anson, pers. comm. 2006) as follows: (1) Vista Elementary School, located at 540 G Street; (2) Feaster Edison, located at 670 Flower Street; and (3) Harborside Elementary, located at 681 Naples Street.

**b. Sweetwater Union High School District**

SUHSD operates 18 junior and senior high schools and ancillary programs. It is the largest secondary school system in California, serving approximately 36,000 students in junior and senior high schools combined, and approximately 40,441 adult learners in south San Diego County, including Chula Vista.

The middle and high schools located within the Northwest Planning Area and Southwest Planning Area (designated in the adopted City of Chula Vista General Plan) are located in the vicinity of the Proposed Project site. SUHSD operates 11 schools between these two areas.

**c. Regulatory Framework**

School services are addressed in the City's Growth Management Threshold Standards and State Senate Bill 50. School impacts are measured against "quality of life" criteria set forth in the City's Growth Management Threshold Standards Policy.

Senate Bill 50 was enacted to obtain support from the Building Industry Association for school bond issues and prohibits local governments, including school districts, from requiring extra fees or the establishment of a Mello Roos from new development to finance schools. The City can levy fees for road, sewer, and park improvements as mitigation, but the City cannot do the same for schools. This law also limits cities from regulating the rate of growth of residential development based on school impacts.

The legislation provides that the statutory fees are the exclusive means of considering and mitigating for school impacts. It not only limits the mitigation that would be imposed, it also restricts the scope of review and the findings to be adopted for school impacts. Once the statutory fee is paid, the impact is deemed mitigated as a matter of law (Government Code Section 65995(b)). Therefore, payment of project development fees in compliance with statutory requirements reduces significant impacts to school districts to below a level of significance.

**4.13.4.2 Impact Significance Criteria**

According to the City's Threshold Standards Policy, the Proposed Project would have a significant impact on schools if the following results:

1. CVESD and SUHSD do not have the necessary school facilities to meet the needs of the students in new development areas in a timely manner.

Additionally, according to Appendix G of the CEQA guidelines, impacts to school services would be significant if the Proposed Project:

2. Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools.

#### 4.13.4.3 Impact Analysis

1. **The Proposed Project would have a significant impact if CVESD and SUHSD do not have the necessary school facilities to meet the needs of the students in new development areas in a timely manner.**

The Proposed Project would impact school services if the school districts are not able to provide adequate schools to serve the new student population. The estimated number of students to be generated by the Proposed Project upon build-out was based on the current student generation factors used by each of the school districts. As indicated in *Table 4.13-10*, the Proposed Project is expected to generate a net increase of approximately 819 students, including approximately 525 elementary school (grades K–6) students, 147 middle school (grades 7–8) students, and 147 high school (grades 9–12) students. Because the project only proposes residential uses during Phase I, the student population generation would occur during Phase I.

**TABLE 4.13-10**  
**Student Generation Rates for the Proposed Project**

Grades	Generation Rate	Multifamily Dwelling Units	Total Students Generated
<b>Phase I</b>			
K–6	0.35	1,500	525
7–8	0.098	1,500	147
9–12	0.098	1,500	147
<b>Total Students Generated</b>			<b>819</b>

SOURCE: CVESD; Sweetwater Union High School District 2005.

#### a. Project and Program Level (Phase I)

At the present time, the existing elementary school in the project vicinity (Mueller Elementary School) is operating very close to capacity, and the middle and high schools in the project vicinity are operating at capacity. The SUHSD has not determined which schools would serve the project but has requested that the project assist the district with expansion of school facilities, possibly through reservation of land and financing of new construction. As shown in

*Table 4.13-10*, the Proposed Project would generate approximately 525 elementary school students, 147 middle school students, and 147 high school students during Phase I, for a total of approximately 819 students. The addition of 525 new elementary school students would exceed the capacity of the CVESD; therefore, the CVESD would need new facilities to accommodate the additional elementary school students. Because the SUHSD is operating at capacity, the SUHSD would also need new facilities to serve the middle and high school students generated during Phase I development. Therefore, the addition of 819 students during Phase I would have a significant impact on CVESD and SUHSD (**Significant Impact 4.13.4-1**).

b. Program Level (Phases II through IV)

No students would be generated during Phases II, III, or IV because no residential uses are proposed. Therefore, no additional impacts would occur during these development phases.

**2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools.**

a. Project and Program Level (All Phases)

As mentioned under significance criteria 1 above, the Proposed Project would require the construction of new school facilities. Provision of school facilities is the responsibility of the school district when additional demand warrants. Potential school sites must be approved by the California Department of Education following extensive environmental review. The California Department of Education has prepared a School Site Selection and Approval Guide to help school districts select school sites that provide both a safe and supportive environment for the instructional program and the learning process and to gain State approval for the selected sites. Selecting the most appropriate site for a school is an important consideration for a school district and the school community. The location, size, and shape of a school site can materially affect the educational program and opportunities for students. Safety is the first consideration in the selection of school sites. Certain health and safety requirements are governed by State regulations and the policies of the California Department of Education. In selecting a school site, the selection team should consider the following factors: (1) proximity to airports; (2) proximity to high-voltage power transmission lines; (3) presence of toxic and hazardous substances; (4) hazardous air emissions and facilities within a quarter-mile; (5) other health hazards; (6) proximity to railroads; (7) proximity to high-pressure natural gas lines, gasoline lines, pressurized sewer lines, or high-pressure water pipelines; (8) proximity to propane tanks; (9) noise; (10) proximity to major roadways; (11) results of geological studies and soils analyses;

(12) condition of traffic and school bus safety; (13) safe routes to school; and (14) safety issues for joint-use projects. The school district will take all of these factors into consideration prior to selecting a school site.

Because the location of a school site within the jurisdiction of the school district is currently unknown, the evaluation of the environmental effects of the provision of the school is speculative and beyond the scope of this analysis. This is a significant impact (**Significant Impact 4.13.4-2**).

#### ***4.13.4.4 Mitigation Measures***

##### **Mitigation Measure 4.13.4-1**

The following mitigation measure is required during Phase I to reduce **Significant Impacts 4.13.4-1** and **4.13.4-2** (associated with the increased number of students within the CVESD and SUHSD) to a less than significant level.

**City:** 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.

#### ***4.13.4.5 Significance of Impacts After Mitigation***

Implementation of Mitigation Measure 4.13.4-1 would reduce significant school impacts to a level below significance.

### **4.13.5 Library Service**

#### ***4.13.5.1 Existing Conditions***

This section discusses the existing library services for the project site. There are currently three full-service libraries in the City of Chula Vista: the Civic Center Branch, the South Chula Vista Branch, and the East Lake Branch. The three facilities comprise a total of 102,000 square feet of library space, including 14,000 square feet of administrative facility space. In addition to the three full-service libraries, the Chula Vista Heritage Museum is part of the Chula Vista Public Library System and a chapter of the Friends of the Library.

The 1998 Library Facilities Master Plan calls for one additional branch library to be constructed prior to 2020 to serve the eastern side of the City, an approximately 30,000-square-foot library in the Eastern Urban Center in the Otay Ranch. The exact location of the Eastern Urban Center library has not yet been selected and construction, although dependent on many variables, is to begin in the next 8 to 12 years. These additional facilities would provide a total of 60,000 gross square feet (GSF) of library space east of I-805 (General Plan Update Library Area Wide Study 2003). Based on a shared use experiment that has not been entirely successful, the closure of the 10,000-square-foot Eastlake library facility is probable. That means that in conformance with the Library Facilities Master Plan, an approximate total of 153,000 square feet of library space would serve the City's population by 2020.

The Civic Center Branch, located in the adopted General Plan's Northwest Planning Area, would serve the Proposed Project site. The Civic Center Branch Library is 27 years old and is the City's main library. The 55,000 square feet of library space is 54 percent of the existing library space for the City. Approximately 15,000 square feet at the Civic Center Library is used to house non-public service, system-wide administrative, and support functions. The library is over-used and has reached its capacity with regard to materials. Located at 365 F Street, the branch is open seven days a week, 64 hours per week.

#### a. Regulatory Framework

Policies and guidelines regarding library services in the City of Chula Vista are contained within the City of Chula Vista's adopted General Plan, Public Library Facilities Master Plan, Library Strategic Plan, and the City's Growth Management Threshold Standard Policy.

Libraries are addressed in the Public Facilities and the Growth Management Elements of the City of Chula Vista's adopted General Plan. The Public Facility Element focuses on facilities and services that are controlled by the City through direct administration or contractual agreement. The Growth Management Element represents a conscious decision to direct the pattern of community development through a set of comprehensive goals, objectives, and planning policies. The general objective and goal of the City as it relates to the infrastructure requirements of the adopted General Plan is to promote an adequate and efficient range of public facilities and services.

The Chula Vista Library Strategic Plan provides a blueprint for library service over a 5-year period. The Library Strategic Plan is designed to focus priorities and resources in order to ensure that residents of Chula Vista receive the highest quality library services possible.

The Chula Vista Public Library Facilities Master Plan was last updated in 1998. It is the latest in a series of 10-year plans to address library services in response to the City's growing needs.

The Growth Management Threshold Standard Policy states that the City shall construct 60,000 GSF of library space, beyond the citywide June 30, 2000 GSF, in the area east of I-805 by 2030. Additionally, construction of these facilities shall occur in phases such that the City would not fall below the citywide ratio of 500 GSF per 1,000 residents. Although this standard does not apply to the area west of the I-805, based on the absence of a standard, it would be applied to the Proposed Project.

The City currently provides 102,000 square feet of library space. Based on 2004 population estimates of 217,000, the total library square feet required for the City equals 108,500. This represents a current shortfall of approximately 6,500 square feet (108,500–102,000). In addition, the City currently does not meet the books per capita criteria established by the Public Facilities Element of the General Plan Update.

#### **4.13.5.2 Impact Significance Criteria**

According to the City's Threshold Standards Policy, the Proposed Project would have a significant impact on libraries if:

1. It exceeds the population ratio, which requires that 500 square feet (gross) of adequately equipped and staffed libraries be provided per 1,000 populations.

Additionally, according to Appendix G of the CEQA guidelines, impacts to library services would be significant if the Proposed Project:

2. Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries.

#### **4.13.5.3 Impact Analysis**

- 1. The Proposed Project would have a significant impact if it exceeds the population ratio, which requires that 500 square feet (gross) of adequately equipped and staffed libraries be provided per 1,000 populations.**

- a. Project and Program Level (Phase I)

Based on a population rate of 2.159 persons per multifamily unit, the 1,500 dwelling units proposed in Phase I of the Proposed Project would result in a total population of approximately 3,239 persons. Based on the expected net population increase, the project would require approximately 1,620 square feet of library facilities for Phase I development.

The Municipal Code of the City of Chula Vista does not apply a service demand requirement for libraries to commercial or industrial acreage. As such, the impact, and required mitigation, only applies to residential uses.

The need for additional library square feet to serve the Proposed Project would place substantial pressure on the existing library facilities and would worsen the present shortfall in library square footage and books per capita. This would be a significant impact (**Significant Impact 4.13.5-1**).

b. Program Level (Phases II through IV)

No additional library services or capacity are required for Phase II, III, or IV development because no residential uses are proposed.

**2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries.**

a. Project and Program Level (All Phases)

As discussed above under significance threshold 1, projected increase in population associated with development of the Proposed Project during Phase I would result in additional demands on library services. Currently, there is insufficient existing library space in the City to meet their 500 GSF per 1,000 residents threshold standard. Development of the Proposed Project during Phase I would require approximately 1,620 square feet of library space. Until new library facilities are constructed or existing facilities are expanded to meet the increased demand, a significant impact to library services would exist (**Significant Impact 4.13.5-2**).

**4.13.5.4 Mitigation Measures**

**Mitigation Measures 4.13.5-1**

The following mitigation measure shall be implemented in Phase I of the Proposed Project to reduce **Significant Impacts 4.13.5-1** and **4.13.5-2** (associated with the increased demand on existing library facilities), but due to existing deficiency in library service in the City, the impact remains significant. Because the service demand for libraries is only applied to residential use, and there is no residential use within the Port's jurisdiction, no mitigation by the Port is required.

**City:** 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.

#### ***4.13.5.5 Significance of Impacts After Mitigation***

Implementation of Mitigation Measure 4.13.5-1 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 mitigate, implementation of the measure would not reduce the significant impact to library services to a level below significance.

## 4.14 Public Utilities

This section discusses the Proposed Project's potential impacts on public utilities. Public utilities consist of the provision of potable water, recycled water, sewer, and integrated waste management services and facilities. Information regarding public utilities that serve the Proposed Project was provided by local service providers. In addition, the following technical studies and assessments were prepared for the Proposed Project:

- Updated Water Supply Assessment and Verification Report (WSA&V) (July 2006), issued by the Sweetwater Authority (*Appendix 4.14-1*)
- Technical Memorandum—Water for the Chula Vista Bayfront Master Plan (January 2008), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.14-2*)
- Technical Memorandum—Water for the Chula Vista Bayfront, Gaylord Development (October 2007), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.14-3*)
- Technical Memorandum—Water for the Chula Vista Bayfront, Pacifica Development (October 2007), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.14-4*)
- Technical Memorandum—Sewer for the Chula Vista Bayfront Master Plan (January 2008), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.14-5*)
- Technical Memorandum—Sewer for the Chula Vista Bayfront, Gaylord Development (October 2007), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.14-6*)
- Technical Memorandum—Sewer for the Chula Vista Bayfront, Pacifica Development (October 2007), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.14-7*).

Appendices 4.14-3 and 4.14-6 were prepared for the RCC proposed by Gaylord on Parcel H-3. Gaylord has withdrawn its proposal to develop Parcel H-3 and is no longer a participant in the project. The technical studies provided in Appendices 4.14-3 and 4.14-6 are still relied upon for the program-level analysis of the proposed RCC on Parcel H-3; therefore, they remain relevant to this section's analysis and are included as appendices.

Additional documents prepared for the Proposed Project and referenced throughout this section include the following:

- Water Quality and Sediments Study (June 2006), prepared by MBC Applied Environmental Sciences (*Appendix 4.5-1*)
- Civil Engineering Technical Studies (May 2006), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.5-2*)
- Chula Vista Bayfront Master Plan Grading and Lotting Plan (January 2008), prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.5-11*)

- Water Supply Assessment and Verification Report (November 2005), provided by the Sweetwater Authority, included as Appendix C to the Civil Engineering Technical Study (*Appendix 4.5-2*).

Several supplemental documents are incorporated within this section by reference pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15150 and available for review at the San Diego Unified Port District, 3165 Pacific Highway, San Diego, California, 92101. These include the following:

- Metropolitan Water District of Southern California (MWD) Water Regional Urban Water Management Plan (November 2005)
- San Diego County Water Authority Urban Water Management Plan (2000)
- San Diego County Water Authority Updated Urban Water Management Plan (2005)
- Sweetwater Authority Urban Water Management Plan (2000)
- Sweetwater Authority Urban Water Management Plan (2005)
- Sweetwater Authority Water Distribution System Master Plan (2002).

#### **4.14.1 Water Supply and Water Availability**

##### ***4.14.1.1 Existing Conditions***

This section discusses the existing services related to water supply for the project site.

##### **a. Potable Water**

Water imported to the San Diego region comes from two primary sources, the Colorado River through the 240-mile Colorado River Aqueduct, and the State Water Project from Northern California through the Sacramento–San Joaquin River Delta and the 444-mile-long California Aqueduct. These sources deliver water to the Metropolitan Water District of Southern California (MWD), which then distributes water supplies on a wholesale basis to water agencies throughout the Southern California region, including the San Diego County Water Authority (SDCWA). The SDCWA comprises 23 member agencies and receives purchased water by gravity through two aqueducts containing five large-diameter pipelines. These pipelines then supply the member water agencies that serve Chula Vista. The Sweetwater Authority is the agency that provides potable water to the project area.

The Sweetwater Authority receives its water as a part of a ~~Joint planning Powers a~~ Agreement with National City and the South Bay Irrigation District. They receive treated water from the SDCWA through Pipeline Number 4 and raw water from the SDCWA Pipeline Number 3, which

is then treated at their own Perdue Water Treatment Plant. Additional sources of water are Sweetwater and Loveland Reservoirs, the Reynolds Desalination Facility, and the National City Wells. In times of wet weather, these “local” sources can provide up to 100 percent of the annual demand.

The existing water system that serves the project site consists of mains ranging in size from 6 to 16 inches. *Table 4.14-1* shows a breakdown of the existing water facilities serving the Bayfront.

**TABLE 4.14-1  
Existing Water Facilities**

Street Name/Location	Size and Type of Water Main
Bay Boulevard	12-inch AC Water
Lagoon Drive	16-inch AC Water
Tidelands Avenue	10-inch AC Water
J Street	12-inch AC Water
Sandpiper Way	10-inch AC Water
Plover Way	10-inch AC Water
Quay Avenue	10-inch AC Water
Bayside Park	8-inch AC Water
E Street	8-inch AC Water
G Street	12-inch AC Water

AC = asbestos cement

The existing potable water system is supplied from the Perdue Water Treatment Plant at Sweetwater Reservoir. The existing water system operates at a hydraulic grade line of 270. The western portion of Chula Vista is served by a 30-inch water main that runs along Second Avenue and branches out into several smaller water mains that serve individual customers, including those currently within the plan area.

The Sweetwater Authority currently extracts groundwater from two well fields located within its jurisdiction. These groundwater supplies are used to supplement the total potable water supply for the Sweetwater Authority.

#### b. Recycled Water

Currently, the Sweetwater Authority does not produce or distribute recycled water. ~~The City of San Diego is the largest water recycling agency in the area.~~ Sweetwater Authority has completed its Recycled Water Master Plan and conducted a feasibility study with Otay Water District and the City of Chula Vista for a recycled water treatment facility. Results of this study have

determined that serving recycled water in the Sweetwater Authority service area, which includes the Chula Vista Bayfront Master Plan area, is not economically viable.

c. Regulatory Plans and Policies

i. Urban Water Management Plans

The state Urban Water Management Planning Act (Water Code §§ 10610-10656) requires water utilities providing water for municipal uses to more than 3,000 customers or supplying more than 3,000 acre feet per year (af/yr) to prepare an Urban Water Management Plan (UWMP) every 5 years, in years ending in five and zero. A UWMP is required in order for a water supplier to be eligible for Department of Water Resources (DWR) administered state grants, loans, and drought assistance. A UWMP provides useful information on water demand, water supply, recycled water, water quality, reliability planning, demand management measures, best management practices, and water shortage contingency planning. The UWMP Act requires preparation of a UWMP that:

1. Accomplishes water supply planning over a 20-year period in 5-year increments
2. Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years
3. Implements conservation and efficient use of urban water supplies.

ii. Metropolitan Water District of Southern California (MWD) Water Regional Urban Water Management Plan

Metropolitan Water District (MWD) is composed of 26 cities and water districts from Los Angeles, Orange, Riverside, San Diego, San Bernardino, and Ventura counties. As a regional water wholesaler, MWD plays a role in the Sweetwater Authority's water supply because it receives a portion of its water supply from SDCWA, which in turn is a MWD member agency.

In compliance with the state UWMP law, MWD published its 2005 Regional Urban Water Management Plan (RUWMP), incorporated herein by reference, in November 2005. MWD's RUWMP provides member agencies, retail water utilities, cities, and counties within its service area with water supply information to facilitate the development of their own UWMPs as well as water supply assessments and written water supply verifications. The MWD RUWMP used SANDAG's regional growth forecast to calculate regional water demands for SDCWA's service area. Regional growth forecasts for SDCWA's service area included the Proposed Project, and accounted for expected demand after implementation of water conservation project design features.

MWD obtains its supplies from local sources, the Colorado River, and the Sacramento-San Joaquin Delta. Local sources supply approximately 42 percent of the water needs in MWD's service area, while imported sources supply the rest. MWD's Colorado River water supplies are conveyed via the Colorado River Aqueduct (CRA), which MWD owns and operates. MWD's Sacramento-San Joaquin Delta supplies are conveyed via the State Water Project (SWP), which is owned and operated by the DWR.

MWD has a "fourth priority" right to draw 550,000 af/yr from the Colorado River, as well as a fifth priority right to draw an additional 662,000 af/yr if Colorado River water supplies allow California to exceed its 4,400,000 af/yr entitlement. In addition, MWD has entered into numerous agreements that allow it to receive supplies unused by agricultural districts for its own use and to store water surplus in excess of immediate needs in groundwater basins adjacent to the CRA.

MWD has a contracted right to 2,011,000 af/yr of the 4,230,000 af/yr of water from the SWP (approximately 48 percent of SWP supplies), at least as the SWP was originally conceived. However, the SWP was not fully constructed and is not capable of delivering its full, intended amount. Historically, the SWP has been able to meet all contractors' requests for water, except for during the drought years of 1977, 1990–1992, and 1994. In 2004, MWD received a high of 1,792,000 af, but received reduced deliveries of 391,000 af and 710,000 af in 1991 and 1992, respectively, due to fluctuations in SWP supplies based on annual weather conditions. According to the most recent finalized DWR SWP Reliability Report published in April 2006, annual SWP water delivery is estimated to be at or above 2,700,000 af/yr in 75 percent of water years; 3,500,000 af/yr in 50 percent of water years; and 4,130,000 af/yr in 25 percent of water years.<sup>1</sup>

Since 1996, MWD has operated under a twenty-year resource plan designed to balance locally developed water supplies and imported supplies. The 1996 Integrated Water Resources Plan (1996 IRP) called for investments in water conservation, recycling, groundwater treatment storage, and water transfers in order to diversify and stabilize MWD's water supplies. Building on this success, the MWD Board directed staff to update the 1996 IRP by preparing the 2003 Integrated Water Resources Plan Update (2003 IRP). The 2003 IRP was approved in July 2004 and remains the guiding long-term planning document for MWD.

The 2003 IRP concluded that MWD would be able to provide 100 percent supply reliability through 2025. It recommended that MWD build a supply buffer of up to 10 percent of regional

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<sup>1</sup> DWR is presently finalizing its Draft 2007 SWP Reliability Report, which considers the impacts of the recent Delta smelt decision (see *Subsection (d), Current Water Supply Issues*, below) and climate change on SWP supply reliability. The 2005 SWP Reliability Report was used for the purposes of this analysis because it was based on the most recent finalized report available.

demands, evenly split between local and imported sources, in order to manage concerns about water quality regulation and resource implementation risk surrounding the development of planned projects. The 2003 IRP calls for this 500,000 af/yr buffer to be developed through recycling, groundwater recovery, desalination, and SWP storage and transfers.

MWD's RUMWP concludes that it will have sufficient water supplies to serve its member agencies under average, single-dry, and multiple-dry year conditions through the year 2030. In addition, MWD has identified buffer supplies as described above, including additional SWP groundwater storage and transfers, which could serve to supply additional water if needed. As stated in the 2003 IRP, it is MWD's goal to identify an additional 500,000 af/yr of contingency supplies by 2025, evenly divided between local and imported sources, to buffer against water supply shortfalls.

In MWD's February 2008 Annual Progress Report to the California Legislature regarding achievements in conservation, recycling, and groundwater recharge, MWD reported that it had enacted the largest communications and outreach conservation campaign in its history in 2007; had conserved 118,000 af/yr from new and existing active conservation programs (fiscal year 2006/2007); had produced 98,000 af/yr from water recycling (fiscal year 2006/2007); had produced 49,000 af/yr from groundwater recovery (fiscal year 2006/2007); and had invested, appropriated, and managed grants for over \$100 million in active conservation, water recycling, groundwater recovery, and conjunctive use programs. These achievements bring MWD closer to meeting its 2003 IRP goal of conserving 1,100,000 af/yr by 2025.

iii. San Diego County Water Authority (SDCWA) Urban Water Management Plans

The mission of the SDCWA is to provide a safe and reliable supply of water to its member agencies serving the San Diego region. The SDCWA's adopted 2000 UWMP assessed water demands for the San Diego region, compared water supplies with such demands through 2020, and identified existing and projected supplies to meet those demands in average, single-dry, and multiple-dry years. On November 17, 2005, the SDCWA adopted its 2005 UWMP, updating the previously adopted 2000 UWMP. The 2005 UWMP assessed water demands for the San Diego region, compared water supplies with such demands through 2030, and identified existing and projected supplies to meet those demands in average, single-dry, and multiple-dry years. On April 26, 2007, the SDCWA adopted its Updated 2005 UWMP in order to incorporate two significant changes to its 2005 UWMP: a change to the desalination project adjacent to the Encina Power Station from a regional supply project to a local supply project and the adoption of a Drought Management Plan. Both the 2005 UWMP and Updated 2005 UWMP are herein incorporated by reference. Regional growth forecasts for SDCWA's service area included the Proposed Project.

Since 1990, between 5 and 25 percent of SDCWA's water has been locally supplied. Local sources include surface and groundwater supplies and recycled (reclaimed) water. The combined capacity of the 24 surface reservoirs within SDCWA's service area is approximately 593,915 af (2005 UWMP). Surface water provides over half of SDCWA's local water supply. Since 1980, annual surface water yields have ranged from 24,000 to 174,000 af/yr.

As noted above, SDCWA has historically received 75 to 95 percent of its supply from MWD. In fiscal year 2005, SDCWA purchased approximately 25 percent of MWD's water supply. However, SDCWA's existing preferential right under the MWD Water District Act (MWD Act) is limited to 15.8 percent. Each member agency that MWD services has a preferential right to a percentage of MWD's available water supply based on a formula established by the State Legislature and set forth in Section 135 of the MWD Act. This percentage is equal to the ratio of each member agency's total accumulated payments to MWD's capital costs and operating expenses compared to the total of all member agencies' payments towards those costs, specifically excepting payments for the purchase of water (MWD 2004). Although the preferential rights section of the MWD Act has never been invoked, MWD could allocate water to other agencies without regard to historic water use or dependence on MWD. MWD's ability to restrict SDCWA to its preferential right has been confirmed in the courts; however, in its RUWMP, MWD stated that it is prepared to provide SDCWA service area with adequate supplies to meet expanding needs through 2030. Furthermore, SDCWA has concluded that MWD is capable of supplying imported water to meet the projected demands by SDCWA under various hydrologic conditions if the supply targets identified in the RUWMP are met.

In February 2008, the MWD board approved a Shortage Allocation Plan that accomplishes an equitable regional allocation of MWD water supplies during times of shortage. This allocation plan will determine the member agencies' need for water based on historical use and adjusting for growth and changes in local supplies, and then will make an across-the-board allocation based on the declared regional shortage of water. An additional allocation will be made based on an agency's dependence on MWD water, and then an additional credit allocation will be given based on the amount of conservation savings established by the member agency. This allocation plan is beneficial to SDCWA because it focuses on historical use and dependence, not on SDCWA's preferential right to water. On April 16, 2008, the Central Basin Municipal Water District (CBMWD) filed suit against MWD to overturn the Shortage Allocation Plan (see *Central Basin Municipal Utility District v. Metropolitan Water District of Southern California*, Case No. BS114382 (Los Angeles County Superior Court)). CBMWD argues in its suit that MWD's approval of the Shortage Allocation Plan violated various provisions of the Water Code, failed to comply with CEQA, and was unconstitutional under both the United States and California constitutions. MWD has publicly denied that there is any basis for CBMWD's suit, and the Shortage Allocation Plan remains in effect.

For the past two decades, SDCWA has aggressively diversified its water supply, prompted by water supply cutbacks from MWD during a 6-year drought that began in 1987. SDCWA has pursued this goal in multiple ways, including conservation, groundwater supplies, recycled water development, desalination, and long-term water transfers. Based on SDCWA's existing and planned investments, the region's water supply reliability is expected to increase substantially over time. A brief description of SDCWA's efforts is provided below.

**Conservation.** The 2005 UWMP and 2005 Updated UWMP demonstrate that SDCWA and its member agencies have made considerable progress in conserving and diversifying their water supplies. The SDCWA's 2005 UWMP reports that the San Diego region has conserved an average 40,500 af/yr since 2000. The 2005 Updated UWMP notes that implementation of existing and proposed best management practices (BMPs) could conserve up to 108,396 af/yr by 2030. Most recently, SDCWA and its member agencies (including the Sweetwater Authority) have actively publicized SDCWA's voluntary water conservation initiative, known as the "20-Gallon Challenge." The "20-Gallon Challenge" gives San Diego County residents the knowledge necessary to conserve 20 gallons per person, per day. This conservation effort is projected to conserve 56,000 af/yr in 2008 and beyond. SDCWA also sponsors a high-efficiency clothes washing machine rebate program.

**Groundwater Supply Enhancement.** The 2005 Updated UWMP notes that additional groundwater supplies are available from higher water quality basins such as the Sweetwater Authority's National City Well Field. In particular, SDCWA has identified the Sweetwater Authority as an agency that could increase its safe effective groundwater yield, and SDCWA will work closely with the Sweetwater Authority to overcome the regulatory constraints associated with development of additional groundwater supply.

**Recycled Water Development.** In 2005, approximately 11,479 af/yr of recycled water was used in SDCWA's service area. SDCWA anticipates increased usage of recycled water as the capacity of local wastewater reclamation increases through the development of new facilities and improvement of existing facilities, with the goal of using 47,584 af/yr of recycled water by 2030.

**Desalination.** Seawater desalination is a key component of SDCWA's diversification strategy. The 2005 Updated UWMP includes 56,000 af/yr of local seawater desalination. The Carlsbad Seawater Desalination Project is a local desalination project by Poseidon Resources Corporation that would be built adjacent to the Encina Power Station in Carlsbad and would utilize existing seawater intake and discharge infrastructure. It is anticipated to produce 50 million gallons of desalinated water per day (56,000 af/yr or approximately 10 percent of SDCWA's supply). The Final EIR for the Encina Desalination Project was certified by the City of Carlsbad in June 2006 and presents the environmental impacts associated with the project. The California Coastal Commission issued a coastal development permit in 2007, however, that decision is currently

subject to litigation. Looking to the future, SDCWA is also conducting feasibility studies for regional seawater desalination facilities at the San Onofre Nuclear Generation Station and elsewhere in southern San Diego County.

**Long-Term Water Transfers.** In 1998, SDCWA entered into an agreement with the Imperial Irrigation District (IID) for the transfer of water from IID to SDCWA. SDCWA and MWD entered into an exchange agreement in November 1998 under which SDCWA would transfer the water received from IID to MWD for diversion into the CRA, and MWD would deliver an equal amount of water to SDCWA. On October 10, 2003, the Quantification Settlement Agreement (QSA) for the transfer was signed by involved agencies, and the first transfer of water occurred in December 2003. Under the agreement, the water transfer quantities will increase from 10,000 af/yr (which started in 2003) to 200,000 af/yr over a period of 19 years. The agreement has an initial term of 45 years and a renewal term of 30 years (if mutually agreed upon by SDCWA and IID). In addition, as part of the QSA and related contracts, SDCWA received rights to 77,700 af/yr of water conserved through the lining of the All American Canal (AAC) and Coachella Canal (CC). The lining projects will reduce water loss through seepage and will provide SDCWA an additional source of supply. SDCWA significantly reduced its reliance on MWD water supplies with the implementation of the QSA and the IID water conservation and transfer agreement in 2003.

SDCWA's Capital Improvement Program includes projects that will increase delivery capacity, operational flexibility, and reliability of the aqueduct system. These projects will also provide adequate storage to meet emergency needs.

Section 4 and Section 5 of SDCWA's Updated 2005 UWMP contain documentation of SDCWA's existing and planned water supplies, including MWD supplies (imported Colorado River water and State Water Project (SWP) water), SDCWA supplies (IID water transfer supplies, canal-lining project water supplies, and seawater desalination supplies), and local member agency supplies (surface water reservoirs, water recycling, groundwater, and groundwater recovery).

In addition, Section 8 of SDCWA's 2005 Updated UWMP continues to evaluate water supply reliability in average, single-dry, and multiple-dry years. The 2005 Updated UWMP concludes that SDCWA will have sufficient water supplies to serve its member agencies under average, single-dry, and multiple-dry year conditions through the year 2030. However, it also notes that SDCWA could be at risk for shortages if the supplies identified in MWD's Integrated Resources Plan (IRP) (May 2004) are not developed, or if MWD's other member agencies invoke their preferential rights to water and thereby prevent SDCWA from purchasing its historic amount of water (as discussed above). This later risk has been alleviated in the short term by MWD's adoption of the Shortage Allocation Plan in February 2008. According to SDCWA, a

combination of storage and new supplies would provide a reliable solution to alleviating risks during a dry period.

iv. Sweetwater Authority Urban Water Management Plan 2005

The Sweetwater Authority UWMP 2005 is an update to the Sweetwater Authority's 2000 UWMP, both of which are incorporated herein by reference. The 2005 UWMP assesses the Sweetwater Authority's water demands, conservation and public affairs program, water supply and management, water pricing and rate structures, and drought and emergency management through 2030. The Sweetwater Authority's service area contains approximately 33,180 service connections and there are no future plans to expand the service area at this time (UWMP 2005). The 2005 UWMP projects that the total demand within the SDCWA's service area in normal water years will increase from 23,570 af/yr of water in 2005 to a demand for 28,260 af/yr of water in 2030.

The UWMP disclosed that the Sweetwater Authority meets an average of 44.7 percent of demand with local supplies (including local groundwater, brackish groundwater desalination, and surface water), and 55.3 percent of demand with imported water from SDCWA. The SDCWA supplies 100 percent of the Sweetwater Authority's imported supplies.

Local supplies include:

- National City Wells Nos. 2, 3, and 4, which draw from the San Diego Formation aquifer
- Richard A. Reynolds Desalination Facility
- Sweetwater and Loveland Reservoirs, which capture surface runoff during periods of wet weather and can hold approximately a two-year supply for the Authority's service area. The Sweetwater Reservoir is also used to store water imported from the SDCWA.
- Desalinated sea water from Poseidon Resources. In January 2007, the Sweetwater Authority entered into a long-term Water Purchase Agreement with Poseidon Resources to purchase 2,400 af/yr of desalinated ocean water from the plant to be built adjacent to the Encina Power Station in Carlsbad. This local source of supply will further improve the reliability of the Sweetwater Authority's water supply.

The UWMP states that because there are no recycled water transmission mains in the Authority's service area, the capital costs to provide recycled water is prohibitively high; however, the UWMP states that the Authority will continue to work with the local agencies to review potential recycled water projects within their service area. In 2005, the Authority prepared a draft Recycled Water Master Plan to explore the possibility of delivering recycled water to a refurbished or rebuilt power plant in the Bayfront area. The Recycled Water Master Plan was intended to determine whether it was feasible to deliver recycled water to the area based on

future needs. At this time, current plans do not include enough recycled water demand to make recycled water service in the Bayfront area financially feasible.

The UWMP concludes that if projected imported and local supplies are available as indicated in the UWMP, no shortages are anticipated within the Authority's service area in an average/normal year or in the dry-year scenarios analyzed in the UWMP through 2030. The UWMP acknowledges that during drought conditions, even with the Authority's reliance on imported water being reduced and the ability to store water in times of drought, there is always a vulnerability because it must rely on an external source to provide its water supply. The Sweetwater Authority's recent contract for 2,400 af/yr of desalinated sea water would decrease this vulnerability. The UWMP states that the Authority plans to continue the implementation of water conservation best management practices (BMPs), as referenced in the UWMP.

v. Sweetwater Authority Water Distribution System Master Plan 2002

The Sweetwater Authority Water Distribution System Master Plan (WDSMP) of 2002 (2002 WDSMP) updated the 1979 and 1989 Water System Master Plans and the 1993 Water System Master Plan Update and addresses a comprehensive evaluation of the transmission, distribution, storage, pumping system, and water main life expectancy. The 2002 WDSMP identifies \$23 million of remaining improvements to meet current standards and \$30.6 million for continued effort to remove the older metallic pipelines within the Sweetwater Authority's system. In addition, the 2002 WDSMP identifies other essential improvements that were not identified in the previous master plans, estimated to cost \$4 million. The 2002 WDSMP also addresses the replacement of the system's newer pipelines due to life expectancy. Based upon a life expectancy of 100 years for new pipelines (previous material life was 50 to 60 years), it was concluded that the Sweetwater Authority needs to escalate the replacement program to 4 miles per year from the then-current 2 miles per year at a cost of almost \$4 million per year compared to the then-current cost of \$1.8 million. The 2002 WDSMP also acknowledges that the Sweetwater Authority is faced with the ever-changing requirements and escalating costs to treat water at its three sources of supply.

The conclusions and recommendations of the 2002 WDSMP include the following:

- Based upon the projected maximum day demand of 35.4 million gallons per day (MGD) in 2020, no expansion of the Perdue Plant is recommended, unless arrangements with neighboring water agencies requesting alternative sources of supply are executed.
- Construct remaining water storage tanks to comply with storage requirements based on maximum day plus fire flow demand for each individual system without added system redundancy.

- Continue to prepare a new WDSMP every 10 years and an interim WDSMP update every 5 years.
- Continue the comprehensive pipeline replacement and rehabilitation program until all aging and leaking water mains are replaced.
- Eliminate nitrification and low disinfectant levels by strategically placing chemical injection points at select water storage tanks.
- Conduct further economic analysis on pipeline replacement due to life expectancy in order to plan for future budgets.
- Continue with a minimum of \$3.5 million annually (escalated for inflation) for WDSMP and metallic pipeline replacement projects.

Currently, Sweetwater Authority is preparing an update to its 2002 Distribution System Master Plan that will address any offsite infrastructure needs caused by implementation of the Proposed Project and other projects proposed within the Sweetwater Authority service area.

vi. San Diego Unified Port District Water Conservation Policy No. 715

The Port encourages the conservation of water through its Water Conservation Policy. This policy applies to Port operations, tenants, and users of Port facilities. Conservation efforts include the design and installation of drought-resistant and/or water-saving landscaping and low-flow sanitation devices. All lessees, tenants, and subtenants are required to comply with state and local regulations and laws that pertain to water use and conservation.

vii. City of Chula Vista Growth Management Ordinance, Municipal Code 19.09

The City of Chula Vista has protective measures in place regarding water supply and distribution. The City has adopted a Growth Management Program under the Growth Management Ordinance, Municipal Code Section 19.09.030, the goal of which is to ensure that the supply of water required by existing and future residents is available from suppliers and is at a level of quality necessary for its intended use. The Growth Management Program has two objectives regarding water supply and distribution: ensure that adequate storage, treatment, and transmission facilities are constructed concurrently with planned growth and ensure that water quality standards are not jeopardized during growth and construction.

The Chula Vista Growth Management Ordinance also imposes water threshold standards, which require that all applicants request and deliver to the City service availability letters from the appropriate water district for each project at the tentative map level. The ordinance also requires the City to provide the water authorities and water districts in the region with a 12-month to 18-month development forecast and request an evaluation of their ability to accommodate the forecast and continuing growth.

The Growth Management Ordinance, Municipal Code Section 19.09.050C, further requires a Water Conservation Plan to be submitted with all Sectional Planning Area (SPA) Plans. If a SPA Plan is not required, a Water Conservation Plan is required to be submitted with Tentative Subdivision Maps. The Growth Management Program further requires that a Water Conservation Plan be submitted for all major development projects defined as residential projects consisting of 50 dwelling units or greater, or commercial and industrial projects with 50 Equivalent Dwelling Units (EDUs) of water demand or greater.

The Water Conservation Plan must provide an analysis of water usage requirements of a project, in addition to a detailed plan of proposed water conservation measures, use of recycled water, and other means of reducing water consumption within the project. Developers choose from a menu of indoor and outdoor water conservation measures, including use of recycled water and other means of reducing water consumption within the project.

The City, through Sweetwater Authority, also ensures that an adequate supply and quality of water is provided to accommodate new master planned developments by implementing a set of project processing requirements for applicants to follow through each stage of development.

viii. California Senate Bills 221 and 610

Two articles of legislation were passed that address the provision of water, Senate Bill (SB) 221 (codified at Government Code §66473.7) and SB 610 (codified at Water Code § 10910, et seq.). Both of these bills place requirements on individual projects and require consideration of water supplies and demands for a Proposed Project.

Water Code Section 10910 requires that a water supply assessment be included in the environmental impact report for projects specified in Water Code Section 10912. These include, among others, residential projects of more than 500 units, shopping centers of more than 500,000 square feet, and industrial facilities with more than 650,000 square feet of floor area. Government Code §66473.7 requires the City to verify that there is a sufficient water supply as a condition of approval for residential subdivisions of 500 or more dwelling units. Proof of a sufficient supply of water for the Proposed Project is based on a written verification from the Sweetwater Authority.

ix. Sweetwater Authority Water Supply Assessment/Verification for the Proposed Project

In accordance with SB 221 and SB 610, the Sweetwater Authority prepared an Updated Water Supply Assessment & Verification (WSA&V) Report for the Proposed Project in July 2006 (see *Appendix 4.14-1*). The WSA&V states that a portion of the Proposed Project's water demand was included in the Sweetwater Authority's 2005 UWMP; however, the UWMP did not include all of the demand associated with the Proposed Project as conceived at the time the WSA&V was prepared. The 2005 UWMP did include all potential future development and redevelopment

within the Sweetwater Authority service area, including Chula Vista's Urban Core Specific Plan, other projects identified in Chula Vista's Vision 2020 General Plan, the National City Downtown Specific Plan, and the portion of the Proposed Project demands that were known at the time of the 2005 UWMP's preparation.

The WSA&V states that the Proposed Project would use an average of 2.020 million gallons per day (MGD), or 2,262.7 af/yr. The WSA&V notes that this level of water demand exceeded the assumed development included in the Sweetwater Authority's 2005 UWMP of 1,746.4 af/yr by 516.3 af/yr. The WSA&V states that this excess demand would be served by the Sweetwater Authority through the purchase of additional imported water supplies from MWD's reserve supplies (identified in Table II-7, II-8, and II-9 as Potential Reserve and Replenishment Supplies) for cases where the identified demand had not been included in the SANDAG regional growth forecast. SDCWA's 2005 Updated UWMP also describes this process. *Table 4.14-2* summarizes the projected water demands as outlined in the WSA&V.

In fact, the Proposed Project's water supply demands would be lower than those evaluated in the WSA&V and would fall within the level of water demand included in Sweetwater's 2005 UWMP. *Appendix 4.14-2* revises the Proposed Project's water supply demand estimate downward to 1.94 MGD, or 2,176.6 af/yr, a reduction of .077 MGD (86.1 af/yr). Furthermore, this demand estimate does not take into account the Proposed Project's water efficiency Project Design Features (PDFs). As described in *Section 4.6, Air Quality*, the Proposed Project would implement a series of PDFs that would have the effect of reducing GHG emissions by reducing total water usage.

**TABLE 4.14-2  
Bayfront Master Plan Projected Water Demands**

Land Use	Units <sup>1</sup>	Acres <sup>1</sup>	Water Duty <sup>2</sup>	Average Water Demand	
				(MGD)	(acre-feet per year)
Residential	2,000		105 gpcd <sup>3</sup>	0.63	705.7
Hotel (General)		57.09	8,871 gal/ac/day	0.51	567.3
Hotel (Gaylord) <sup>3</sup>		32.2	See Footnote 3	0.6	672.1
Office		21.14	1,861 gal/ac/day	0.04	44.8
Retail <sup>4</sup>		57.35	1,861 gal/ac/day	0.11	123.2
RV Park		14.06	568 gal/ac/day	0.01	11.2
Park <sup>5</sup>		89.83	776 gal/ac/day	0.07	78.4
Energy Utility		28.30	3,041 gal/ac/day	0.09	100.81
<b>Total</b>				<b>2.02</b>	<b>2,262.7</b>

SOURCE: Sweetwater Authority Water Supply Assessment and Verification Report (July 2006)

1. Based on residential land use data included in the Port District's letter to the Sweetwater Authority dated May 24, 2006.

2. Based on actual 2004 consumption within Sweetwater's service area for each land use type.

3. Water demand based on hotel specific data provided by Gaylord Entertainment.

4. Retail demands include marinas and commercial recreation uses.

5. Acreage is for only irrigated park areas; non-irrigated open space is not included.

\* gpcd = gallons per capita per day

The ~~Gaylord~~RCC would implement PDFs that may include use of grey water, ultra low-flow plumbing fixtures, native and adaptive landscaping, and high-efficiency irrigation technologies to achieve a net reduction in water usage of 20 percent (20 percent  $\times$  672.1 af/yr, or approximately 134.4 af/yr). The Pacifica Residential and Retail Project would implement PDFs that include ultra low-flow plumbing fixtures, low-flow appliances, drought-tolerant landscaping palette, weather-based irrigation controllers, and other water conservation measures to achieve a net reduction in water usage of 30 percent (30 percent  $\times$  529.7 af/yr, or approximately 158.9 af/yr). Furthermore, the remaining proposed development for the Chula Vista Bayfront Master Plan would be required to employ water efficiency measures. After implementation of water conservation measures, the Proposed Project's water use is anticipated to~~will~~ be 1,731.4 af/yr, which falls within the 1,746.40 af/yr 2005 Sweetwater UWMP's estimated water demand for the Proposed Project.

The WSA&V concludes that with the implementation of the projects discussed in MWD's RUWMP, SDCWA's 2005 UWMP, and the Sweetwater 2005 UWMP, the Sweetwater Authority would have adequate supplies to meet existing and future demands in normal, single, and multiple dry year scenarios through the year 2030. This conclusion remains valid because the Proposed Project's water demand will be less than that analyzed in the WSA&V as a result of the project design features that will be incorporated as conditions of approval.

#### d. Current Water Supply Issues

Since the WSA&V was issued in July 2006, several events have come to pass that may affect Colorado River and SWP water supplies upon which the Sweetwater Authority ultimately relies for a portion of its supplies. These events include: a December 2007 Record of Decision on the operation of the Colorado River, several federal district court decisions regarding the operation of the SWP with respect to the Delta smelt and several salmon species, and developing understanding of the potential for global climate change to impact California water supplies.

For the following reasons, however, the conclusion that there are sufficient water supplies to meet the demands of the Proposed Project, in addition to existing and other planned development projects within the service area of the Sweetwater Authority, over the required 20-year planning horizon has not changed.

#### i. Colorado River Supplies: December 2007 Record of Decision and Climate Change

As described above, MWD has a 550,000 af/yr basic annual apportionment of Colorado River water (Priority 4 under the 1931 Seven Party Agreement), along with the Colorado River supply projects that are necessary to maintain a full CRA. Furthermore, SDCWA's QSA agreement gives SDCWA access to IID's Colorado River water.

In December 2007, MWD's board authorized a series of four agreements regarding the implementation of federal guidelines addressing how water shortages are to be shared amongst the seven states that rely upon the Colorado River for water supplies. The federal guidelines, embodied in a Record of Decision (ROD) signed by U.S. Interior Secretary Dirk Kempthorne on December 13, 2007, established new rules for the management of the Colorado River, which reinforce and protect California's senior rights to Colorado River water supplies (and correspondingly, MWD's rights); unify the management of Lake Powell and Lake Mead, thereby sharing the risk of drought among all stakeholders; and establish new rules for surpluses that reward conservation.

Under this ROD, California's Colorado River supplies will not be reduced until levels at Lake Mead fall to 16 percent capacity. In addition, MWD entered into a series of related agreements that allow it to store as much as 1.5 million AF in Lake Mead (enough water to supply approximately 3 million average households for 1 year), which is nearly double the capacity of MWD's Diamond Valley Reservoir. These important agreements provide certainty to MWD's and SDCWA's Colorado River water supplies, and provide MWD with key storage space for any surplus water obtained in the future.

Another issue that may affect future supplies from the Colorado River is global climate change. The RUWMP recognized climate change as a potential risk to future water supply, and indicated that it could affect MWD's water supply from both the SWP and CRA by: (1) reducing the average annual snowpack in the Sierra Nevada; (2) changing the timing, intensity, location, amount and variability in precipitation; (3) elevating sea levels, which could threaten the Delta water diversion system; (4) affecting local supplies, such as groundwater; (5) changing urban and agricultural water demand; (6) impacting human health from water-borne pathogens and water quality degradation; (7) harming ecosystem health and function; and (8) altering power generation and pumping regimes. At the time the RUWMP was published, however, it acknowledged that the state of the science was insufficient to be used as a basis for policymaking.

Since the RUWMP was published, additional international, state, and organizational studies have added to the body of knowledge regarding climate change. For example, in July 2006 the DWR issued a report, *Progress on Incorporating Climate Change into Management of California's Water Resources* (2006 DWR Report), which specifically considered the impact climate change may have on California's water supply. Although the 2006 DWR Report explicitly states that policy implications and recommendations are beyond its scope, it discusses potential impacts global climate change could have on California's water supply (including the Colorado River) under various greenhouse gas (GHG) emissions scenarios. With regard to California's Colorado River supplies, the 2006 DWR Report concludes that less precipitation will fall as snow and there will be an earlier snow melt, evaporation will increase from reservoirs and conveyance

facilities, more sediment will be produced due to more extreme storm events and more precipitation falling as rain instead of snow, and there will be changes in water demand. The key question left unanswered by the 2006 DWR Report concerns the impact of climate change on total precipitation, because some modeling shows moderate increases in temperature with moderate increases in precipitation, and other show larger increases in temperature with moderate drying. Accordingly, the state of the science is insufficient to determine how California's Colorado River supplies will be affected by climate change.

MWD's RUWMP indicates that its 2003 IRP planning process will help MWD adapt to climate change due to its focus on conservation and recycling, groundwater conjunctive use, transfer programs, and storage and conveyance facilities, such as Diamond Valley Lake and the nearly completed Inland Feeder. As noted above, the 2003 IRP's water resource portfolio emphasizes diversification and adaptability of supply sources to manage uncertainties created by global climate change. The 2003 IRP also stresses local water supplies that are arguably less affected by global climate change. Moreover, it is MWD's goal to develop a 500,000 af/yr buffer by 2025 composed evenly of both imported and local sources of supply.

MWD has also entered agreements to store water in groundwater reservoirs within and outside of Southern California, as described in the RUWMP. While not eliminating the risks created by global climate change, these actions should decrease the adverse impacts on MWD's water supplies. The December 2007 ROD will also help to address potential global climate change impacts in the Colorado River by bringing clarity to how shortage conditions will be handled, and providing for additional storage in wet years. Furthermore, SDCWA's supply diversification efforts are a positive response to climate change concerns—particularly with regard to groundwater development, desalination, conservation, and recycled water—because they do not depend on precipitation patterns, and are local sources of supply.

Most recently, in a February 2008 letter to the Hon. Don Perata, Hon. Mike Machado, and Hon. Darrell Steinberg, Governor Schwarzenegger announced his intent to achieve a 20 percent reduction in per capita water use statewide by 2020. In addition, Governor Schwarzenegger welcomed these legislators to submit legislation to this effect for his approval. Statewide conservation effort will further improve the water supply reliability of the Sweetwater Authority by reducing existing and future demand.

Although wide-spread consensus has developed that warming due to global climate change is occurring, and that this warming could affect MWD's water supply from the Colorado River, the state of the science is still insufficient to make long-term projections that conclusively determine how climate change will impact MWD's supply. Despite this uncertainty, however, long-term water planning by MWD, SDCWA, and the Sweetwater Authority to conserve water, improve reliability of local supplies, and implement use of recycled water will allow MWD, SDCWA,

and the Sweetwater Authority to adapt to changing climate in order to meet current and expected demand.

ii. SWP Supplies: The Delta Smelt and Salmon Decisions and Global Climate Change

Several recent decisions may impact MWD's water supply in 2008. In May 2007, a federal judge invalidated the Biological Opinion (BiOp) issued by the U.S. Fish & Wildlife Service (USFWS) for operations of the SWP and Central Valley Project (CVP) with regard to the Delta smelt, a federally and state-listed threatened fish species that inhabits the estuaries of the Bay-Delta region. See *Natural Resources Defense Council v. Kempthorne, et al.* (E.D. Cal., No. 05-cv-01207, Hon. Wanger, J., presiding) (the NRDC decision).

In December 2007, Judge Wanger issued an interim remedial order that requires the USFWS to prepare a new BiOp by September 15, 2008, and enjoins operations of the SWP and CVP systems by setting interim remedial measures to protect the smelt in the meantime. The interim remedial order will terminate upon issuance of the new BiOp. The interim remedial order's "Flow Restrictions" are designed to ensure that Delta water exports do not exceed certain levels in order to prevent the Delta smelt from becoming trapped near the SWP and CVP pumps. These controls are in force between December and June, and vary in degree depending on precipitation and runoff conditions in the Delta at the various stages of the Delta smelt life cycle. The interim remedial order allows the SWP and CVP operators to take good faith measures that are reasonably necessary and appropriate for the protection of human health and safety, which presumably include but are not limited to supply for emergency water services, as well as actions that protect the structural integrity of any CVP and SWP facility.

In addition, in April 2008, Judge Wanger also ruled that a 2004 BiOp prepared to study impacts from the operations of the SWP and CVP to several salmonid species, including the Sacramento River winter-run Chinook salmon, the Central Valley spring-run Chinook salmon, and the Central Valley steelhead, was inadequate (see *Pac. Coast Fed. of Fishermen's Ass'n v. Gutierrez*, (E.D. Cal., No. 06-cv-00245, Hon. Wanger, J., presiding) (the Pacific Coast decision)). Due to the recent nature of the Pacific Coast decision, it is unclear at this time what effect it may have on the operations of the SWP and CVP.

On average, MWD receives approximately 60 percent of its water through the SWP from the Delta, and has determined that it will allocate any risk of shortage evenly among its member agencies. The extent to which the Court's decision impacts MWD's water supply until September 2008 will depend on annual weather conditions. At this time, it is unclear how the new BiOp for the Delta smelt will affect long-term operations of the SWP and CVP systems. Regardless of how the BiOp changes the operation of the CVP and SWP, however, statewide actions to address the underlying issues in the Delta are well underway.

Preserving the Delta's water delivery capacity and restoring the health of the Delta ecosystem are of great import to the Governor and the California Legislature. Prior to the NRDC decision, numerous processes to study and improve the operation of the Delta's water pumps, while also protecting the Delta smelt and other endangered fish species, and to improve emergency preparedness and response across jurisdictional boundaries, were already in process. These plans include:

- The Delta Vision Process, prepared by the Delta Vision Process Blue Ribbon Panel, which is developing a durable vision for sustainable management of the Delta. The Delta Vision Process Blue Ribbon Panel issued its formal report in late 2007, and is currently developing a scoping plan to implement the report's recommendations, which is due in October 2008.
- The Delta Risk Management Strategy, prepared by the DWR, the U.S. Army Corps of Engineers (USACE), and the California Department of Fish & Game (CDFG), which is evaluating the potential impacts on water supply in the Delta due to subsidence, earthquakes, floods, climate change, and combinations of these factors. The report was due in April 2008.
- The Delta Protection Commission's Emergency Planning and Response Collaborative Process, which is facilitating an effort between the five Delta counties, the Governor's Office of Emergency Services, and federal agencies to achieve a coordinated regional emergency response framework plan. By Summer 2008, the Delta Protection Commission will have gathered and reviewed all existing emergency plans, identified potential funding sources for emergency preparedness, and completed and submitted a detailed proposal for a regional, comprehensive emergency response planning framework.
- The CALFED Ecosystem Restoration Program Conservation Strategy, which is to be used to guide future ecosystem restoration in the Delta. The Conservation Strategy is being developed in conjunction with the Bay-Delta Conservation Plan.
- The Bay-Delta Conservation Plan, prepared by the California Resources Agency in cooperation with state and federal agencies, which is a voluntary planning document for the Delta that balances both the conservation and water supply goals of the federal Habitat Conservation Plan and state Natural Community Conservation Planning (HCP/NCCP) agreement signed in October 2006. The Bay-Delta Conservation Plan has narrowed its focus from ten to four potential options, and expects to issue a draft plan by year-end 2008. Furthermore, the DWR has begun preparation of a National Environmental Policy Act/California Environmental Quality Act (NEPA/CEQA) environmental document to study the environmental impacts of the Bay-Delta Conservation Plan.

- The Delta Protection Commission's Land Use and Resource Management Plan update process, which is evaluating the impact of changing land use patterns in the Delta, and how those changing patterns may impact the existing water export system and the Delta ecosystem.
- Governor Schwarzenegger's recent direction to the DWR to take near-term actions to prepare to implement solutions for the Delta, including a study of the alternatives available for improving the Delta water conveyance system by beginning the NEPA/CEQA process, expediting existing programs to protect Delta water quality and restore Delta habitat, and to conduct multiagency Delta disaster planning.

In addition, it is likely that a statewide bond initiative designed to address Delta water supply issues will be placed on the November 2008 ballot. This significant statewide focus on improving conditions in the Delta demonstrates that the state is committed to assuring that the SWP remains a reliable source of water supply for MWD, SDCWA, and the Sweetwater Authority.

MWD is similarly focused on the challenges relating to the reliability of the Delta water supply. In May 2007, its Board adopted a Delta Action Plan to address water supply risks in the Delta both for the near, mid, and long term. The near-term and mid-term actions outlined in the Delta Action Plan are intended to implement measures to reduce fishery and earthquake-related risks, such as aggressive monitoring, ecosystem restoration, local water supply projects, and emergency preparedness and response plans. The long-term actions are intended to create a global, comprehensive approach to the fundamental environmental issues facing the Delta to create a sustainable ecological environment through Delta ecosystem restoration, improved water supply conveyance, flood control protection, and development of storage facilities.

Moreover, in response to the NRDC decision, MWD has engaged in planning processes that will identify solutions that, when combined with the rest of its supply portfolio, will ensure a reliable long-term water supply for its member agencies. In the near term, MWD will continue to rely on the plans and policies outlined in its RUWMP and IRP to address water supply shortages and interruptions (including potential shut downs of SWP pumps) to meet water demands. Campaigns for voluntary conservation, curtailment of replenishment water, and agricultural water delivery are some of the actions outlined in the RUWMP. If necessary, reduction in municipal and industrial water use and mandatory water allocation could be implemented, but is unlikely to be in effect in the long term.

On a local level, as noted above, SDCWA is in the process of reducing its dependence on MWD by diversifying its water supply portfolio, creating additional water storage and pursuing seawater desalination, in addition to conservation efforts. By the same token, the Sweetwater Authority is developing recycled water supplies, focusing on water conservation, and exploring both seawater and brackish groundwater desalination.

These efforts will also be effective in helping to address the potential impacts to SWP water supplies caused by global climate change. The 2006 DWR Report explains that climate change may impact SWP supplies in several ways, including: (1) changes in snowfall patterns that could result in a smaller snowpack in the Sierra Nevada and result in the loss of annual water storage in the snowpack; (2) changes in the timing, intensity, and amount of precipitation, which could result in flooding and potential drought; (3) long-term changes in watershed vegetation and increased incidence of wildfires, which could change intensity and timing of runoff; (4) sea level rise, which could threaten Delta levees and contribute to saltwater intrusion into freshwater areas of the Delta used for water supply delivery; (5) increases in water temperatures, which could effect listed and endangered aquatic species and require more dedicated water for in-stream uses; and (6) changes in agricultural and urban water demand due to higher average temperatures.

At this point, the results for climate models for California precipitation under various GHG emissions scenarios are mixed. The models that predict the greatest warming generally also predict moderate decreases in total precipitation, while models predicting smaller increases in temperature generally predict moderate increases in precipitation. The 2006 DWR Report notes that the general tendency of all projections is toward moderately decreased precipitation.

The predicted range of snowpack loss also is also highly dependent on the warming assumptions used in the models. Projections range from 5 percent loss in snowpack attributable to a 0.6 degree Celsius temperature rise, to a 50 percent loss of snowpack attributable to a 2.1 degree Celsius temperature rise. Earlier snowmelt and more precipitation falling as rain instead of snow will change the operation of existing reservoirs, which often perform dual functions as flood control vessels in the winter and water reservoirs through the summer.

The 2006 DWR Report estimates the extent of climate change impacts to SWP supplies using four climate models, each based on a different global GHG scenario. Under the lowest GHG emissions scenario (Emissions Scenario B1, reflecting low global population increase and GHG emissions reductions), the general trend would be for weak temperature warming and weak precipitation increase in California. For the highest GHG emissions scenario (Emissions scenario A2, reflecting large global population growth and business-as-usual GHG emissions), the general trend would be for relatively strong warming and modest drying. As might be expected, the B1 scenario analysis suggested no significant reduction in runoff in the late spring and summer, and higher delivery capability for SWP contractors at the lower end of the delivery spectrum, and roughly equivalent capability at the higher end. The A2 scenario analysis suggested a delivery analysis roughly 11.2 percent less than base SWP deliveries.

Because climate change is a global phenomenon dependent on worldwide GHG emissions levels, the ability of the 2006 DWR Report to anticipate water supply impacts is highly dependent on the assumptions made regarding worldwide action to control and reduce GHG emissions. For

this reason, the 2006 DWR Report's results are still preliminary and are considered the starting point for analyzing climate change impacts to SWP operations.

Although wide-spread consensus has developed that warming due to global climate change is occurring, and that this warming could affect water supplies from the SWP, the state of the science is still insufficient to make long-term projections that conclusively determine how climate change will impact SWP water supply. Despite this uncertainty, however, long-term water planning by MWD, SDCWA, and the Sweetwater Authority to conserve water, improve reliability of local supplies, and implement use of recycled water will allow MWD, SDCWA, and the Sweetwater Authority to adapt to changing climate in order to meet current and expected demand.

#### **4.14.1.2 Impact Significance Criteria**

According to Appendix G of the CEQA Guidelines, the Proposed Project would result in a significant impact to water supply, availability, and distribution if:

1. Sufficient water supplies are not available to serve the project from existing entitlements and resources, or results in the need for new or expanded entitlements
2. It requires or results in the construction of new water treatment facilities or expansion of existing facilities and services, the construction of which could cause significant environmental effects
3. It is inconsistent with the assumptions in the SDCWA's 2005 Updated UWMP.

#### **4.14.1.3 Impact Analysis**

- 1. The Proposed Project would have a significant impact if sufficient water supplies are not available to serve the project from existing entitlements and resources, or results in the need for new or expanded entitlements.**

Availability of water supply was assessed through consultation with the Sweetwater Authority. Water demand was initially determined by the Sweetwater Authority using their standard design criteria and the land use program. Based on these rates and the proposed land use densities in 2005, a Water Supply Assessment was prepared in November 2005. Subsequent to the preparation of the Water Supply Assessment, a confirmation of service ability was requested for the initial Proposed Project based on revised water demand estimates for the RCC. In response to this request, the Sweetwater Authority prepared an updated report dated July 2006 that indicated that sufficient water supply would be available to serve the Proposed Project (see *Appendix 4.14-1*). Since July 2006, the elements of the Proposed Project have changed (see *Chapter 3, Project Description*). As confirmed by the Sweetwater Authority, the project changes reflected in

the recirculated Draft Environmental Impact Report (see *Chapter 3, Project Description*) would not alter the Sweetwater Authority's ability to service the Proposed Project. The conclusions of the WSA&V prepared in July 2006 are applicable to the Proposed Project as presented in *Chapter 3* and sufficient water supply would be available to serve the Proposed Project. The Sweetwater Authority's issuance of the amended WSA&V, dated July 2006, establishes the project's compliance with SB 221 and 610.

The WSA&V report for the Proposed Project further indicates that, "the Sweetwater Valley Groundwater Basin is not an adjudicated basin, and therefore, there has never been any restriction on the rate of extraction since groundwater production began. In addition, the Sweetwater Valley Groundwater Basin has not been identified in DWR Bulletin 118 as in overdraft." The Proposed Project will not have an increase of impervious surfaces from the existing condition. This is a result of incorporating numerous parks and open space into the project; therefore, groundwater recharge is expected to be increased.

Water demand calculations for the Proposed Project were performed by Kimley-Horn and Associates, Inc. in the Water Technical Memorandum of January 2008 (see *Appendix 4.14-2*) based on the project description as presented in *Chapter 3*. Since publication of the Water Technical Memorandum, the designation for Parcel O-4 was changed to industrial business park use and Parcels O-1A, O-1B, and O-2 were consolidated into a single parcel. Minor discrepancies exist between the tables below and the Water Technical Memorandum. Also, Parcels O-1A, O-1B, and O-2 in the Water Technical Memorandum have been consolidated into one Parcel, O-1, as reflected in the tables below. These discrepancies do not alter conclusions of the technical analysis. The average water demand is the average water used in a single day (in gallons per day) for a specific user. The maximum day demand was also calculated, which accounts for spikes in water usage during the day during times of very high use, such as on a hot day. The projected water demand broken down by project parcel and district is presented in *Table 4.14-3* and a summary of the projected water demand by district is presented below in *Table 4.14-4*.

**TABLE 4.14-3  
Water Plan for Proposed Project by Project District and Parcel**

Parcel	Use	Average Water Demand (GPD)
<b>Sweetwater District</b>		
Development		
S-1	Resort hotel	162,906
S-3	Mixed-use office/commercial	11,352
S-4	Office	11,352
Development Total		185,610
Open Space		
S-2	Signature park (1 of 4)	13,968
S-2A	Open space	2,004
S-5	Existing park	854
SP-1	400-foot buffer	31,728
Open Space Total		48,554
Streets		1,552
<b>Sweetwater District Total</b>		<b>235,716</b>
<b>Harbor District</b>		
Development		
H-1	Marine sales and service	3,908
H-3	Resort and convention center	600,000
H-9	Retail/commercial recreation	14,702
H-12	Ferry terminal/2nd-story retail	1,489
H-13/H-14	Residential	472,500
H-15	Mixed-use office/commercial/hotel	83,387
H-17	Fire station	4,040*
H-18	Mixed-use office/commercial/parking	17,121
H-21	Retail, marina support, parking	17,121
H-23	Resort hotel/cultural/retail/parking	216,452
Development Total		1,430,720
Open Space		
H-1A	Signature park (2 of 4)	2,871
HP-1	Signature park (3 of 4) Bayside Park	8,691
H-8	Signature park (4 of 4)	4,889
H-23A	Industrial business park	2,419
HP-3	Baywalk	3,414
HP-7	Marina View Park	3,026
HP-8	Marina View Park	1,940
HP-9	Marina View Park/SDG&E ROW	698
HP-11	Trail connection/open space	2,483
HP-15	Boat launch/parking/Bayfront Park	2,716
HP-28	H Street Pier	744
HW-1	Chula Vista Marina	40,756
HW-2	California Yacht Marina	26,240
HW-6	New marina	16,005
Open Space Total		116,892
Streets		6,208
<b>Harbor District Total</b>		<b>1,553,820</b>

**TABLE 4.14-3 (Cont.)**

Parcel	Use	Average Water Demand (GPD)
<b>Otay District</b>		
Development		
O-1A	Industrial business park	17,680
O-1B	Industrial business park	3,908
O-2	Industrial business park	8,933
O-3	RV park	8,179
O-4	Industrial business park	45,781
Development Total		84,481
Open Space		
OP-1	South Park	20,719
OP-2A	Buffer/open space	17,770
OP-2B	Open space (creek)	776
Open Space Total		39,265
Streets		1,552
<b>Otay District Total</b>		<b>125,298</b>
<b>Project Total</b>		<b>1,914,834</b>

\*Water demand for proposed fire station is based on an average projected demand of 2,232 gallons per day (gpd) per acre for a 1.81-acre site.

**TABLE 4.14-4**  
**Water Demand Summary by District (MGD)**

Development Area	Average Demand	Max Day Demand
Sweetwater District	0.236	0.590
Harbor District	1.553	3.028
Otay District	0.125	0.401
<b>Total</b>	<b>1.914</b>	<b>4.019</b>

SOURCE: Kimley-Horn and Associates, Inc. 2008.

As noted above, the WSA&V stated that a portion of the Proposed Project's water demand was included in the Sweetwater Authority's 2005 UWMP; however, the UWMP did not include all of the demand associated with the Proposed Project. The 2005 UWMP did include all potential future development and redevelopment within the Sweetwater Authority service area, including Chula Vista's Urban Core Specific Plan, other projects identified in Chula Vista's Vision 2020 General Plan, the National City Downtown Specific Plan, and the portion of the Proposed Project demands that were known at the time of the 2005 UWMP's preparation.

The WSA&V stated that the Proposed Project would use an average of 2.020 million gallons per day (MGD), or 2,262.7 af/yr. The WSA&V noted that this level of water demand exceeded the assumed development included in Sweetwater's 2005 UWMP of 1,746.4 af/yr by 516.3 af/yr. The WSA&V stated that this excess demand would be served by Sweetwater through the purchase of additional imported water supplies from MWD's reserve supplies (identified in Table II-7, II-8, and II-9 as Potential Reserve and Replenishment Supplies) for cases where the

identified demand had not been included in the SANDAG regional growth forecast. SDCWA's 2005 Updated UWMP also describes this process.

In fact, the Proposed Project's water supply demands would be lower than those evaluated in the WSA&V, and are expected to fall within the level of water demand included in Sweetwater's 2005 UWMP. *Appendix 4.14-2* revises the Proposed Project's water supply demand estimate downward to 1.94 MGD, or 2,176.6 af/yr, a reduction of .077 MGD (86.1 af/yr). Since *Appendix 4.14-2* was prepared, land use changes within the Proposed Project have further reduced total water demand to 1.914 MGD (see *Table 4.14-4* above). Furthermore, the Proposed Project's water efficiency PDFs for the ~~Gaylord~~ RCC and Pacifica Residential and Retail Projects, as well as water conservation requirements to be placed on other land uses in the Proposed Project, which will be required as conditions of approval, are expected to reduce the Proposed Project's water demand to approximately 1,731.4 af/yr (2,176.6 af/yr less 445.26 af/yr of additional water efficiency reductions), which falls within the 1,746.4 af/yr demand projected for the development evaluated by the Sweetwater Authority's 2005 UWMP. The projected water demand after conservation measures are considered is broken down by project parcel and district in *Table 4.14-5*.

**TABLE 4.14-5**  
**Water Plan Including Conservation for Proposed Project by Project District and Parcel**

Parcel	Use	Calculated Average Water Demand (GPD)	Conservation Reduction (%)	Water Demand with Conservation Reduction (GPD)	Water Demand with Conservation Reduction (af/yr)
<b>Sweetwater District</b>					
<u>Development</u>					
S-1 <sup>1</sup>	Resort hotel	162,906	20%	130,325	146.10
S-3 <sup>1</sup>	Mixed-use office/commercial	11,352	10%	10,217	11.45
S-4 <sup>1</sup>	Office	11,352	10%	10,217	11.45
<b>Development Total</b>		<b>185,610</b>	<b>—</b>	<b>150,758</b>	<b>169.01</b>
<u>Open Space</u>					
S-2	Signature Park (1 of 4)	13,968	0%	13,968	15.66
S-2A	Open space	2,004	0%	2,004	2.25
S-5	Existing park	854	0%	854	0.96
SP-1	400-foot buffer	31,728	0%	31,728	35.57
<b>Open Space Total</b>		<b>48,554</b>	<b>—</b>	<b>48,554</b>	<b>54.43</b>
<b>Sweetwater District Streets Total</b>		<b>1,552</b>	<b>0%</b>	<b>1,552</b>	<b>1.74</b>
<b>Sweetwater District Total</b>		<b>235,716</b>	<b>—</b>	<b>200,864</b>	<b>225.18</b>
<b>Harbor District</b>					
<u>Development</u>					
H-1 <sup>1</sup>	Marine Sales and Service	3,908	10%	3,517	3.94
H-3 <sup>2</sup>	Resort Conference Center	600,000	20%	480,000	538.12
H-9 <sup>1</sup>	Retail Commercial Recreation	14,702	10%	13,232	14.83
H-12 <sup>1</sup>	Ferry Terminal/2nd Story Retail	1,489	10%	1,340	1.50
H-13/H-14 <sup>3</sup>	Residential	472,500	30%	330,750	370.80
H-15 <sup>1</sup>	Mixed-Use Office/Commercial	83,387	10%	75,048	84.13
H-17 <sup>4</sup>	Fire Station	4,040	0%	4,040	4.53
H-18 <sup>1</sup>	Mixed-Use Office/Commercial; Parking	17,121	10%	15,409	17.27

TABLE 4.14-5 (Cont.)

Parcel	Use	Calculated Average Water Demand (GPD)	Conservation Reduction (%)	Water Demand with Conservation Reduction (GPD)	Water Demand with Conservation Reduction (af/yr)
H-21 <sup>1</sup>	Retail/Marine Support; Parking	17,121	10%	15,409	17.27
H-23 <sup>1</sup>	Resort Hotel/Cultural; Parking	216,452	20%	173,162	194.13
<b>Development Total</b>		<b>1,430,720</b>	<b>—</b>	<b>1,111,907</b>	<b>1,246.53</b>
<u>Open Space</u>					
H-1A	Signature Park (2 of 4)	2,871	0%	2,871	3.22
HP-1	Signature Park (3 of 4) Bayside Park	8,691	0%	8,691	9.74
H-8	Signature Park (4 of 4)	4,889	0%	4,889	5.48
H23-A	Industrial Business Park	2,419	0%	2,419	2.71
HP-3	Baywalk	3,414	0%	3,414	3.83
HP-7	Marine View Park	3,026	0%	3,026	3.39
HP-8	Marine View Park	1,940	0%	1,940	2.17
HP-9	Marine View Park/SDG&E ROW	698	0%	698	0.78
HP-11	Trail Connection/Open Space	2,483	0%	2,483	2.78
HP-15	Boat Launch/Parking/Bayfront Park	2,716	0%	2,716	3.04
HP-28	H Street Pier	744	0%	744	0.83
<b>Open Space Total</b>		<b>33,891</b>	<b>—</b>	<b>33,891</b>	<b>37.99</b>
<u>Water</u>					
HW-1	Chula Vista Marina	40,756	10%	36,680	41.12
HW-2	California Yacht Marina	26,240	10%	23,616	26.48
HW-6	New Marina	16,005	10%	14,405	16.15
<b>Water Total</b>		<b>83,001</b>	<b>—</b>	<b>74,701</b>	<b>83.75</b>
<b>Harbor District Streets Total</b>		<b>6,208</b>	<b>0%</b>	<b>6,208</b>	<b>6.96</b>
<b>Harbor District Total</b>		<b>1,553,820</b>	<b>—</b>	<b>1,226,707</b>	<b>1,375.23</b>
<u>Otay District</u>					
<u>Development</u>					
O-1A <sup>1</sup>	Industrial Business Park	17,680	10%	15,912	17.84
O-1B <sup>1</sup>	Industrial Business Park	3,908	10%	3,517	3.94
O-2 <sup>1</sup>	Industrial Business Park	8,933	10%	8,040	9.01
O-3 <sup>1</sup>	RV Park	8,179	10%	7,361	8.25
O-4 <sup>1,5</sup>	Industrial Business Park	45,781	10%	41,203	46.19
<b>Development Total</b>		<b>84,481</b>	<b>—</b>	<b>76,033</b>	<b>85.24</b>
<u>Open Space</u>					
OP-1	South Park	20,719	0%	20,719	23.23
OP-2A	Buffer/Open Space	17,770	0%	17,770	19.92
OP-2B	Open Space (Creek)	776	0%	776	0.87
<b>Open Space Total</b>		<b>39,265</b>	<b>—</b>	<b>39,265</b>	<b>44.02</b>
<b>Otay District Streets Total</b>		<b>1,552</b>	<b>0%</b>	<b>1,552</b>	<b>1.74</b>
<b>Otay District Total</b>		<b>125,298</b>	<b>—</b>	<b>116,850</b>	<b>131.00</b>
<b>Project Total</b>		<b>1,914,834</b>	<b>—</b>	<b>1,544,421</b>	<b>1,731.41</b>
<b>Sweetwater District 2005 UWMP Projection</b>					<b>1,746.40</b>

<sup>1</sup>Applying an "across-the-board" 10% water efficiency conservation requirement to Phase III and IV projects, with the exception of Phase III and IV hotel uses, which will achieve a 20% water efficiency water conservation requirement.

<sup>2</sup>Applying a 20% water efficiency conservation reduction through committed recommended H-3 project design features.

<sup>3</sup>Applying a 35% water efficiency conservation reduction through committed H-13/H-14 project design features.

<sup>4</sup>This represents a change from *Appendix 4.14-3*, which anticipated open space use with a water demand of 3,350 gpd.

<sup>5</sup>This reflects the change from an Energy Utility Zone use to Industrial Business Park use for Parcel O-4.

The WSA&V concludes that with the implementation of the projects discussed in MWD's RUWMP, SDCWA's 2005 UWMP, and the Sweetwater 2005 UWMP, Sweetwater Authority would have adequate supplies to meet existing and future demands in normal, single, and multiple dry year scenarios through the year 2030. Furthermore, as demonstrated above, the Proposed Project's water demand will fall below the water demand planned for in the 2005 Sweetwater UWMP. Accordingly, the total projected demands associated with Proposed Project development have been included in the Sweetwater Authority's previous water supply assessments, and the Proposed Project will not need to rely on MWD's reserve or system replenishment supply in order to meet expected demand.

Moreover, the Sweetwater Authority, MWD, and the SDCWA are currently implementing plans that include projects and programs to help ensure that the existing and planned water users within Sweetwater's service area have an adequate supply.

Based on information from the Sweetwater Authority, with development of the resources identified, there would be sufficient water supplies through 2030 to meet the projected demands of the Proposed Project and the existing and planned development projects within Sweetwater's service area. The City has protective measures in place to ensure that the available water is supplied and distributed throughout the City in accordance with demand. These measures apply to the residential development proposed under the City's jurisdiction and require the project applicant to request and deliver to the City service availability letters from the appropriate water district and submit a water conservation plan at the tentative map level.

The previously circulated EIR for the Chula Vista Bayfront Master Plan disclosed uncertainty regarding MWD's and SDCWA's imported water supplies created by pending litigation. It described litigation filed by IID in Imperial County Superior Court seeking validation of 13 contracts associated with the transfer agreement and the QSA. Imperial County and various private parties filed additional litigation in Sacramento County Superior Court, alleging violations of CEQA, California Water Code, other laws related to approval of the QSA, the IID water transfer, and related agreements. In June 2007, the Third District Court of Appeal dismissed Imperial County's CEQA suit without leave to amend for failure to timely amend its petition to include indispensable parties MWD and Coachella Valley Water District. However, Imperial County Air Pollution Control District v. State Water Resources Control Board, Case No. 03CS00083, remains pending and the Superior Court invited Imperial County to brief issues in that case, if it so chooses.

With regard to litigation filed in federal court challenging the lining of a portion of the All-American Canal to make water available for the San Diego/IID water transfer, on December 20, 2006, President George W. Bush signed H.R. 6111 (popularly known as the Tax Relief and Health Care Act of 2006), which was subsequently enacted as Public Law No. 109-432. The law

directs the Secretary of the Interior to carry out the lining of the All-American Canal Lining project “without delay,” provides for the construction of additional storage facilities “at or near the All American Canal” for excess flows from the Colorado River “notwithstanding any other provision of law,” and identifies the 1944 Treaty between the United States and Mexico (59 Stat. 1219) as the “exclusive authority for identifying, considering, analyzing, or addressing impacts occurring outside the boundary of the United States of works constructed, acquired, or used within the territorial limits of the United States.” Pub. L. No.109-432, §§ 395-397 (2006). The Ninth Circuit Court of Appeals found that this law rendered the plaintiffs’ claims under the National Environmental Protection Act, the Endangered Species Act, the Migratory Bird Treaty Act, and Settlement Act moot. Further, the Ninth Circuit ruled that the district court lacked subject matter jurisdiction to consider the plaintiffs’ remaining claims.

In addition, DWR is still implementing SWP water delivery contracts pursuant to the principles developed under the Monterey Amendments. However, the EIR for the Monterey Amendments was successfully challenged in court (*Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892). The Monterey Amendments remain valid, and DWR prepared a new EIR to address the environmental implications of the Monterey Amendments. Public comment on the new EIR closed in January 2008, and DWR is currently preparing responses to comments and the final EIR.

Finally, the CALFED Bay-Delta Program, which is administered by the California Bay-Delta Authority, remains subject to litigation. In October 2005, a state appellate court decision invalidated CALFED’s program EIR (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2005) 133 Cal.App.4th 154). According to SDCWA’s 2005 UWMP, the court upheld the CALFED Program EIR on a number of issues, but concluded that the EIR should have analyzed an alternative that reduced water exports from the Delta to Southern California. The court also found that the EIR inadequately discussed impacts of diverting water to meet CALFED’s goals and did not include sufficient information about the “Environmental Water Account” component of the CALFED program. The California Supreme Court accepted certiorari in this case and briefing is complete, however, oral argument has not yet been set.

In the interim, however, significant regional and statewide attention has been brought to bear on the Delta, as described above. These regional and statewide planning measures would address the same water supply and environmental protection goals inherent in the CALFED process. The Governor, the Legislature, federal, state, and regional agencies, and the public are now focused on implementing a plan that provides for a reliable water supply and preserves environmental restoration in the Delta. The degree and nature of the attention the Delta is now receiving demonstrates a likelihood that the water supplies analyzed in the MWD RUWMP, SDCWA 2005 Updated UWMP, and Sweetwater Authority 2005 UWMP would be available, despite the pending CALFED litigation.

Furthermore, MWD, SDCWA, and the Sweetwater Authority are engaged in substantial efforts to improve the reliability of their water supplies through a host of measures, including conservation, desalination, groundwater supply enhancement, recycled water, and long-term water transfers. These long-term efforts to improve the reliability of water supply demonstrate a likelihood that the water supplies analyzed in the MWD RUWMP, SDCWA 2005 Updated UWMP, and Sweetwater Authority UWMP would be available.

Finally, the Proposed Project's water supply demands are estimated to be lower than those evaluated in the WSA&V, and would fall within the level of water demand included in Sweetwater's 2005 UWMP. The Sweetwater Authority would not have to rely on the availability of MWD's Reserve and Replenishment Supplies in order to provide a sufficient water supply to the Proposed Project.

Accordingly, the Proposed Project would not have a significant impact because sufficient water supplies are available to serve the project from existing entitlements and resources.

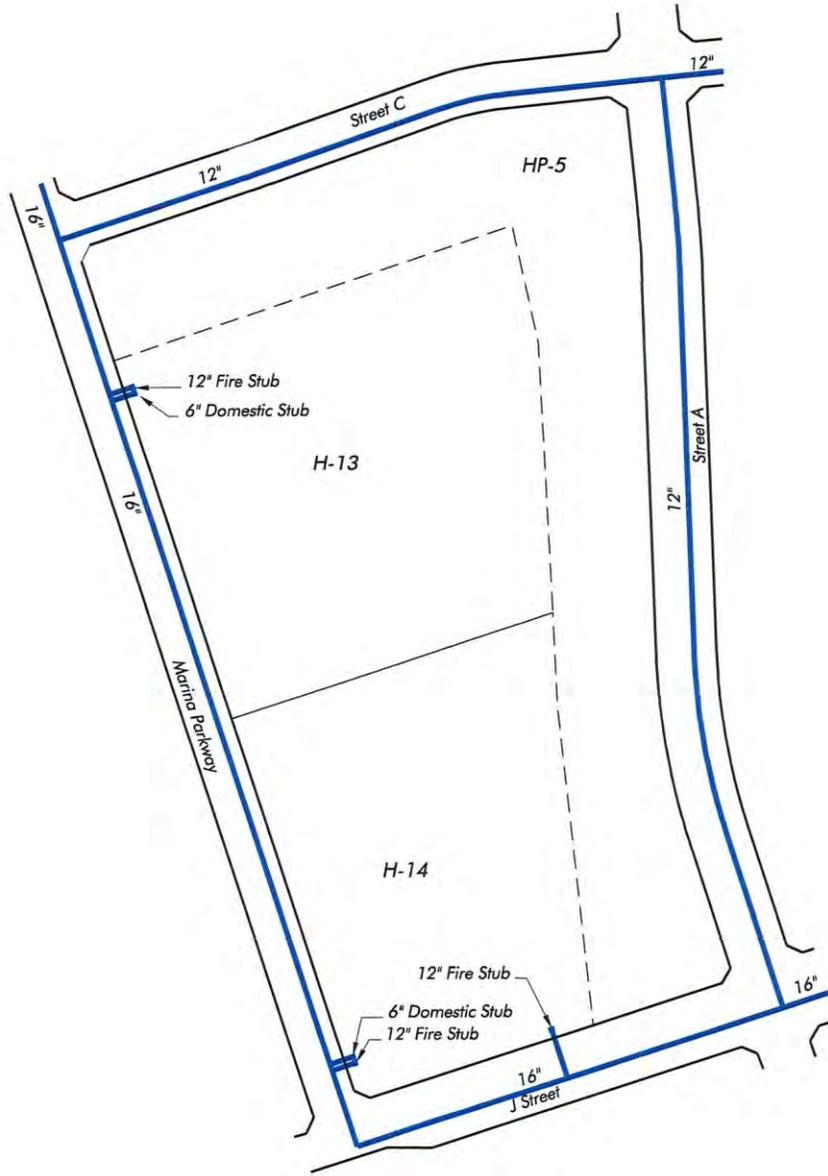
**2. The Proposed Project would have a significant impact if the project requires or results in the construction of new water treatment facilities or expansion of existing facilities and services, the construction of which could cause significant environmental effects.**

Providing water to the Proposed Project would require construction of water supply facilities. Most of the existing streets throughout the project site would be removed to allow for construction of the new streets and grading of the new parcels. As a result, it is not feasible to use the existing water system to provide water service to the new development due to their alignments and elevations. Because the existing infrastructure cannot accommodate the Proposed Project, on-site and off-site facility improvements are required.

a. Project and Program Level (Phase I)

i. Pacifica Residential and Retail Project

In order to accommodate development of the Pacifica site on Parcels H-13 and H-14, water improvements include constructing all the required ultimate water mains in the proposed streets that are part of Phase I, as shown on *Figure 4.14-1*. The off-site improvements include the construction of a new water main in Marina Parkway, H Street, Street C, Street A and construction of a new water main in J Street from 2nd Avenue to the Proposed Project.



**Notes:**

**Fire Flow:**  
8000 gpm. Use three 12" stubs.  
On-site fire pumps may be required.

**Domestic Flow:**  
1500 Units x 3 Pers./Unit x 105 gpcd = 472,000 gpd  
Use 2.0 peaking factor = 945,000 gpd  
Use two 6" stubs.

**Legend**

-  Parcel Line
-  R/W Line
-  12" Proposed Water Line and Size



SOURCE: Kimley-Horn and Associates, Inc.

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Pacifica Water Improvements**

**FIGURE**  
**4.14-1** <sup>86562</sup> <sub>379</sub>

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The City of Chula Vista Fire Marshal was contacted to verify the required fire flow for the project. The required fire flow for the project is 8,000 gpm for a 1-hour duration. The project would require a 16-inch main, looped through the project site to provide the required fire flow.

According to the Water Technical Memorandum prepared for Pacifica (*Appendix 4.14-4*), the proposed Pacifica Residential and Retail Project will have a domestic water demand of 472,500 GPD. With a peaking factor of 1.95 added to this to determine a peak water demand for sizing the domestic stubs to the site, the total demand with peaking factor for the Pacifica project would be 921,375 GPD. The Pacifica site will have two domestic stubs and three fire stubs. Impacts resulting from construction of the on-site and off-site water system improvements are discussed below as construction-related impacts.

ii. Gaylord Resort and Convention Center (RCC)

In order to accommodate development of the ~~Gaylord~~ RCC, water improvements include constructing all of the required ultimate water mains in the proposed streets that are included as part of Phase I and shown on *Figure 4.14-2*. Off-site improvements required for Phase I include the construction of a new 16-inch water main in E Street from Bay Boulevard to the project and construction of a new water main in J Street from 2nd Avenue to the project.

The City of Chula Vista Fire Marshal was contacted to verify the required fire flow for the Proposed Project. The required fire flow for the project is 8,000 gpm for a 4-hour duration. The project will require a 16-inch water main to be looped through the project site to provide the required fire flow. The RCC site will have two domestic stubs and three fire stubs.

The RCC site will have two domestic stubs and three fire stubs. According to the Water Technical Memorandum prepared for ~~Gaylord~~ the RCC (*Appendix 4.14-3*), the proposed ~~Gaylord~~ RCC has calculated projected domestic water usage of 600,000 GPD based on previous uses from other projects. With a peaking factor of 1.95 added to this to determine a peak water demand for sizing the stubs to the site, the total demand with peaking factor would be 1,170,000 GPD. Impacts resulting from construction of the on-site and off-site water system improvements are discussed below as construction-related impacts.

iii. Master Plan

In order to accommodate additional Phase I project features, water improvements include constructing all the required ultimate water mains in the proposed streets that are part of Phase I. The proposed timing of construction for water improvements is tied to requirements of proposed adjacent development. For Phase I project-level, therefore, only those improvements required for development on Parcels H-13, H-14, HP-5, and H-17 are proposed for construction prior to or concurrently with development of these Phase I project-level components. Water improvements

necessary for program-level components would be required prior to or concurrently with development of these specific components.

Stubs will be provided at the Phase I boundary to allow for future connection of the water system as subsequent phases develop, as shown on *Figure 4.14-3*. Each parcel will be served with a minimum of one domestic lateral and one fire lateral. Depending on the sequence for construction of Phase I, the water improvements may vary from what is shown in the Master Plan. The Water Demand Summary for Phase I components is shown in *Table 4.14-6* below. The Project Level Phase I peak demand is 2.228 MGD compared to a total of 4.019, as shown above in *Table 4.14-4*.

The off-site improvements required for Phase I include the construction of a new water main in E Street up to the connection with the existing 12-inch water line, construction of a new water main in J Street up to 2nd Avenue. These off-site improvements are required to bring a 16-inch water line into the project, which will loop through the project to provide fire flow. The project will have nine off-site connections to the existing water system. These multiple connections allow for redundancy in the water system and for all development to be served with water from multiple directions. Impacts resulting from construction of the on-site and off-site water system improvements are discussed below as construction-related impacts.

**TABLE 4.14-6**  
**Water Demand Summary (MGD) Phase I**

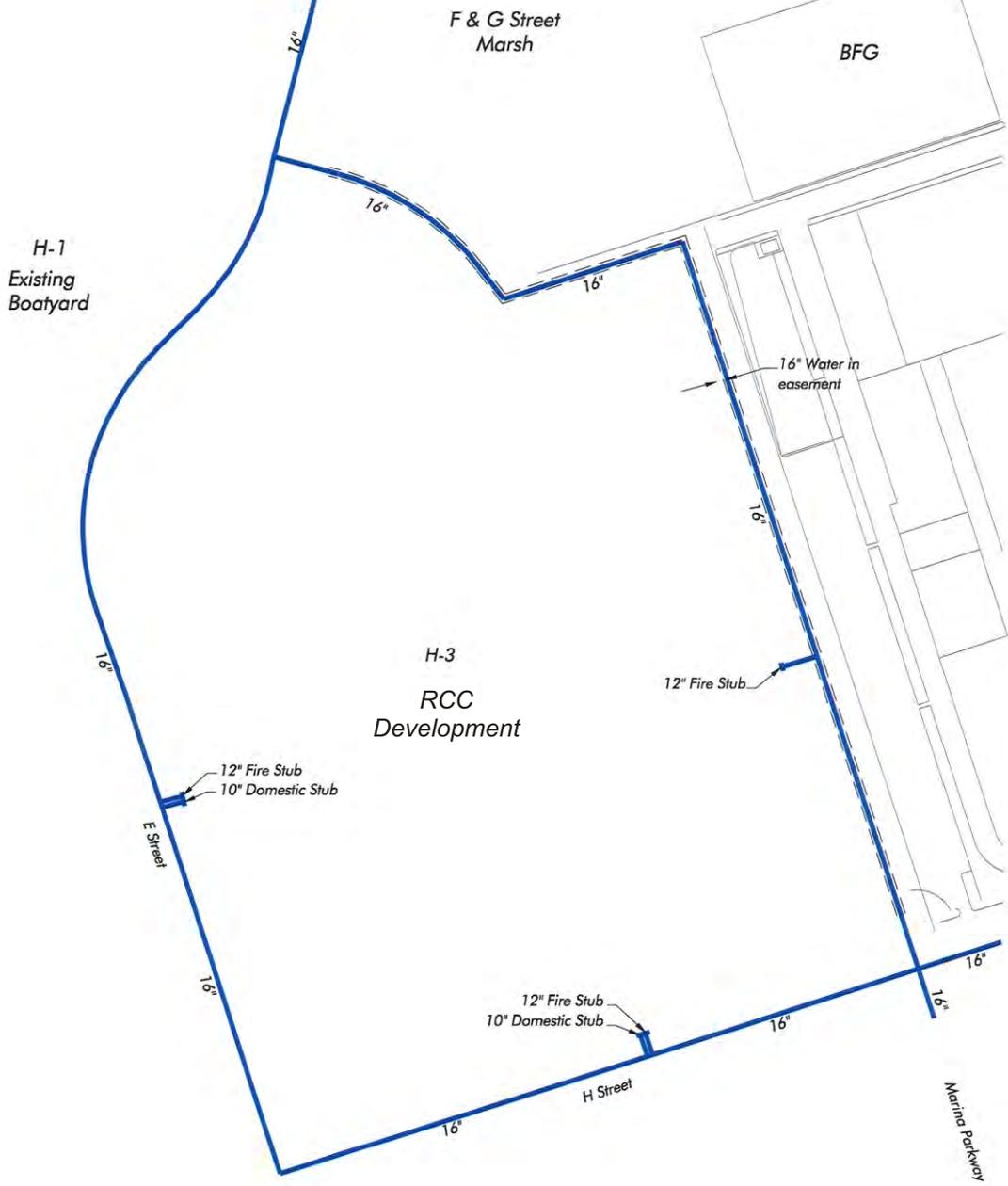
Development Area	Average Demand	Max Day Demand
Sweetwater District	0.016	0.043
Harbor District	1.092	2.185
Otay District	0	0
<b>Total</b>	<b>1.108</b>	<b>2.228</b>

SOURCE: Kimley-Horn and Associates, Inc. 2008.

**b. Program Level (Phases II–IV)**

*Figure 4.14-4* shows the water system improvements and connections (on site and off site) for the entire Proposed Project. The Sweetwater Authority has reviewed the proposed water system and has updated their water model to reflect the proposed water system. The results of the analysis indicate that the proposed water system (pipe sizes, locations, and points of connection) are adequate to serve the project as shown on *Figure 4.14-4*. Phase I project improvements are described above. The remaining phases (II through IV) of the project will require the water system to be upgraded as each phase develops. As the remaining phases develop, they will connect to portions of the water system that will have been constructed during Phase I.

Z:\Projects\j57030\1\Figs\EIR Figs\Section 4\14-Utilities\Fig4.14-02.cdr



**Notes:**

**Fire Flow:**  
8000 gpm. Use three 12" stubs and looped on-site system. On-site fire pumps may be required.

**Domestic Flow:**  
600,000 gpd  
Use 2.0 peaking factor = 1,200,000 gpd  
Use two 10" stubs.

**Legend**

-  R/W Line
-  Proposed Water Line and Size



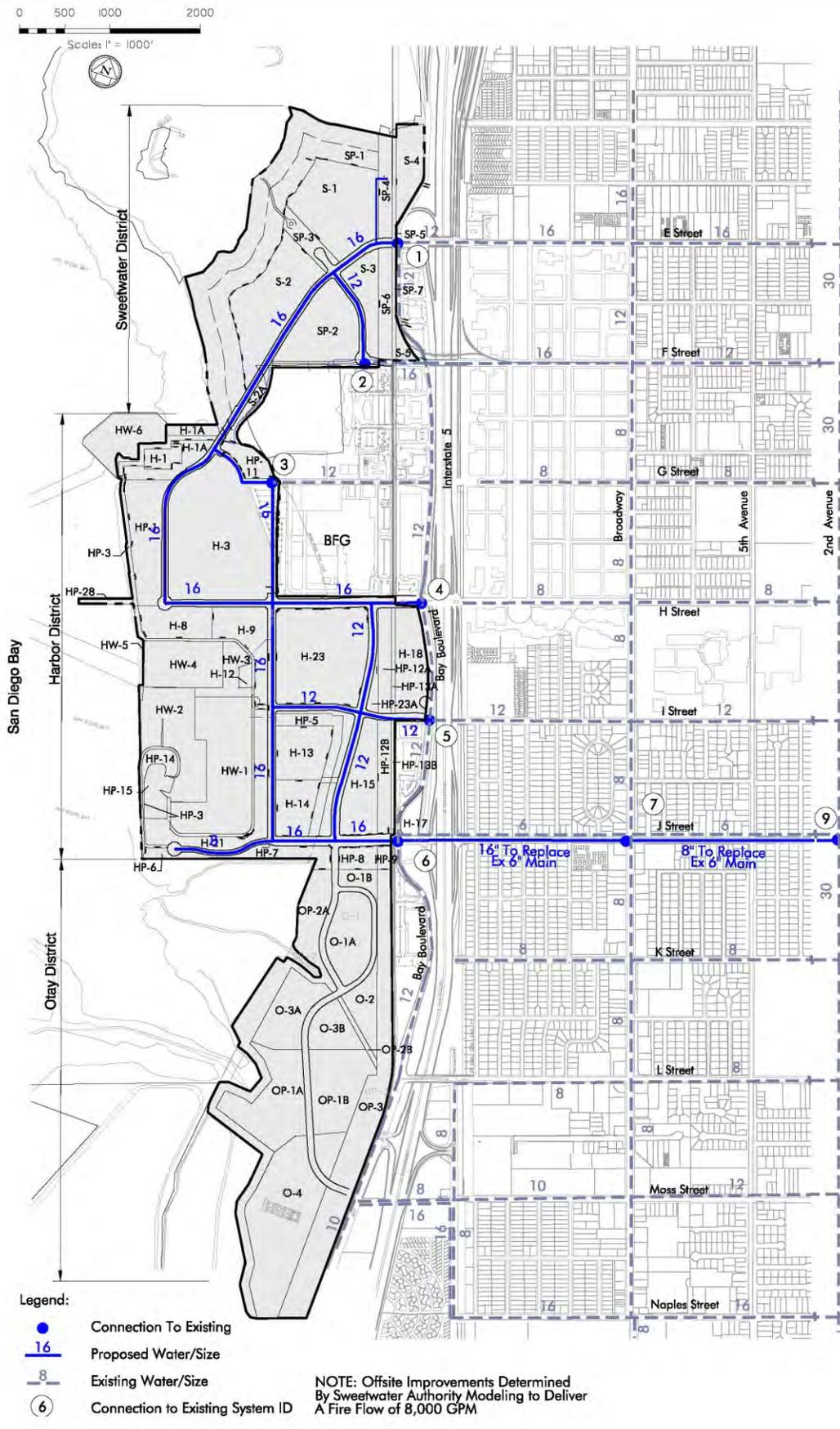
SOURCE: Kimley-Horn and Associates, Inc.

# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan RCC Water Improvements

**FIGURE**  
**4.14-2**

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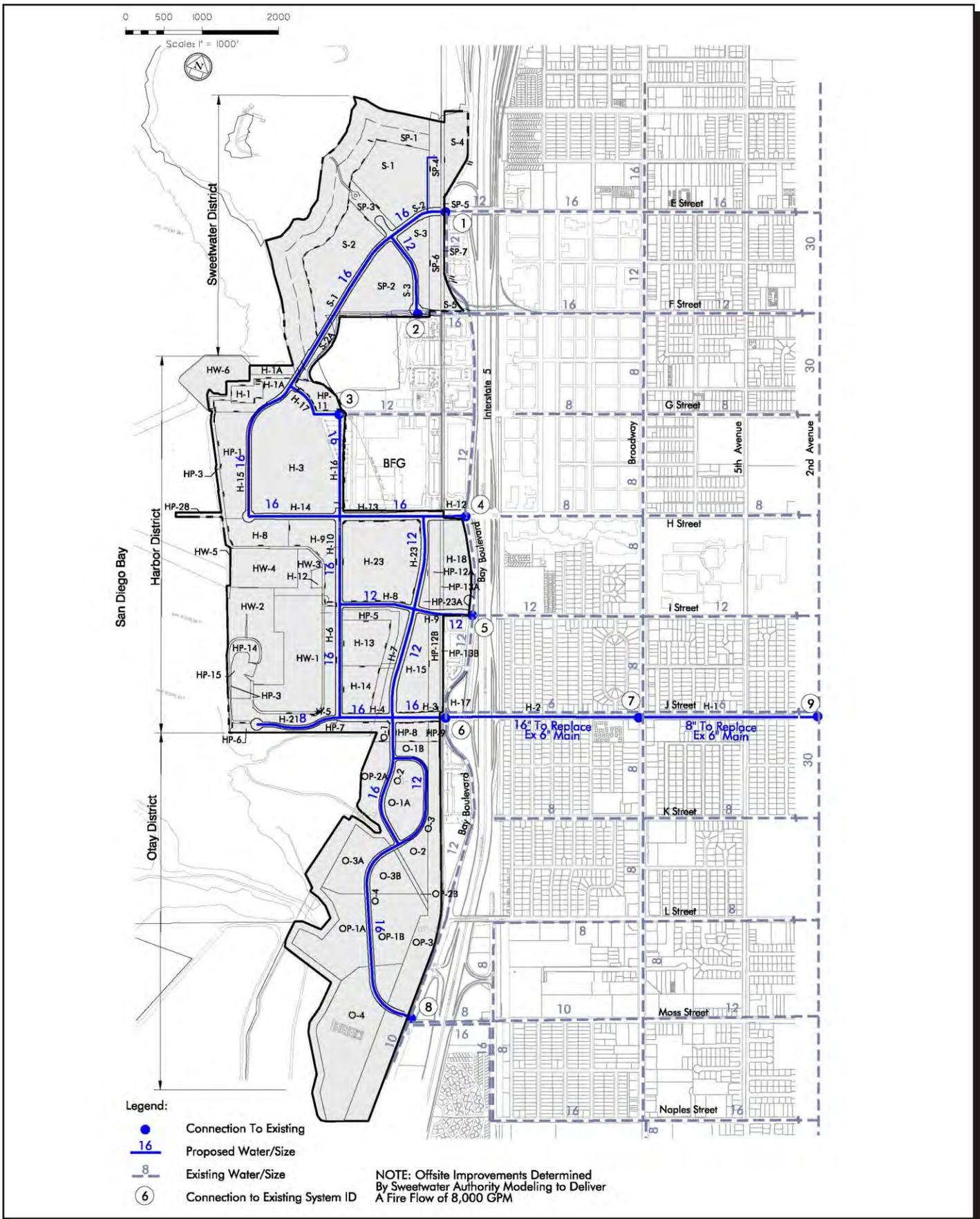
SOURCE: Kimley-Horn and Associates, Inc.

# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan Water Improvements - Phase I

**FIGURE**  
**4.14-3**

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SOURCE: Kimley-Horn and Associates, Inc.

# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan Water Improvements Program Level (Phases II through IV)

**FIGURE**  
**4.14-4**

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The proposed road improvements that serve the Phase I area would be constructed with all required utility systems for the complete project (e.g., water, sewer, storm drain) so that the infrastructure would be in place as the development of subsequent phases continues. The water system improvements described above are designed to accommodate the projected water demands and would be required for development. Impacts resulting from construction of the on-site and off-site water system improvements are discussed below as construction-related impacts.

### c. Construction-Related Impacts

The installation of major infrastructure for the Sweetwater and Harbor Districts would occur in Phase I and the major infrastructure for the Otay District would be constructed in future phases. As noted in *Section 4.7, Noise*, of this report, construction for each phase can be divided into two main categories, site preparation and building construction. Noise effects occur primarily during site preparation with the grading of the site and construction of infrastructure.

Construction of the on-site water system will occur during the site preparation phase of the project. As with the other site preparation activities, a variety of noise-generating equipment would be used during the construction phase of the project. This construction equipment may include dump trucks, graders, loaders, and concrete mixers, along with others. Phase I site preparation would include grading within the Sweetwater and Harbor Districts, the construction of the major access roads, and sewer and water infrastructure. Grading in subsequent phases would be limited to modifying the rough grading that occurred during Phase I. While it is anticipated that the development of all phases of the project could take 24 years, it is anticipated that site preparation in any given phase would last for a year or less. It should be noted that construction requiring connections to existing water facilities, both on- and off-site, 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.

For the construction of all major pipeline segments, a trench would be excavated off site in the existing streets to allow installation of the new water mains. After completion of the installation, the trench would be backfilled and resurfaced to match the existing pavement. All of the off-site water mains would be constructed within existing street rights-of-way (ROWs). No easements for the new facilities ~~would be required~~ are expected to be necessary; however, should easements be required, they would be subject to final review by Sweetwater Authority. Additional details related to the construction of the off-site water infrastructure, such as precise alignment and grade and associated appurtenances such as blowoffs, air-vac valves, and fire hydrants, would be determined during final design.

The type of equipment that will be used in construction can individually generate noise levels that range between 77 and 91 decibels (dB(A)) at 50 feet from the source. Using empirical data on the number and types of equipment at a construction site and their average cycle of operation,

an estimate of 84 dB(A) Leq 50 feet from the site of construction was used (Bolt, Beranek, and Newman, Inc. 1971).

The estimated 84 dB noise level used for assessing construction impacts is based on the number of each item of equipment typically present at a site, the length of the duty cycles of the equipment, and the average noise levels during operation.

The analysis presented in *Section 4.7, Noise*, of this report indicates that construction activities in the Harbor District would occur between an area as far away as 1,400 feet to a location adjacent to the Marina. The projected noise levels at the marina could be as high as 74 dB(A). The potential for a 74 dB(A) hourly Leq for construction noise at the marina would be a significant impact. In Phase I, the project would construct residential and park uses near the center of the project site. During Phases II through IV, these uses could be exposed to construction noise levels of 85 dB(A) Leq, depending upon the location of the construction relative to the sensitive user.

In addition, the construction of off-site water system improvements during Phase I would affect residences. These improvements would occur within J Street between Bay Boulevard and 2nd Avenue. Because the construction of off-site improvements could result in noise impacts that would affect residents in those areas, noise impacts would be significant (**Significant Impact 4.14.1-1**). There are off-site improvements in other roadways, but those are not adjacent to any residential uses and would not represent a significant noise impact.

In the City of Chula Vista, construction noise is exempt from the noise ordinance, although construction activities must comply with the hours set by the City's Municipal Code. Pursuant to the Municipal Code, construction would be prohibited Monday through Friday from 10:00 PM to 7:00 AM, and from 10:00 PM to 8:00 AM on Saturdays and Sundays. It should be noted, however, that construction that may require connections to existing water facilities, both on- and off-site, 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.

Therefore, construction noise during these subsequent phases of the project could affect the sensitive uses established through the development of Phase I. Subsequent analysis of construction noise impacts would be needed during the CEQA review process of Phases II through IV. Because subsequent phases of development could result in noise impacts that would affect uses created during the Phase I of development, noise impacts would be significant (**Significant Impact 4.14.1-2**).

Construction and operational noise would have the potential to adversely affect birds nesting and foraging in the Sweetwater Marsh NWR located north of the project site. Noise levels are not to exceed 60 dB(A) Leq during breeding season. With a noise source of 84 dB during construction,

a noise level of 60 dB is achieved with a direct line of sight to the noise source, when the receiver is approximately 800 feet from the source.

Projected noise levels at the edge of the refuge resulting from construction could be as high as 77 dB. During the breeding season, this would be a significant impact (**Significant Impact 4.14.1-3**).

For the construction of all pipeline segments, a trench would be excavated off site in the existing streets to allow installation of the new water mains. After completion of the installation, the trench would be backfilled and resurfaced to match the existing pavement. All major on-site and off-site pipelines would be installed in proposed and existing street ROWs. Additional details of the off-site water main construction such as precise alignment and grade and associated appurtenances such as blowoffs, air-vac valves, and fire hydrants would be determined during final design.

Construction of major infrastructure on site and off site would also result in temporary traffic impacts. Depending on the location (on site and off site), equipment, and type of work being performed, vehicular and pedestrian traffic may have to be rerouted, and/or slowed. This would be a temporary but significant impact for road segments and ROWs within the project area and outside of the project boundaries (**Significant Impact 4.14.1-4**).

The major water system infrastructure would be constructed entirely during Phases I, II, and III; therefore, no temporary or permanent impacts would result from temporary impacts related to construction in Phase IV.

**3. The Proposed Project would have a significant impact if it is inconsistent with the assumptions used in the SDCWA's 2005 Updated UWMP.**

The SDCWA's 2005 Updated UWMP is based on SANDAG's regional growth forecasts, which are in large part based on adopted General Plans. Since SANDAG's present 2030 Regional Growth Forecast is based on adopted General Plans within the region at the time it was written, it was based on Chula Vista's 1989 General Plan, as amended in 1993. This plan includes the industrial areas in the Harbor and Otay Districts as specified in the Port Master Plan (PMP). The current General Plan land uses that are outside of the Bayfront planning area are not included in the current UWMP projections. The currently adopted Bayfront specific plan corresponds to the old General Plan and therefore would be reflected in the growth projections. As such, the adopted Bayfront land uses were used in developing the growth projections on which the water demand projections were based. For this reason, as determined in the City of Chula Vista General Plan Update EIR, the updated General Plan is inconsistent with the SDCWA 2005 Updated UWMP.

The Proposed Project includes additional plan modifications to an already inconsistent General Plan; however, the Proposed Project's estimated water demand would be consistent with the 2005 Updated UWMP forecasts because changes to the Proposed Project and water efficiency project design features (PDFs) would reduce its estimated water demand to a level below that assumed for future development in the 2005 Updated UWMP. Furthermore, any inconsistency in actual planned development would be temporary until the SDCWA amends its 2005 Updated UWMP based on the updated General Plan and proposed General Plan Amendment in 2010. Accordingly, the Proposed Project would not have a significant impact because its estimated water demand would fall within that assumed for future development in SDCWA's 2005 Updated UWMP.

#### **4.14.1.4 Mitigation Measures**

Developers of any parcel located within the Bayfront Master Plan shall reimburse the Port, City and/or other developers the pro-rata cost of the installation of public improvements as obligated and required by the Port and/or City based on the nexus established in the technical studies and this EIR.

#### **Mitigation Measure 4.14.1-1**

The following measures shall be implemented to avoid **Significant Impacts 4.14.1-1** and **4.14.1-2** (resulting from construction-related noise impacts of off-site water improvements in all phases of development). Construction of off-site water improvements shall be conducted in accordance with Mitigation Measure 4.7-8 in *Section 4.7, Noise*, which is repeated below:

**Port/City:** To avoid significant construction-related noise impacts, the following measures shall be followed:

- Construction activity shall be prohibited Monday through Friday from 10:00 PM to 7:00 AM, and Saturday and Sunday from 10:00 PM to 8:00 AM, 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.

#### **Mitigation Measure 4.14.1-2**

The following mitigation measure shall be implemented to reduce **Significant Impact 4.14.1-3** (associated with construction-related noise impacts from off-site water improvements on breeding birds in the adjacent wildlife refuge) to a level less than significant:

**Port/City:** 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 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.

#### **Mitigation Measure 4.14.1-3**

The following mitigation measure shall be implemented to reduce **Significant Impact 4.14.1-4** (associated with temporary construction-related traffic impacts in Phases I and II) to a level less than significant:

- Port/City: 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).

#### **4.14.1.5** *Significance of Impacts After Mitigation*

Mitigation Measures 4.14.1-1 through 4.14.1-3 would reduce noise and traffic-related impacts from construction of on-site and off-site water system improvements to levels less than significant.

### **4.14.2** **Sewer**

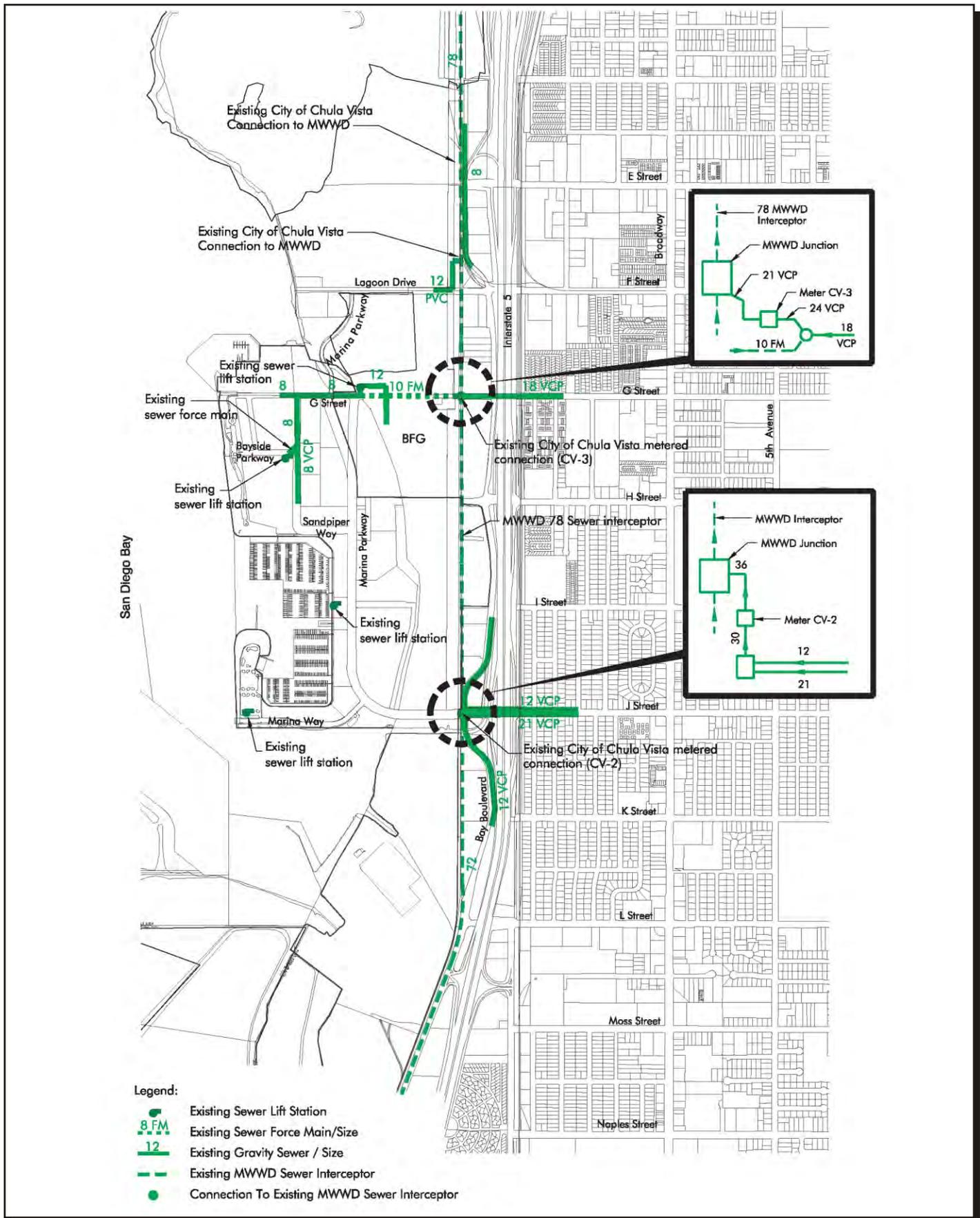
#### **4.14.2.1** *Existing Conditions*

This section discusses the existing services related to sewers for the project site. The City relies on the City of San Diego Metro Sewage System for treating and disposing of the wastewater generated within the city. The MWWD adopted the Metropolitan Wastewater Plan in November 2003, which identifies future treatment facilities needed to meet anticipated demands within the Metro service area.

The existing sewer system consists of a network of sewer mains that serve the existing businesses in the Proposed Project area. The City has 14 metered connections to the MWWD interceptor. Two of these connections (CV-2 and CV-3) are located within the Proposed Project area. See *Appendix 4.14-5* for existing metered sewage flow rates.

Due to the proximity to the Bay, and the distance from the existing 78-inch San Diego MWWD interceptor, there are four existing sewer lift stations that pump sewage to the connections to the sewer interceptor. The MWWD interceptor is a gravity sewer that collects sewage from the South Bay. Sewage is conveyed to Pump Station No. 1 where it is pumped to Pump Station No. 2 adjacent to the San Diego International Airport where it is then pumped to the Point Loma Wastewater Treatment Plant.

The existing sewer facilities serving the Bayfront are depicted on *Figure 4.14-5* and listed in *Table 4.14-7*.



SOURCE: Kimley-Horn and Associates, Inc.

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Existing Sewer Facilities**

**FIGURE**  
**4.14-5**

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**TABLE 4.14-7  
Existing Sewer Facilities**

Street Name/Location	Size and Type of Sewer Main
Bay Boulevard	8-inch VCP
E Street	8-inch VCP
G Street	10-inch and 12-inch VCP
Lagoon Drive	12-inch VCP
Tidelands	8-inch VCP
Sandpiper	8-inch VCP
J Street	12-inch and 30-inch VCP
BFG Lift Station and Force Main	10-inch AC force main
RV Park Lift Station and Force Main	Discharges to manhole in street; size of force main is unknown
Marina Parkway Lift Station	Force main in Marina Parkway; size unknown
Boat Launch Lift Station	Force main location and size unknown

VCP = vitrified clay pipe; AC = asbestos cement.

Currently, the City of Chula Vista discharges approximately 17.0 MGD into the Metro system; however, as part of the recent Wastewater Master Plan Update, which was done concurrently with the General Plan Update, the City has projected that by 2030 the City would be generating approximately 26.2 MGD of sewage. Therefore, the City needs to acquire an additional 5.336 MGD of capacity rights to facilitate build-out. The City has begun a multipronged effort to explore ways of acquiring additional capacity. This may include purchase from willing sellers within the Metro system who have capacity. In the interim, the City has an estimated reserve balance of approximately 4.17 MGD. This capacity has been determined to be sufficient to serve existing development and entitled development currently under construction.

The MWWD system has adequate sewage treatment capacity to serve the region until approximately 2025, when new treatment facilities are expected to become operational. The City may reach its contractual capacity limits sooner than 2025. The City is currently collecting funds to purchase or lease additional capacity from other members of MWD as the need arises. As described above, MWD capacity is allocated to its member agencies according to the members' need for water based on historical use and adjusting for growth and changes in local supplies as well as an across-the-board allocation based on the declared regional shortage of water. Some member agencies are not using or do not expect to use their allocated share of the supply. As a result, members are authorized to buy, sell, or lease unused portions of their allocated capacity.

Development shall not occur without adequate sewer capacity as determined by the City Engineer. Building permits will not be issued if the City Engineer has determined that adequate sewer capacity does not exist. All development must comply with Municipal Code Sections 19.09.010(A)6 and 13.14.030. If building permits are issued for the project, the current capacity fees in effect will be used to purchase additional capacity.

Sewer generation rates were projected based on the Proposed Project uses, including the RCC, and are listed in *Table 4.14-8*.

**TABLE 4.14-8**  
**City of Chula Vista Sewage Generation**

Description of Flow	Average Sewage Flow (MGD)
Chula Vista capacity rights in MWWWD sewer with South Bay Treatment Plant <sup>1</sup>	20.87
Existing flow	17.0
Remaining available capacity	3.864
Future sewage generation at build-out in 2031	26.2
<b>Total Additional Capacity Needed</b>	<b>5.336</b>

<sup>1</sup>Chula Vista's share of additional capacity is estimated at 1.021 and may change after the financial audit by the City of San Diego.

a. **Regulatory Framework**

Sewer facilities are addressed in the City's Growth Management Threshold Standard Policy and Wastewater Master Plan.

i. Chula Vista Wastewater Master Plan

The City's current Wastewater Master Plan, prepared in May 2005, evaluates system capacity, assesses the condition of existing pump station facilities, develops a capital improvement plan (CIP) for the rehabilitation and expansion of the collection system, and recommends a revised capacity charge. Specific recommendations are made for the repair, upgrading, and build-out of wastewater collection and pumping facilities. The 20-year CIP included the recommended system improvements to address existing and projected capacity constraints, as well as the acquisition of additional regional treatment capacity. This recommended CIP forms the basis for the updated capacity fee and capital facilities financing plan and would be used in sewer rate evaluations to be completed in separate financial studies.

ii. Chula Vista Subdivision Manual

All development projects are required to adhere to the City of Chula Vista Subdivision Manual. The criteria for sewer and wastewater used in the report prepared by Kimley-Horn and Associates, Inc. were established in accordance with the City's Subdivision Manual. The design criteria were used to analyze the existing sewer system, as well as to design and size proposed improvements and expansions to the system to accommodate flows in the Proposed Project area. Section 3-300 of the manual provides specifications for the design and capacity of sewer-related components up to and including site work requirements, equipment, and access (see *Appendix 4.14-5*).

#### 4.14.2.2 Impact Significance Criteria

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on sewer service if:

1. It results in a determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate planned capacity to serve projected demand in addition to the provider's existing commitments
2. It requires or results in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

#### 4.14.2.3 Impact Analysis

1. **The Proposed Project would have a significant impact on sewer service if it results in a determination by the wastewater treatment provider, which serves or may serve the project, that it does not have adequate planned capacity to serve projected demand in addition to the provider's existing commitments.**

Sewage generation rates from the City of Chula Vista's Subdivision Design Manual were used for estimating generation rates for the project. In addition, sewage generation information was provided by the project applicant for the RCC. The generation rates for the Proposed Project are listed in *Table 4.14-9*.

**TABLE 4.14-9  
City of Chula Vista Sewage Generation Rates**

Land Use	Sewage Generation Factor (GPD/EDU)	EDU Equivalents
Commercial/office/retail	265	0.60 EDU per 1,000 square feet of building
Hotel	265	0.33 EDU per room
Park	—	500 GPD/acre
Condominium/residential	265	0.75 EDU per unit for condos
Commercial	—	2,500 GPD/acre for commercial per City of Chula Vista—assumed marina/pier similar to commercial, if no square feet given
RV park	265	0.5 EDU per RV space
Power plant	—	Assumed Duke Energy Plant generation rate of 500 GPD/acre

SOURCE: Kimley-Horn and Associates, Inc. 2007.

GPD = gallons per day; EDU = equivalent dwelling unit

a. Project and Program Level (Phase I)

i. Pacifica Residential and Retail Project

The proposed Pacifica site development (Parcels H-13 and H-14) would require sewer improvements that include constructing all the required ultimate sewers in the proposed streets that front the Pacifica parcel, including the Harbor lift station, gravity sewer in Marina Parkway and force main in Street C and Street A. *Figure 4.14-6* shows these sewer improvements for Pacifica.

The H-13 and H-14 parcels are graded to be slightly above the adjacent streets. A gravity sewer connection can be made to the proposed sewer main in Marina Parkway. The Pacifica site had an average sewage generation rate of 298,000 GPD. Using a peaking factor of 2.0 gives a total peak flow of 596,000 GPD. The Pacifica site was assumed to have two sewer stubs connecting to the public sewer system.

ii. ~~Gaylord~~ Resort and Convention Center (RCC)

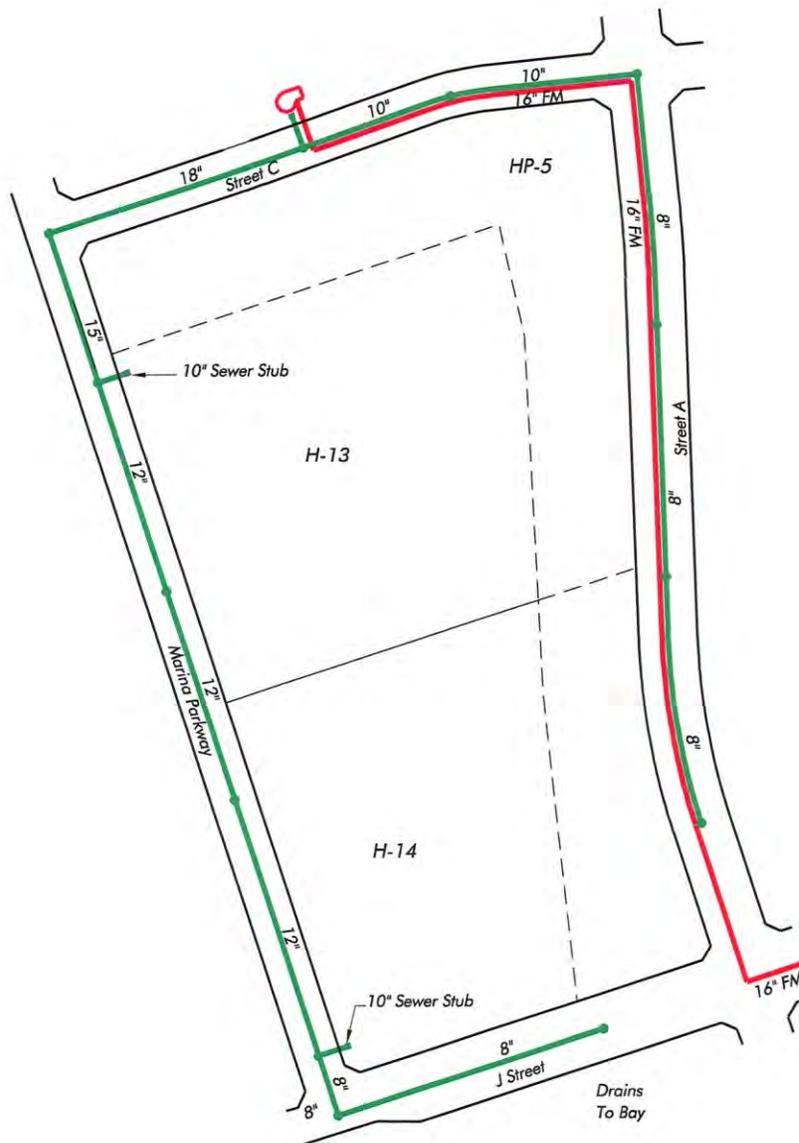
The proposed ~~Gaylord~~ RCC (Parcel H-3) site development would require sewer improvements that include constructing all the required ultimate sewers in the proposed streets that front the H-3 parcel, including the Harbor lift station, gravity sewer connection to the existing G Street lift station, gravity sewer in Marina Parkway, and force main in Street C and Street A. *Figure 4.14-7* shows the required sewer improvements for ~~Gaylord~~ the RCC.

The H-3 parcel is graded to be slightly above the adjacent streets. A gravity sewer connection can be made to the proposed sewer main in H Street and Marina Parkway. The ~~Gaylord~~ RCC site was assumed to have two sewer stubs connecting to the public sewer system. The H-3 parcel will also have a public utility easement located at the eastern edge of the parcel, which will contain the gravity sewer connecting the G Street lift station influent sewer.

The projected sewage generation rate for the RCC is estimated at 400,000 GPD. This information was used in the generation calculation in the subsequent table.

The peaking factor was determined by taking the total average flow/265 GPD/EDU 3.3 people/EDU to determine the equivalent population and peaking factor. The peaking factors used are presented in *Appendix 4.14-6*.

Based on the above generation rates and sewage generation estimates, the Proposed Project would be expected to generate a total average flow of approximately 1.328 MGD and an approximate peak flow of 2.578 MGD. The average and peak flows for the Proposed Project uses would be higher than the existing demand from uses on the site, including the marinas, boatyard, and restaurants. The water demand would increase substantially in areas where undeveloped or vacant lots are proposed for development.



**Legend**

- Parcel Line
- R/W Line
- 
- Sewer Manhole
- Sewer Stub
- 

**Note:**

**Sewage Generation:**

1500 Units x 0.75 EDU/Unit x 265 g/EDU/d = 298,125 gpd  
 Use 2.0 peaking factor = 596,250 gpd  
 Use two 10" stubs



SOURCE: Kimley-Horn and Associates, Inc.

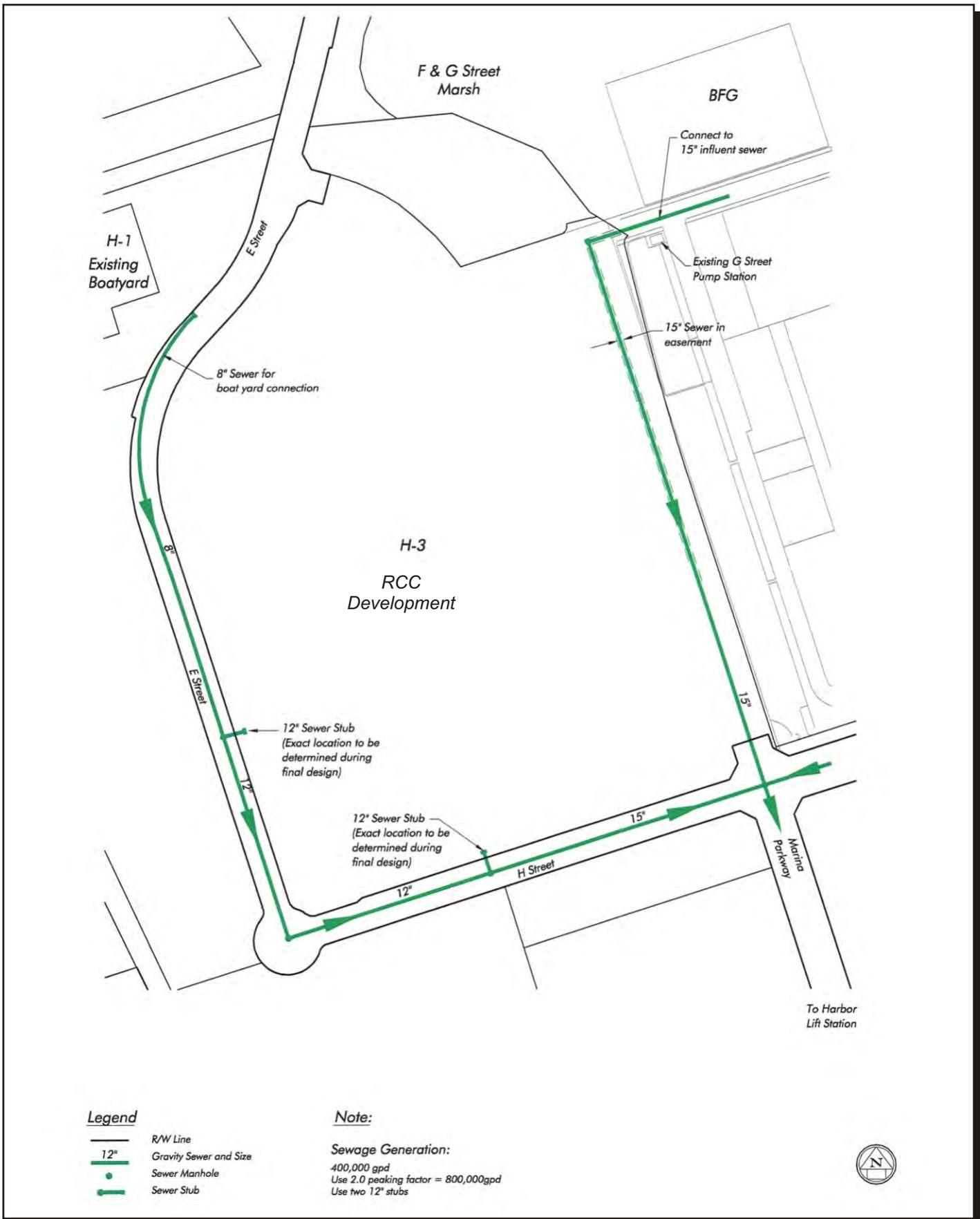
Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Pacifica Sewer Improvements**

**FIGURE**  
**4.14-0**

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SOURCE: Kimley-Horn and Associates, Inc.

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**RCC Sewer Improvements**

**FIGURE**  
**4.14-7**

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Table 4.14-10 shows the sewage generation summary by district for the Proposed Project. The projected sewage generation broken down by parcel for the Proposed Project is contained in Appendix 4.14-5. The City currently has a capacity of 20.87 MGD and a current flow of 16.47 MGD. The Proposed Project estimates a peak flow of 2.578 MGD. Therefore, the City has the capacity to serve the Proposed Project. No significant direct impacts would result.

**TABLE 4.14-10**  
**Sewage Generation Summary (MGD)**

Development Area	Average Flow	Peak Flow
Sweetwater District	0.113	0.270
Harbor District	1.019	1.876
Otay District	0.196	0.432
<b>Total</b>	<b>1.328</b>	<b>2.578</b>

b. Program Level (Phases II–IV)

The City anticipates a future sewage generation rate of 26.2 MGD, which would require an additional needed capacity of 5.336 MGD after 2031 (build-out). This results from all the projects envisioned in the current General Plan. Because the City does not have capacity for future sewage generation, the City would not have adequate capacity to serve the additional 1.328 MGD generated by the Proposed Project. Although additional capacity is being negotiated in the MWWID sewer interceptor, the capacity is currently not available. This is a significant impact (**Significant Impact 4.14.2-1**).

**2. The Proposed Project would have a significant impact if it requires or results in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.**

Most of the existing streets throughout the project site would be removed to allow for construction of the new streets and grading of the new parcels. As a result, it is not feasible to use the entire existing sewer system to provide sewer service to the new development. The Proposed Project would require construction of new sewer facilities in addition to replacement of existing sewer facilities on the project site. The only sewer mains in the project vicinity that would remain in the project vicinity are the existing 24-inch sewer main in G Street located adjacent to the MWWID interceptor (CV-3), the 30-inch sewer main in J Street, and the existing 8-inch sewer main in Bay Boulevard that serves the existing businesses on this street.

The Proposed Project would require gravity sewer mains in the streets ranging in size from 8 to 18 inches and sewer force mains ranging in size from 6 to 12 inches. The gravity sewer generally

flows in the direction of the street grade to minimize depth. The gravity sewer mains would convey flow to three proposed sewer lift stations; one would be constructed in each district.

There are two connections proposed to the existing City of Chula Vista sewer system. The proposed sewer system would connect to the existing City of Chula Vista sewer system just upstream of meter station CV-2 and CV-3. The proposed sewer system for Phase I development is presented on *Figure 4.14-8*. The sewer system proposed for the entire Proposed Project is shown on *Figure 4.14-9*. The required connections to the existing system are described in detail below along with a summary of the sewer system for each district.

a. Phase I

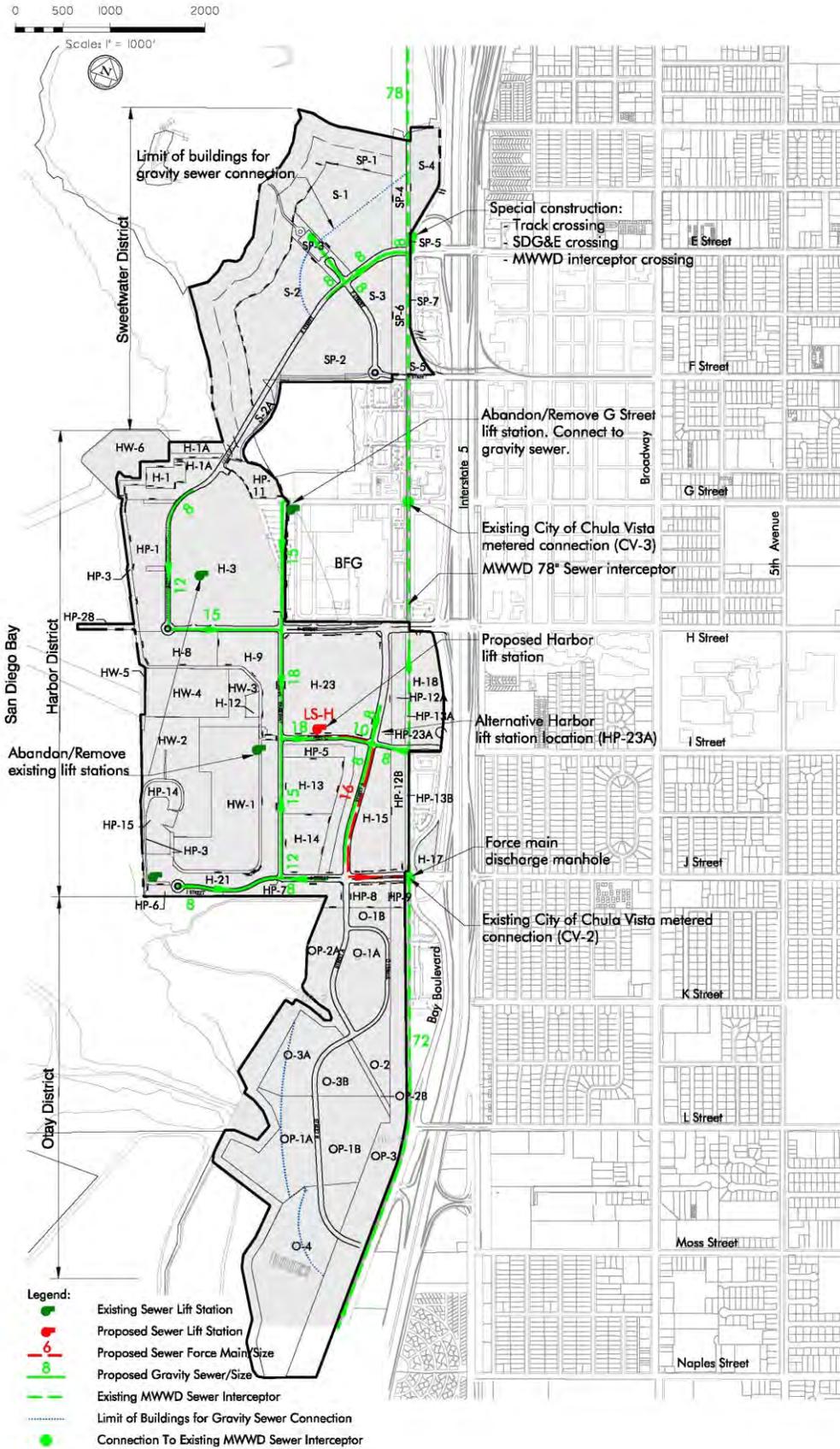
i. Project Level

The entire sewer system for the Sweetwater and Harbor Districts would be constructed during Phase I. In addition to constructing the complete Phase I on-site sewer system (see *Figure 4.14-8*), the off-site force mains, discharge manholes, and connections to the existing system at the metered locations (CV-2 and CV-3) would need to be constructed during Phase I to serve the project. The proposed timing of construction for sewer improvements is tied to requirements of proposed adjacent development. For Phase I, therefore, only those improvements required for development on Parcels H-13, H-14, HP-5, and H-17 are proposed for construction prior to or concurrently with development of these Phase I project-level components. Sewer improvements necessary for Phase I program-level components would be required prior to or concurrently with development of these specific components.

ii. Program Level

As subsequent phases (~~I through IV~~) of the sewer improvements are completed, new infrastructure will need to connect to the existing sewer infrastructure constructed in Phase I. Connections to the existing system will be made as the sewer stubs are built. *Figure 4.14-10* shows the sewer improvements proposed for each phase of the Proposed Project. The future sewers will be designed and constructed in accordance with the then-current City of Chula Vista Sewer Design Guidelines.

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SOURCE: Kimley-Horn and Associates, Inc.

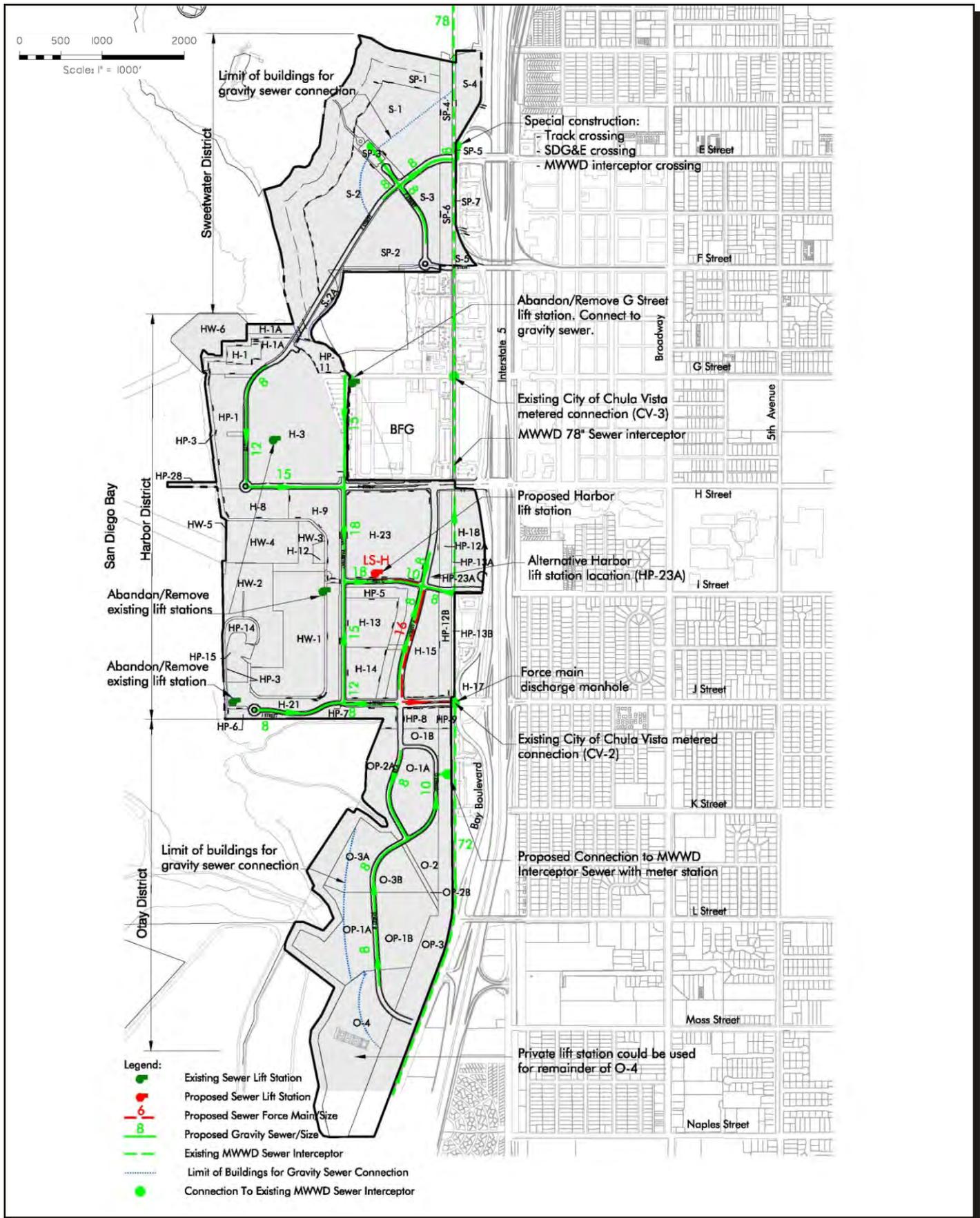
# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan Proposed Sewer Improvements - Phase I

**FIGURE**  
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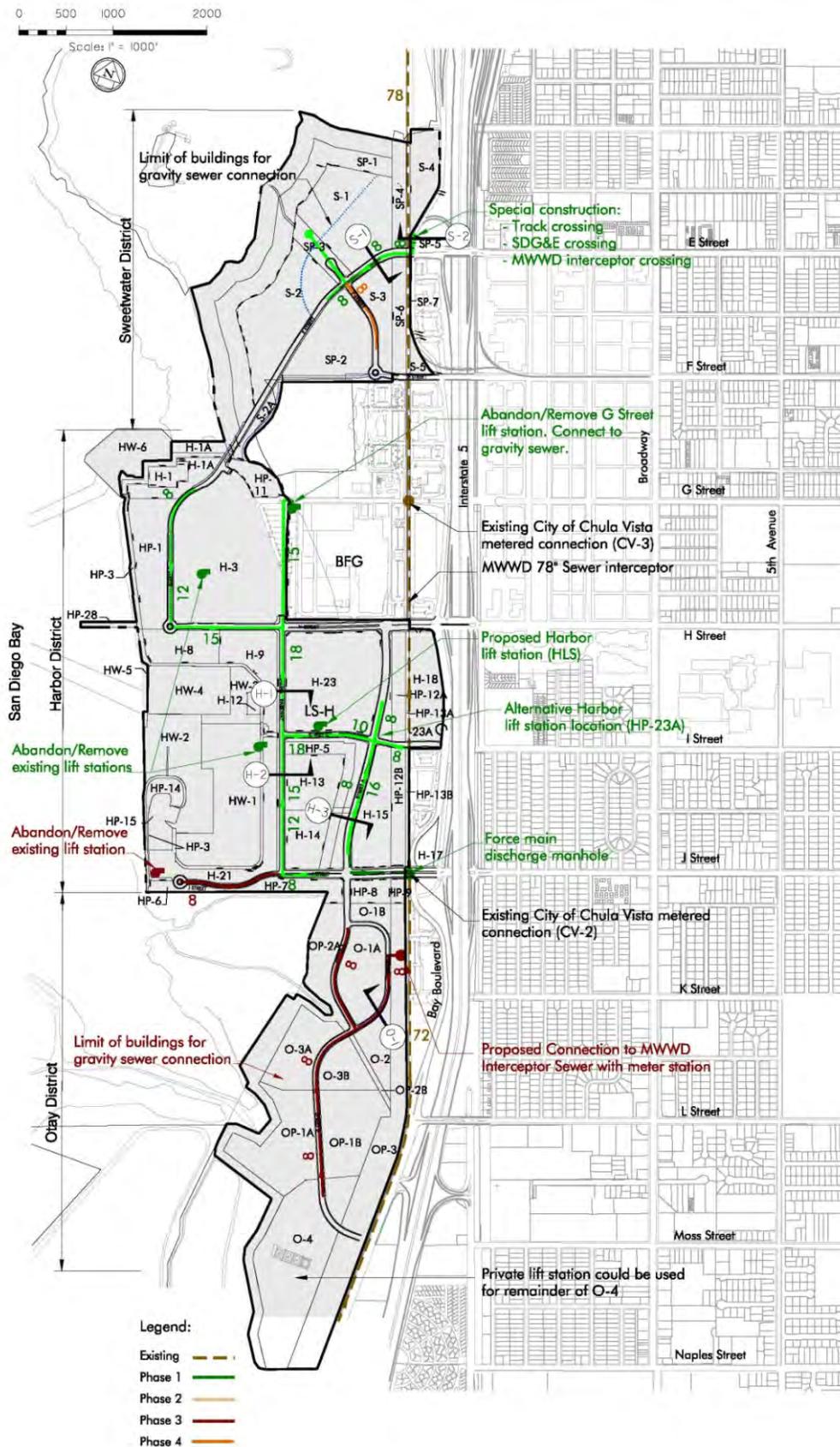
SOURCE: Kimley-Horn and Associates, Inc.

# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan Proposed Sewer Improvements - Program Level (Phase II through IV)

**FIGURE**  
**4.14-9**

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SOURCE: Kimley-Horn and Associates, Inc.

# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan Proposed Sewer Improvements by Phases

**FIGURE**  
**4.14-10**

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iii. Sweetwater District

It was originally planned that the Sweetwater District would be served by a single sewer lift station in the southern corner of Parcel S-2. It is feasible to eliminate this lift station and construct a gravity sewer to serve the majority of the Sweetwater District. The gravity sewer will run east in E Street under the railroad and SDG&E underground electric, and will connect to the existing sewer in Bay Boulevard that serves local businesses. A portion of the sewer in Bay Boulevard will be replaced up to the existing MWWD connection pipe. This is required by the project in order to make the connection to the MWWD interceptor. The project requires that the existing sewer in a portion of Bay Boulevard be lowered and reconstructed up to the last manhole just upstream of the interceptor. The new sewer will use the existing connection pipe so no new improvements to connections to the interceptor will be required.

There is a portion of S-2 and S-1 that will not be able to be served by the gravity sewer due to their low elevation along the back of the parcels that are close to the buffer areas. These two parcels will require buildings to be placed close to E Street to allow for the gravity sewer lateral connection. The Sweetwater District will have 8-inch sewer mains in E Street up to the connection with the MWWD interceptor. The gravity sewer will have sewer laterals that connect to the development parcels. A sewer manhole and stub will also be provided at the west end of SP-3 to pickup flows from the Nature Center force main and allow it to gravity flow from this point into the MWWD interceptor.

iv. Harbor District

In order to provide sewer to the Harbor District, it is possible to run a gravity line from the G Street lift station to the proposed Harbor Lift Station. This new gravity line will be sized to convey the sewage tributary to the existing G Street lift station and requires that the proposed Harbor lift station wet well be lowered by approximately 5 feet to accommodate this connection. The Harbor lift station pumps will need to be larger than previously recommended to accommodate this increase in flow. The existing areas that will be redeveloped as part of the project include the existing RV park, park area, and boatyard. These flows are relatively small and were not subtracted from the ultimate flow. The gravity sewer will have sewer laterals that connect to the development parcels.

The City of Chula Vista requires that lift stations adjacent to the bay provide emergency storage for 6 hours of peak flow in case of pump, force main or total system failure. The Harbor lift station will require either the construction of an emergency storage vault or a redundant set of pumps and force main. The required storage volume is 750,000 gallons.

The lift station will pump the sewage in a 16-inch force main to a discharge manhole in J Street where it will gravity flow to the existing MWWD interceptor metered connection (CV-2). The

segment of existing 30-inch sewer between the proposed force main discharge manhole and the meter station will need to be upsized to a 36-inch sewer to convey the existing City flows and the project flow to the meter station.

The Harbor lift station will be located along the southern portion of H-23 along Street C or on Parcel HP-23A as an alternative location. Temporary dewatering during construction will be required during the excavation of the wet wells and emergency storage vaults for the sewer lift stations due to the close proximity to the bay and high groundwater. The discharge of groundwater is regulated by the National Pollution Discharge Elimination System (NPDES) permit adopted by the California Regional Water Quality Control Board (RWQCB). A permit must be obtained from the Industrial Wastewater Control Program (IWCP), which is responsible for regulating discharges to the MWWD's sewer system and tributary adjacent agencies' sewer systems, including the City of Chula Vista. Testing of the discharge for pollutants will be required. If pollutants exist, a pretreatment system will be required to be installed, operated, and maintained by the contractor to pretreat water before it can be discharged into the sewer system.

v. Otay District

It has been determined that the Otay District does not need the Otay lift station with gravity sewer as originally proposed. A new connection to the MWWD interceptor will need to be constructed east of Parcel OP-1A. There is a portion of OP-1A, O-3A, and O-4 that will not be able to be served by the gravity sewer due to their low elevations along the back of the parcels that are close to the buffer areas. These parcels will require buildings to be placed close to the street to allow for the gravity sewer lateral connection. A private sewer lift station could be constructed to serve the remainder of Parcel O-4, but will be determined when a specific development project is proposed.

vi. Construction-Related Impacts

The installation of major sewer infrastructure for the Sweetwater and Harbor Districts would occur in Phase I and the major infrastructure for the Otay District would be constructed during Phase II. As noted in *Section 4.7, Noise*, of this report construction for each phase can be divided into two main categories, site preparation and building construction. Noise effects occur primarily during site preparation with the grading of the site and construction of infrastructure.

Construction of the on-site sewer system would occur during the site preparation phase (Phase I) of the Proposed Project. As with the other site preparation activities, a variety of noise-generating equipment would be used during the construction phase of the project. This construction equipment may include dump trucks, graders, loaders, and concrete mixers, along with others. Phase I site preparation would include the grading of the entire Sweetwater and Harbor Districts, construction of the major access roads, and sewer and water infrastructure.

Grading in subsequent phases would be limited to modifying the rough grading that occurred during Phase I. While it is anticipated that the development of all phases of the project could take 24 years, it is anticipated that site preparation in any given phase would last for a year or less.

For the construction of all major pipeline segments, a trench would be excavated off site in the existing streets to allow installation of the new sewer mains. After completion of the installation, the trench would be backfilled and resurfaced to match the existing pavement. All major sewer infrastructures would be installed in existing street ROWs. No easements for the new facilities would be required. Additional details related to the construction of the off-site water infrastructure, such as precise alignment and grade would be determined during final design.

The type of equipment that will be used in construction can individually generate noise levels that range between 77 and 91 dB(A) at 50 feet from the source. Using empirical data on the number and types of equipment at a construction site and their average cycle of operation and estimate of 84 dB(A) Leq 50 feet from the site of construction was used (Bolt, Beranek, and Newman, Inc. 1971).

The estimated 84 dB noise level used for assessing construction impacts is based on the number of each item of equipment typically present at a site, the length of the duty cycles of the equipment, and the average noise levels during operation.

The analysis presented in the *Section 4.7, Noise*, of this report indicates that construction activities in the Harbor District would occur between an area as far away as 1,400 feet to a location adjacent to the Marina. The projected noise levels at the marina could be as high as 74 dB(A). The potential for a 74 dB(A) hourly Leq for construction noise at the marina would be a significant impact. In Phase I, the project would construct residential and park uses near the center of the project site. During Phases II, III, and IV these uses could be exposed to construction noise levels of 85 dB(A) Leq, depending upon the location of the construction relative to the sensitive user.

In the City, construction noise is exempt from the noise ordinance, although construction activities must comply with the hours set by the City's Municipal Code. Pursuant to the Municipal Code, construction would be prohibited Monday through Friday from 10:00 PM to 7:00 AM, and from 10:00 PM to 8:00 AM on Saturdays and Sundays. Therefore, construction noise during these subsequent phases of the project could affect the sensitive uses established through the development of Phase I. Subsequent analysis of construction noise impacts would be needed during the CEQA review process of Phases II through IV. Because subsequent phases of development could result in noise impacts that would affect uses created during Phase I of development, noise impacts would be significant (**Significant Impact 4.14.2-2**).

Construction and operational noise would have the potential to adversely affect birds nesting and foraging in the Sweetwater Marsh NWR located north of the project site. Noise levels are not to exceed 60 dB(A) Leq during breeding season. With a noise source of 84 dB during construction, a noise level of 60 dB is achieved with a direct line of sight to the noise source, when the receiver is approximately 800 feet from the source.

Projected noise levels at the edge of the refuge resulting from construction could be as high as 77 dB. During the breeding season, this would be a significant impact (**Significant Impact 4.14.2-3**). To lessen this impact, construction would have to be restricted adjacent to the Sweetwater Marsh NWR during the breeding season.

Construction of major infrastructure on site and off site would also result in temporary traffic impacts. Depending on the location (on site and off site), equipment, and type of work being performed, vehicular and pedestrian traffic may have to be rerouted, and/or slowed. This would be a temporary but significant impact for road segments and ROWs within the project area and outside of the project boundaries (**Significant Impact 4.14.2-4**).

Temporary dewatering during construction would be required during the excavation of the wet wells and emergency storage vaults for the sewer lift stations due to the close proximity to the Bay and high groundwater. Construction-related dewatering would withdraw water from the aquifer, which could be contaminated, depending on the location in the plan area. The potential to contaminate runoff conflicts with the Basin Plan and the water quality objectives for the Bay, as well as policies relating to the discharge of contaminated water to the sewer system. The project's potential to disturb contaminated soils and groundwater during construction activities would be a significant impact (**Significant Impact 4.14.2-5**).

The utilities would be constructed during Phases I and II; therefore, no temporary or permanent impacts would result from temporary impacts related to construction in Phases III and IV.

#### **4.14.2.4 Mitigation Measures**

Developers of any parcel located within the Bayfront Master Plan shall reimburse the Port, City and/or other developers the pro-rata cost of the installation of public improvements as obligated and required by the Port and/or City based on the nexus established in the technical studies and this EIR.

#### **Mitigation Measure 4.14.2-1**

The following mitigation measure is required to reduce **Significant Impact 4.14.2-1** (associated with insufficient sewage capacity resulting from the Proposed Project) to a level less than significant:

**City:** 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.

#### **Mitigation Measure 4.14.2-2**

The following measures shall be implemented to avoid **Significant Impacts 4.14.2-2** (resulting from construction-related noise impacts of sewer system improvements in all phases of development). Construction of sewer system improvements shall be conducted in accordance with Mitigation Measure 4.7-8 in *Section 4.7, Noise*, which is repeated below:

**Port/City:** To avoid significant construction-related noise impacts, the following measures shall be followed:

- Construction activity shall be prohibited Monday through Friday from 10:00 PM to 7:00 AM, and Saturday and Sunday from 10:00 PM to 8:00 AM, 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. 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.

**Mitigation Measure 4.14.2-3**

The following mitigation measure shall be implemented to reduce **Significant Impact 4.14.2-3** (associated with construction-related noise impacts on breeding birds in the adjacent wildlife refuge) to a level less than significant:

**Port/City:** 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.

**Mitigation Measure 4.14.2-4**

The following mitigation measure shall be implemented to reduce **Significant Impact 4.14.2-4** (associated with utility construction-related traffic impacts in Phases I and II) to a level less than significant:

- Port/City: 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 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).

**Mitigation Measure 4.14.2-5**

The following mitigation measures shall be implemented to reduce **Significant Impact 4.14.2-5** (associated with surface water and groundwater contamination resulting from construction activities) to a level less than significant:

**Port/City: 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.

- 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.

#### ***4.14.2.5 Significance of Impacts After Mitigation***

Implementation of Mitigation Measures 4.14.2-1 through 4.14.2-5 would reduce all of the significant sewer system construction-related impacts (**Significant Impacts 4.14.2-1 through 4.14.2-5**) to a level less than significant.

### **4.14.3 Solid Waste Management**

#### ***4.14.3.1 Existing Conditions***

This section discusses the existing services related to solid waste management for the project site. Solid waste generation rates for service, residential, industrial, and commercial establishments from the California Integrated Waste Management Board were used to estimate the amount of waste currently generated within the Proposed Project area and the waste projections for the Proposed Project.

Based on the generation rates listed in *Table 4.14-11*, the industrial, commercial, and service establishments on the project site currently generate approximately 11,381 pounds of solid waste per day, or approximately five tons.

Solid waste generated on the Bayfront is currently disposed of at the Otay Landfill and several recycling facilities in proximity to the landfill. The Otay Landfill accepts approximately 98 percent of the non-hazardous municipal waste collected in the City of Chula Vista. The remaining 2 percent is delivered to the Sycamore and Miramar Landfills (City of Chula Vista 2005a). The Otay Landfill is expected to be in operation until 2028 based upon current waste generation rates. The Otay Landfill is located adjacent to the East Update Area of the General Plan.

While control and siting of disposal sites falls under the jurisdiction of agencies other than Chula Vista, including the County of San Diego and State of California, the City has the ability to

affect waste production within its General Plan area. It is the goal of Chula Vista to take action appropriate to its population and resources to promote reductions in solid waste production and plan for adequate disposal.

Control of solid waste collection and disposal for the General Plan area, including the Proposed Project area, falls under several jurisdictions. The County of San Diego Solid Waste Planning and Recycling Section of the DPW administers regional planning and management for San Diego County's solid wastes. This agency and the AB 939 Local Task Force (SANDAG) are responsible for revising and updating the Countywide Integrated Waste Management Plan, which reviews current solid waste collection and disposal practices, predicts future waste generation trends, and reviews the possible means for accommodating future collection and disposal needs. This document is the major planning tool for the County and includes solid waste planning for the cities within the County.

**TABLE 4.14-11  
Existing Solid Waste Generation**

Tenant	Use of Square Feet or Number of Employees	Use	Generation Rate	Amount of Waste (pounds/day)*
1 Existing South Bay Boatyard	170 full-time employees	Light industrial	41.64 pounds/employee/day <sup>1</sup>	7,079
2 Chula Vista Marina:				
Two Restaurants	44,000 square feet			264
Coffee Shop	906 square feet			5
Craft/Novelty	200 square feet	Commercial retail	.006 pounds/square feet/day <sup>2</sup>	1
Yacht Sales	550 square feet			3
General Marina Store	1,345 square feet			8
3 South Bay Power Plant	35 full-time employees	Light industrial	41.64 pounds/employee/day <sup>1</sup>	1,457
4 Chula Vista RV Resort	236 RVs	Hotel/motel	2 pounds/room/day <sup>3</sup>	472
5 Former AFS Industries	145,612 square feet	Manufacturing	.0142 pound/square feet/day <sup>3</sup>	2,068
6 California Yacht Marina:				
Yacht Club	4,455 square feet	Restaurant	.005 pounds/square feet/day <sup>2</sup>	22
Charter Office	320 square feet	Retail and office	.006 pounds/square feet/day <sup>2</sup>	2
<b>Total</b>				<b>11,381</b>

SOURCE: Estimated Solid Waste Generation Rates for Industrial, Commercial, and Service Establishments, and Residential Developments from the California Integrated Waste Management Board (2006). Rates were developed based on information from the following sources:

<sup>1</sup> City of Los Angeles Department of City Planning

<sup>2</sup> City of Los Angeles Bureau of Solid Waste

<sup>3</sup> County of Santa Barbara Department of Public Works.

\*Amount of waste rounded to the closest pound.

#### a. Regulatory Plans and Policies

Enacted by Assembly Bill 939 and signed into law in 1990, the California Integrated Waste Management Authority (IWMA) established an integrated system of solid waste management whereby each city and county is required to develop and implement plans consistent with the mandated diversion rates of 25 percent by 1995 and 50 percent by 2000. Under IWMA, the County has prepared a Countywide Siting Element and Summary Plan describing areas to be developed as disposal or waste management facilities (PRC Section 41700). The Act further requires each city to prepare and implement the following solid waste management elements. Source Reduction and Recycling Element (PRC Section 41000) to:

- Identify the constituents of solid waste by volume, type of material, and source
- -Describe the methods, including recycling and composting, by which the city will reduce the amount of solid waste being generated
- Identify and describe projected costs, revenues, and revenue sources necessary to implement the element
- Describe existing handling and disposal practices for special wastes such as asbestos and sewage sludge.

Household Hazardous Waste Element (PRC Section 41500) to identify a program for the safe collection, treatment, and disposal of hazardous wastes generated by residences that would be separated from the rest of the solid waste stream.

Non-Disposal Facility Element (PRC Section 41730) to describe any new solid waste facilities and expansions of existing solid waste facilities needed to implement the jurisdiction's source reduction and recycling element. Facilities that will recover or recycle at least 5 percent of the total volume of materials they receive need not be included in the element.

The Port does not maintain a formal policy with regard to recycling by tenants. However, tenants who recycle on a voluntary basis are assisted with referrals to member agencies for guidance.

The City has 49 programs in effect for waste reduction and is currently meeting the threshold set by the State of California IWMA for 50 percent waste diversion. In addition to regulations at the state level, Chapter 9 of the Chula Vista General Plan outlines the following objective related to solid waste: minimize the amount of solid waste generated within the General Plan area that requires landfill disposal. To this end, the City maintains policies to reduce waste, implement source reduction efforts such as curbside recycling, composting, and reduce household hazardous waste. Municipal Code 19.58.340 references the Solid Waste Planning Manual, which outlines the recycling, trash enclosures, and solid waste standards for the City. The City of Chula Vista also requires a Recycling and Solid Waste Management Plan for all new development. This plan

shows the space, access, and storage for waste materials and describes how recycling provisions will be communicated to tenants. In addition, the plan outlines plans for reducing and recycling at least 50 percent of the demolition and construction debris for the project.

#### 4.14.3.2 Impact Significance Criteria

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on solid waste management if:

1. The project is served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
2. The project does not comply with federal, state, and local statutes and regulations related to solid waste.

#### 4.14.3.3 Impact Analysis

1. **The Proposed Project would have a significant impact if the project was served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.**

The solid waste generation rates described above were applied to the proposed land use densities to calculate the projected solid waste generation for the Proposed Project. As shown in *Table 4.14-12*, the Proposed Project would generate approximately 21,857 pounds of solid waste per day, or approximately 10.1 tons. The existing land uses within the project area currently produce about 4,674 pounds of solid waste per day. Since the existing uses are included or modified in the Proposed Project, their waste generation would be replaced by the waste forecast for the project. The Proposed Project, therefore, represents an increase of 17,183 pounds per day, or 8.6 tons.

**TABLE 4.14-12  
Solid Waste Estimates for the Proposed Project**

Category	Unit	Phases					
		I		II-IV		Total	
		Pounds/Day	Total Units	Pounds/Day	Total Units	Pounds/Day	Total Units
Cultural	Thousand square feet	700	100	—	—	700	100
Ferry	Thousand square feet	—	—	125	25	125	25
Hotel	Rooms	7,000	3,500	—	—	7,000	3,500
Office	Thousand square feet	2,400	400	1,440	240	3,840	640
Residential	Units	4,680	1,300	2,520	700	7,200	2,000
Retail	Thousand square feet	1,620	270	900	150	2,520	420
RV Park	Units	—	—	472	236	472	236
<b>Total</b>		<b>16,400</b>	<b>—</b>	<b>5,457</b>	<b>—</b>	<b>21,857</b>	<b>—</b>

The Otay Landfill currently accepts an average daily rate of disposal of 4,500 tons (telephone conversation with Rob Fifarek, Otay Landfill Engineer, January 23, 2006), with a permitted maximum disposal rate of 5,830 tons per day or 35,000 tons per week. Based on permitted acceptance rates and not on the actual amount of waste received, the landfill has a permitted remaining capacity of 29,930,512 tons and an estimated closure period of 2021 (16 years from now). Based on the actual amount of waste disposed per day, not the permitted amount, the landfill would have capacity through 2027.

At build-out, the Proposed Project would deposit approximately 10.1 tons per day into the existing landfill. This is 8.6 tons more than the existing condition from the Bayfront. This deposition would incrementally decrease the length of time that the landfill would operate under capacity. The landfill would still operate under capacity through between 2021 and 2027. Therefore, the Otay Landfill has sufficient capacity to accommodate the increased waste disposal at build-out of the Proposed Project.

Furthermore, Pacific and Otay Landfill, Inc. have a long-term contract to dispose and accept Chula Vista's trash through 2028. As indicated in a letter from the City to the Otay Landfill (dated March 8, 2005), the approved Otay Landfill Permit Modification Agreement (approved May 17, 2005) states:

In the event that the Otay Landfill is not successful in achieving the expansion of the Sycamore Canyon Landfill, the Otay Landfill agrees to revisit the disposal capacity issue and negotiate terms for additional remedies that will protect the landfill capacity available to Chula Vista rate payers, in accordance with the terms of the Amended and Restated Solid Waste Disposal and Recycling Franchise Agreement (Franchise Agreement), effective July 1, 1999, to which the City and the Otay Landfill are parties.

In addition, Section 6.2.1.5 of the Franchise Collection Agreement states that:

Pacific shall dispose of Solid Waste, at its expense, at the Otay Landfill or the Sycamore Canyon Landfill, both being City authorized landfills, in accordance with all applicable law, or such other landfill mutually agreed upon by Pacific; City; Otay Landfill, Inc.; and Sycamore Canyon, Inc.

In conclusion, the Proposed Project area would continue to be served primarily by the Otay Landfill until its capacity is reached. The City of Chula Vista is assured that the solid waste generated in the City of Chula Vista shall be accommodated by a landfill, regardless of which landfill accepts the waste. Therefore, the Proposed Project would be served by landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs and no significant impact to integrated waste management services would result.

**2. The Proposed Project would have a significant impact if it does not comply with federal, state, and local statutes and regulations related to solid waste.**

The Proposed Project will comply with federal regulations through compliance with state and local regulations, as discussed below.

The Proposed Project would conform to State Mandate AB 939 through compliance with Municipal Code Section 8.25. This section requires that commercial establishments prepare an In-House Recycling Plan. They are required to submit recycling documentation to the City on an annual basis.

The Proposed Project would comply with local regulations through consistency with City of Chula Vista General Plan goals, policies, and objectives. In particular, standards for recycling, trash, and solid waste will be applied in conformance with Municipal Code 19.58.340 (Solid Waste Planning Manual). The proposed residential uses would be served by the City's household hazardous waste program, which includes free curbside collection of solid waste and recyclable materials. In addition, the use of toxic products by residents and small businesses is minimized through public education on alternative products and methods such as source reduction, which is a form of diversion. Therefore, the Proposed Project design is consistent with City of Chula Vista General Plan Public Facilities and serves Element Objectives PFS 25, E 8, and E 18, which are as follows:

- PFS 25: Efficiently handle solid waste disposal throughout the City
- E 8: Minimize the amount of solid waste generated within the General Plan area that requires landfill disposal
- E 18: Minimize the use of toxic products by residents and small businesses and facilitate the proper disposal of household hazardous waste.

The Proposed Project would comply with federal, state, and local statutes and regulations and therefore no significant impacts in regard to solid waste would occur.

**4.14.3.4 Mitigation Measures**

The Proposed Project would not result in a potential significant impact to solid waste management in the project area. Accordingly, no mitigation measures would be required.

**4.14.2.5 Significance of Impacts After Mitigation**

No significant impacts to solid waste management were identified for the Proposed Project.

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## 4.15 Seismic/Geologic Hazards

This section analyzes the potential seismic and geologic impacts of the Proposed Project. The analysis summarizes available geologic and geotechnical background data and a geologic reconnaissance of the project site area.

Information contained in this section is based on the following technical studies prepared for the Proposed Project:

- Preliminary Geotechnical Evaluation for the Chula Vista Bayfront Master Plan Development Area (March 2005), prepared by Ninyo & Moore (*Appendix 4.15-1*)
- Preliminary Geotechnical Investigation for the San Diego Unified Port District (February 2008), prepared by Geocon Consultants, Inc. (*Appendix 4.15-2*)
- Geotechnical Investigation for the Gaylord Hotels (January 2008), prepared by Geocon Consultants, Inc. (*Appendix 4.15-3*)
- Preliminary Geotechnical Investigation for the Pacifica Companies (February 2008), prepared by Geocon Consultants, Inc. (*Appendix 4.15-4*).

**Appendix 4.15-2 was prepared for the RCC proposed by Gaylord on Parcel H-3. Gaylord has withdrawn its proposal to develop Parcel H-3 and is no longer a participant in the project. The technical study provided in Appendix 4.15-2 is still relied upon for the program-level analysis of the proposed RCC on Parcel H-3; therefore, it remains relevant to this section's analysis and is included as an appendix.**

### 4.15.1 Existing Conditions

The following summarizes the geologic setting, site conditions, issues that would affect proposed development, and the regulatory framework pertinent to geotechnical issues affecting the project.

#### 4.15.1.1 Regional Geologic Setting

The project site is situated in the western portion of the Peninsular Ranges geomorphic province of Southern California. This geomorphic province encompasses an area that extends 125 miles, from the Transverse Ranges and the Los Angeles Basin, south to the Mexican border, and beyond another 795 miles to the tip of Baja California. The geomorphic province varies in width from 30 to 100 miles, most of which is characterized by northwest trending mountain ranges separated by sub-parallel fault zones. In general, the Peninsular Ranges are underlain by Jurassic-age metavolcanic and metasedimentary rocks and by Cretaceous-age igneous rocks of the Southern California batholith. The westernmost portion of the province in San Diego County,

including the project area, generally consists of uplifted Upper Cretaceous-, Tertiary-, and Quaternary-age sedimentary rocks.

The Peninsular Ranges are traversed by several major active faults (*Figure 4.15-1*). The Whittier–Elsinore, San Jacinto, and the San Andreas faults are major active fault systems located northeast of the site, and the Agua Blanca-Coronado Bank and San Clemente faults are active faults located to the west–southwest. The local Rose Canyon fault zone, located west of the site, has also been recognized as active by the State of California. Major tectonic activity associated with these and other faults within this regional tectonic framework is right-lateral strike-slip movement. These faults, as well as other faults in the region, have the potential for generating strong ground motions at the project site.

a. **Site Topography**

i. **Pacifica Residential and Retail Project**

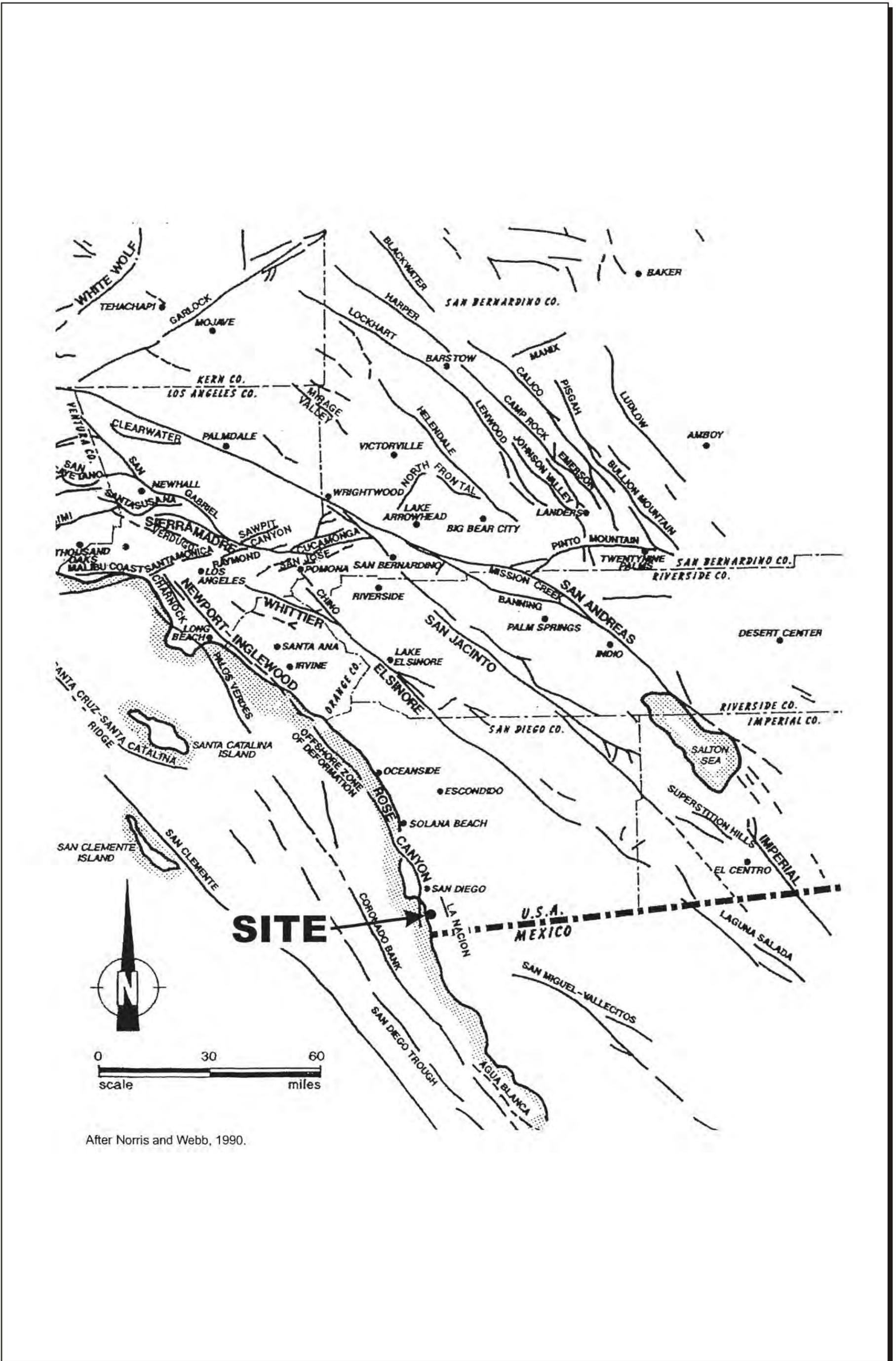
The Pacifica site consists of approximately 30 acres, bound by J Street to the south, Marina Parkway along the west, and the Goodrich Corporation to the north. A San Diego Gas and Electric transmission line extends along the eastern boundary. Current development at the site consists of former manufacturing buildings and associated pavement on the eastern parcel. The western parcel is currently vacant and bordered on the east and north by perimeter drainage ditches. The site is generally flat with elevations ranging from approximately 10 to 14 feet above mean lower low water level (MLLW) or approximately 7 to 11 feet above mean sea level (MSL).

ii. **~~Caylore~~ Resort and Convention Conference Center (RCC)**

The ~~Caylore~~ **RCC** site consists of approximately 39 acres of partially developed land. Current development at the site consists of a recreational vehicle campground in the southwest quadrant, three large, one-story industrial buildings with an associated paved parking lot in the southeast quadrant, and a paved parking/storage lot in the northeast quadrant. The northwest quadrant is currently undeveloped. This site is relatively flat with elevations ranging from approximately 10 to 14 feet above MLLW.

ii. **Phases II through IV**

Topographically, the site is relatively level with elevations across the site ranging from approximately sea level along the edge of the bay to approximately 23 feet above MSL near the northeastern corner of the property and approximately 25 feet above MSL near the center of the site south of J Street.



After Norris and Webb, 1990.

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SOURCE: GEOCON Incorporated

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Regional Fault Location Map**

**FIGURE**  
**4.15**

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## b. Site Geology

According to the geotechnical evaluations (see *Appendices 4.15-1* through *4.15-5*), the project site is underlain by four surficial soil types and one geologic formation: undocumented fill, topsoil, Bay deposits/alluvium, tidal flat deposits, and the Quaternary-age Bay Point Formation, which is underlain by the San Diego Formation. These units and their location within the project site are briefly described below and illustrated on *Figures 4.15-2a* and *4.15-2b*.

### i. All Phases

***Undocumented Fill (Qudf)***. Undocumented fill materials are scattered throughout the project site, more precisely located in the Bayside Park and marina area, the northern portions of the site west of E Street terminus, and along the eastern edge of the site north of L Street. The fill soil was placed over the previously existing bay deposits, alluvium, and tidal flats deposits as hydraulic fill or mechanically-placed fill. Fill in the Bayside Park and marina area ranges in depth from a few feet to approximately 10 feet. The majority of the fill bottoms lie within several feet above or below the water table. In addition, fill is present under structures and roads, in utility trenches, and as retaining wall backfill. Fill soil generally consists of soft to firm, sandy clay and loose to medium dense, sandy silt, clayey sand, and silty sand with scattered gravel, shell fragments, and debris. The majority of the fill at the site is compressible and is considered unsuitable in its present condition for improvements. Previously placed structural fill exists in the vicinity of Interstate 5 and Bay Boulevard, as well as other roadways and existing building pads.

***Topsoil (Unmapped)***. A thin layer of topsoil mantles the undeveloped portions of the site. The topsoil has an average thickness of approximately 2 feet and is characterized as soft to stiff and loose to medium dense, dry to damp, dark brown, sandy clay and clayey sand. The clayey portion of the topsoil is typically expansive or compressible.

***Alluvium and Tidal Flats Deposits (Qal)***. Undifferentiated alluvial and/or tidal flats deposits were encountered at various locations throughout the site south of G Street and in the vicinity of the existing and preexisting drainages including Telegraph Canyon and the Sweetwater River. The deposits are either overlain by undocumented fill or exist at the ground surface. The thicknesses of the deposits encountered during previous explorations ranged from a few feet to over 50 feet, with thicknesses increasing toward the center of the drainages. The alluvium and tidal flats deposits are characterized as soft to hard sandy clay and loose to medium dense clayey sand. The alluvium and tidal flats deposits are generally compressible under additional loads and are considered unsuitable to receive structural fill soil.

***Bay Deposits (Qb)***. Large portions of the site within the proximity of San Diego Bay are underlain by bay deposits. The bay deposits are characterized by soft, saturated, gray to black, silty clay, and clayey silt (bay mud) with interlayered lenses of loose silty sand and sandy silt.

The thickness of the bay deposits ranges from a few feet near the preexisting shoreline of San Diego Bay to greater than 50 feet in the western portions of the site. The bay mud has been estimated to comprise approximately 75 to 90 percent of the overall bay deposit thickness and represent a significant geotechnical constraint to future development. The very high compressibility and low shear strength typical of the bay mud presents special difficulties for the support of future compacted fill and structural loads. In general, the bay deposits are unsuitable in their present condition for the support of compacted fill or structural loads.

***San Diego Formation.*** The Pliocene-age San Diego Formation underlies the Bay Point Formation. This formation is described as consisting of yellow and yellow-brown, weakly cemented, silty fine-grained sandstone and gravelly sandstone.

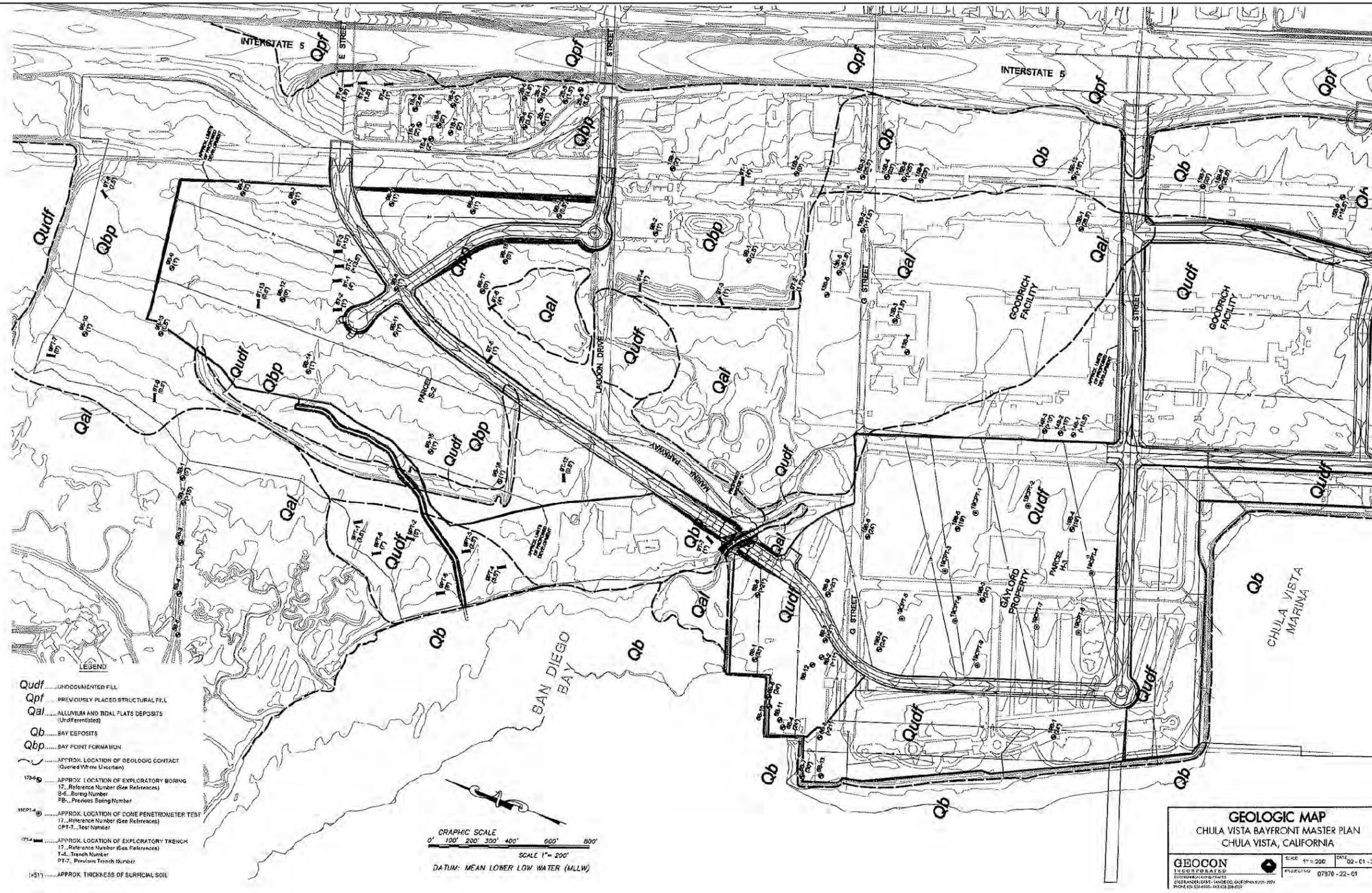
***Bay Point Formation (Qbp).*** Pleistocene-age Bay Point Formation exists near the surface or underlies the surficial soil throughout the site. The Bay Point Formation occurs at, or near, the ground surface in the northern and eastern portions of the site. The depth to the Bay Point Formation is overall highly variable, but generally increases toward the west and toward the drainage channels. Where observed, the Bay Point consisted of very stiff to hard clay, silty clay, sandy clay, and medium dense to very dense sandy silt, clayey sand, silty sand, and sand.

i. Pacifica Residential and Retail Project

The site is underlain by surficial soil consisting of undocumented fill over bay deposits. The Bay Point Formation underlies the bay deposits. The western portion of the site was originally covered by San Diego Bay and was reclaimed during dredging of the Bay. The undocumented fill in the western portion of the site was likely placed as hydraulic fill to a depth of approximately 10 feet and thins to the east where fill soil was likely placed on dry land. The undocumented fill generally consists of medium dense sands and silty sands.

The bay deposits extend to a depth of approximately 30 to 35 feet and consist of loose to medium dense sands, silty sands, and sandy silts and very soft to firm clay and silty clay. The sands are susceptible to liquefaction during an earthquake and the soft clays (bay muds) are likely susceptible to long term consolidation settlements when loaded.

The Bay Point Formation was encountered at a depth of 20 feet on the eastern side of the site and about 30 to 35 feet on the western side. The Bay Point Formation consists of medium dense to very dense sands and stiff clays. Spatial distribution of the geologic units and the depths to Bay Point Formation encountered in the borings is presented on the Geology Map and Geologic Cross-Sections for the Pacifica parcels (*Figures 4.15-3 and 4.15-4*).

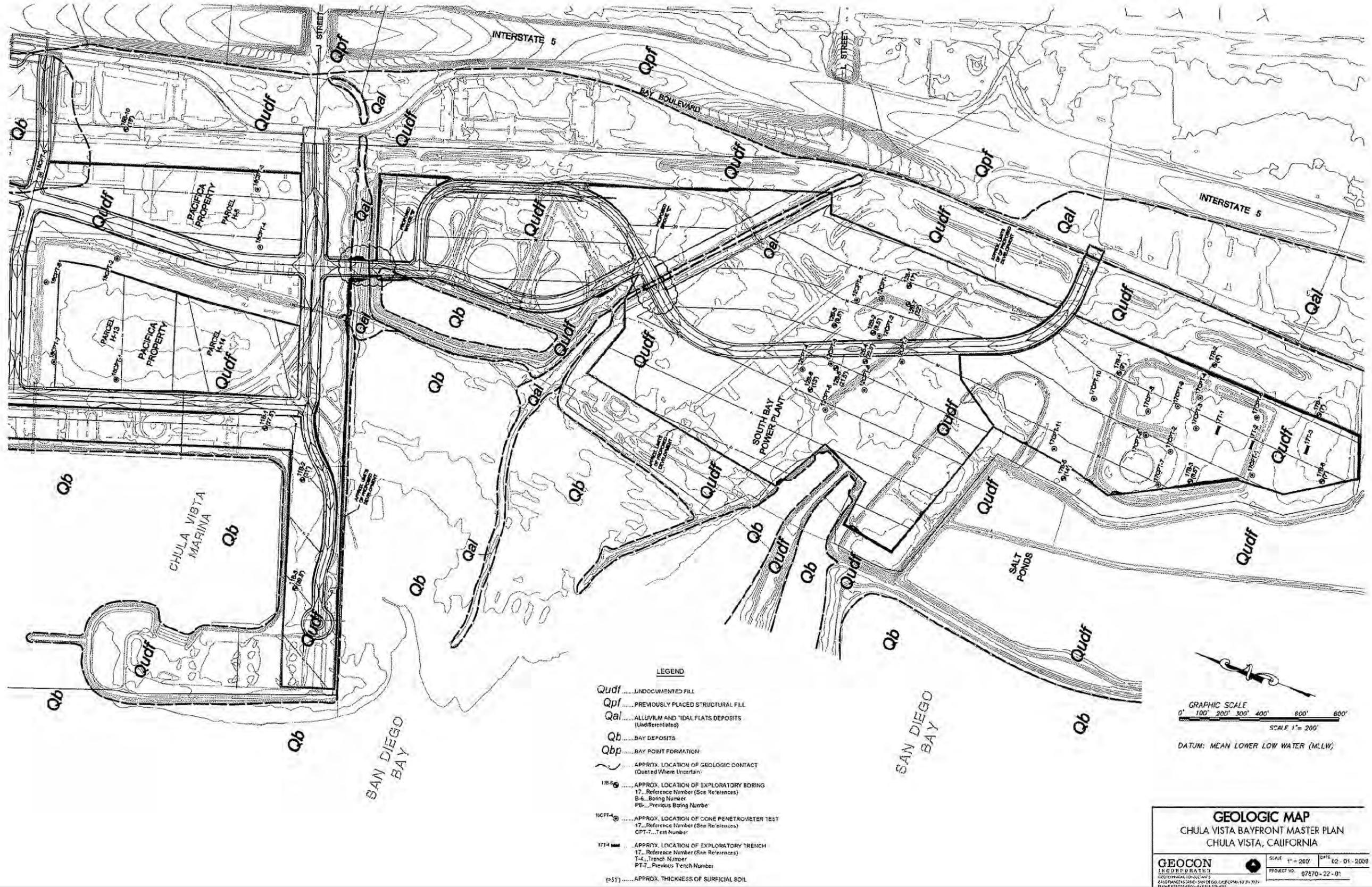


SEE FIGURE 4.15-2B

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Geologic Map for Chula Vista Bayfront (Sweetwater and Harbor Districts)

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SEE FIGURE 4.15-2A



Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Geologic Map for Chula Vista Bayfront (Harbor and Otay Districts)

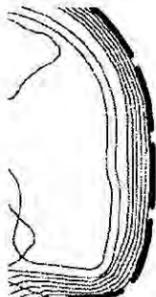
FIGURE 4.15-2B

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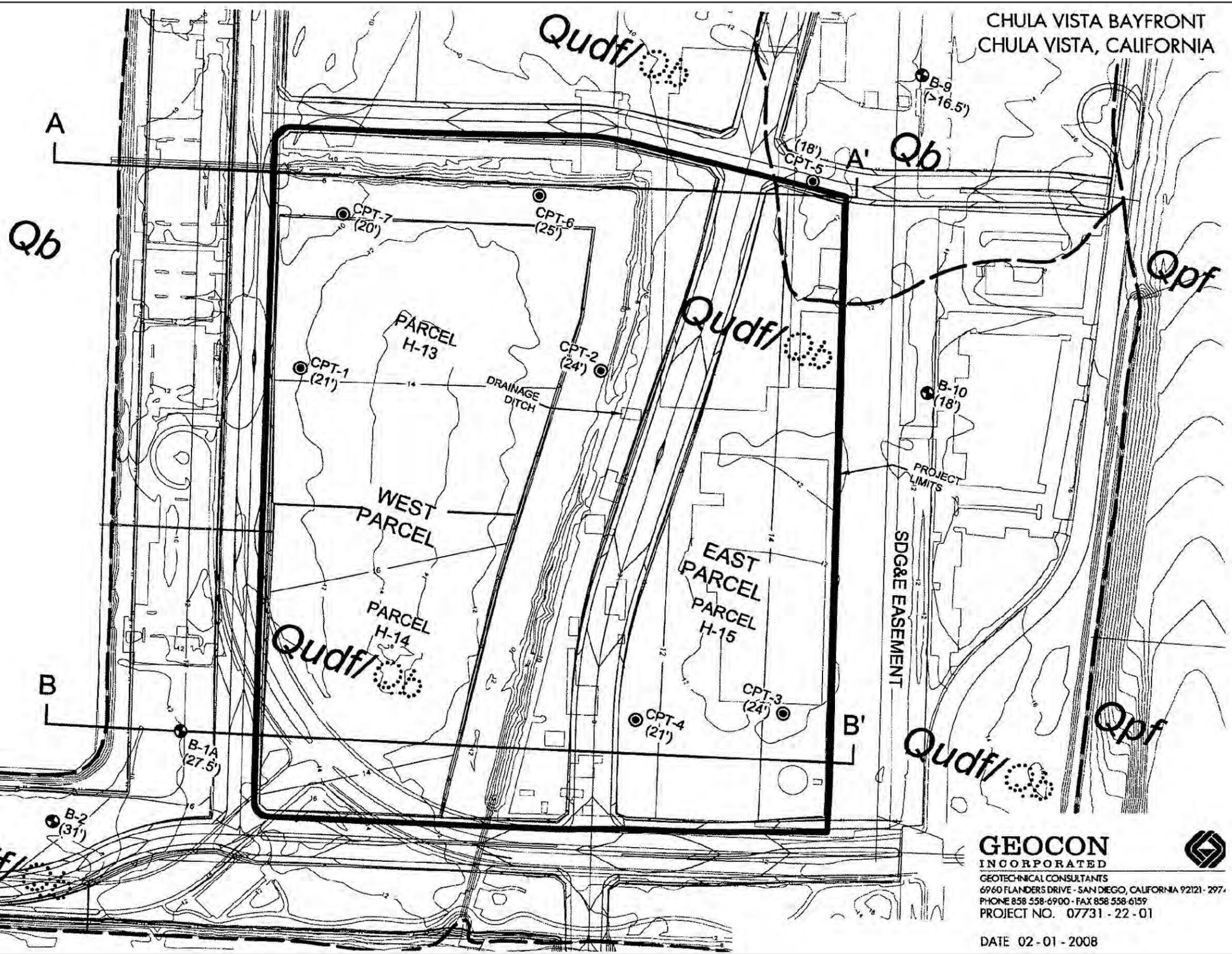
CHULA VISTA BAYFRONT  
CHULA VISTA, CALIFORNIA

LEGEND

- Qudf ..... UNDOCUMENTED FILL
- Qpf ..... PREVIOUSLY PLACED STRUCTURAL FILL
- Qb ..... BAY DEPOSITS (Dotted Where Buried)
- Qbp ..... BAY POINT FORMATION
- ..... APPROX. LOCATION OF GEOLOGIC CONTACT
- B-10 ..... APPROX. LOCATION OF PREVIOUS BORING
- CPT-7 ..... APPROX. LOCATION OF CONE PENETROMETER TEST (Current Study)
- (39.5') ..... APPROX. DEPTH TO BAY POINT FORMATION
- B B' ..... APPROX. LOCATION OF GEOLOGIC CROSS - SECTION



SCALE: 1" = 200'



**GEOCON**  
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GEOTECHNICAL CONSULTANTS  
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974  
PHONE 858 558-6900 - FAX 858 558-6159  
PROJECT NO. 07731 - 22 - 01

DATE 02 - 01 - 2008

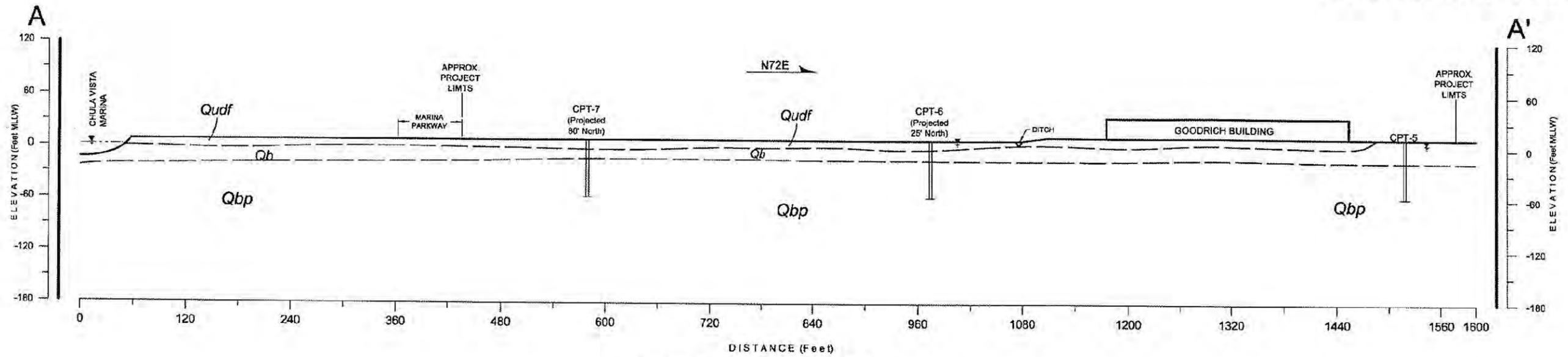
Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Geologic Map for Pacifica Parcels**

FIGURE  
4.15-3

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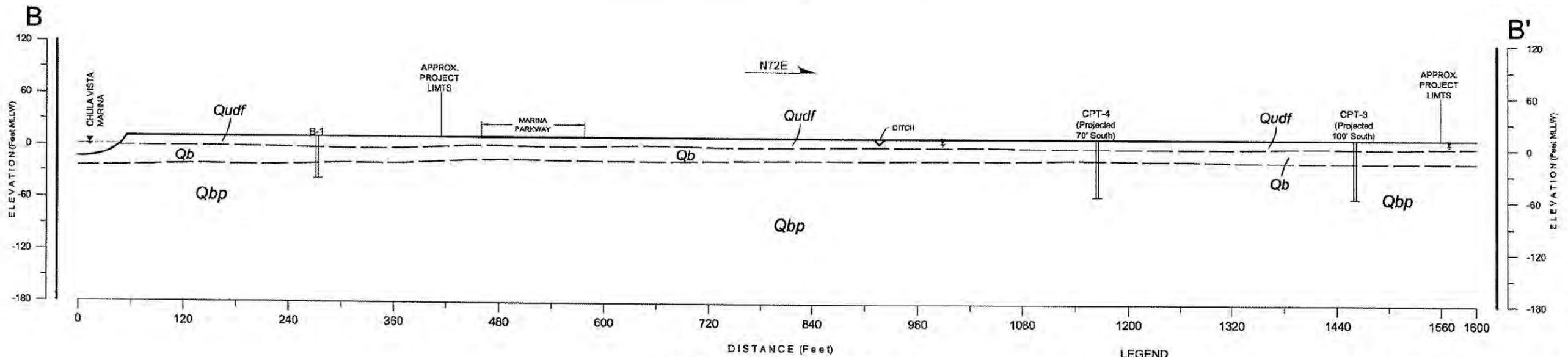
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CHULA VISTA BAYFRONT  
CHULA VISTA, CALIFORNIA



**GEOLOGIC CROSS-SECTION A-A'**

SCALE: 1" = 120' (Vert. = Horiz.)



**GEOLOGIC CROSS-SECTION B-B'**

SCALE: 1" = 120' (Vert. = Horiz.)

**LEGEND**

- Qdf* ..... UNDOCUMENTED FILL
- Qb* ..... BAY DEPOSITS
- Qbp* ..... BAYPOINT FORMATION
- ▽ ..... APPROX. LOCATION OF GROUNDWATER TABLE

**GEOCON**  
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6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974  
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PROJECT NO. 07731 - 22 - 01  
DATE 01 - 31 - 2008

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Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Geologic Cross Sections for Pacifica Parcels**

**FIGURE**  
**4.15**

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ii. ~~Gaylord~~ Resort and Convention Conference Center (RCC)

The ~~Gaylord~~ RCC site is underlain by undocumented fill soils over undifferentiated bay deposits/alluvium and Bay Point Formation. The upper sandy portions of the bay deposits/alluvium are generally loose, saturated, and susceptible to liquefaction during an earthquake. Soft bay muds within the bay deposits/alluvium could be subject to consolidation settlement where new fills or structural loading are planned.

Undocumented fill was encountered in all of the borings and CPT soundings to depths of approximately 7 to 14 feet. In general, the fill consists of loose to medium dense, moist to wet, silty sand. The undocumented fill is considered unsuitable for the support of proposed structures or structural fill and will require remedial grading.

Undifferentiated bay deposits/alluvium were encountered in all borings and CPT soundings beneath the undocumented fill to depths ranging from approximately 19 to 24 feet. The bay deposits/alluvium soils generally consisted of loose to medium dense silty sand and soft, wet to saturated, sandy silt and clay soils and are unsuitable for the support of structures or structural fill in their present condition. Sandy portions of the bay deposits/alluvium unit are liquefiable when subjected to strong ground motion. Soft muds within the bay deposits/alluvium are subject to consolidation settlement.

The Bay Point Formation was encountered in all borings and CPT sounding at depths ranging between 19 and 24 feet. The Bay Point Formation consisted of dense sand layers interbedded with stiff clay and silt layers. The dense sand portions of the Bay Point Formation are considered suitable for the support of structures. Spatial distribution of the geologic units and the depths to Bay Point Formation encountered in the borings is presented on the Geology Map and Geologic Cross-Sections for the ~~Gaylord~~ RCC parcel (*Figures 4.15-5 and 4.15-6*).

#### **4.15.1.2 Geology Issues**

A discussion regarding the potential for on-site groundwater; faulting and seismicity; ground surface rupture and strong ground motion; liquefaction and seismically induced settlement; storm surges, tsunamis, and seiches; flooding and dam failure inundation; landsliding; expansive soils; and mineral resources is presented below.

##### **a. Groundwater**

Groundwater is expected at elevations of 4 to 7 feet above MLLW, corresponding to elevations of approximately 1 to 4 feet above MSL. The difference in groundwater elevation can be attributed to tidal fluctuations within San Diego Bay and capillary rise within the fine-grained soils. Perched water should be expected in some areas. The existence of shallow groundwater

will be a factor when considering liquefaction remediation and remedial grading options, as well as design and construction of deep foundations, subterranean structures, and utilities.

i. Pacifica Residential and Retail Project Groundwater is expected at an elevation of approximately 3 feet above MSL or 6 feet above MLLW, corresponding to a depth of approximately 7 to 10 feet below the present ground surface. Perched water was encountered along the SDG&E easement at several locations and should be expected.

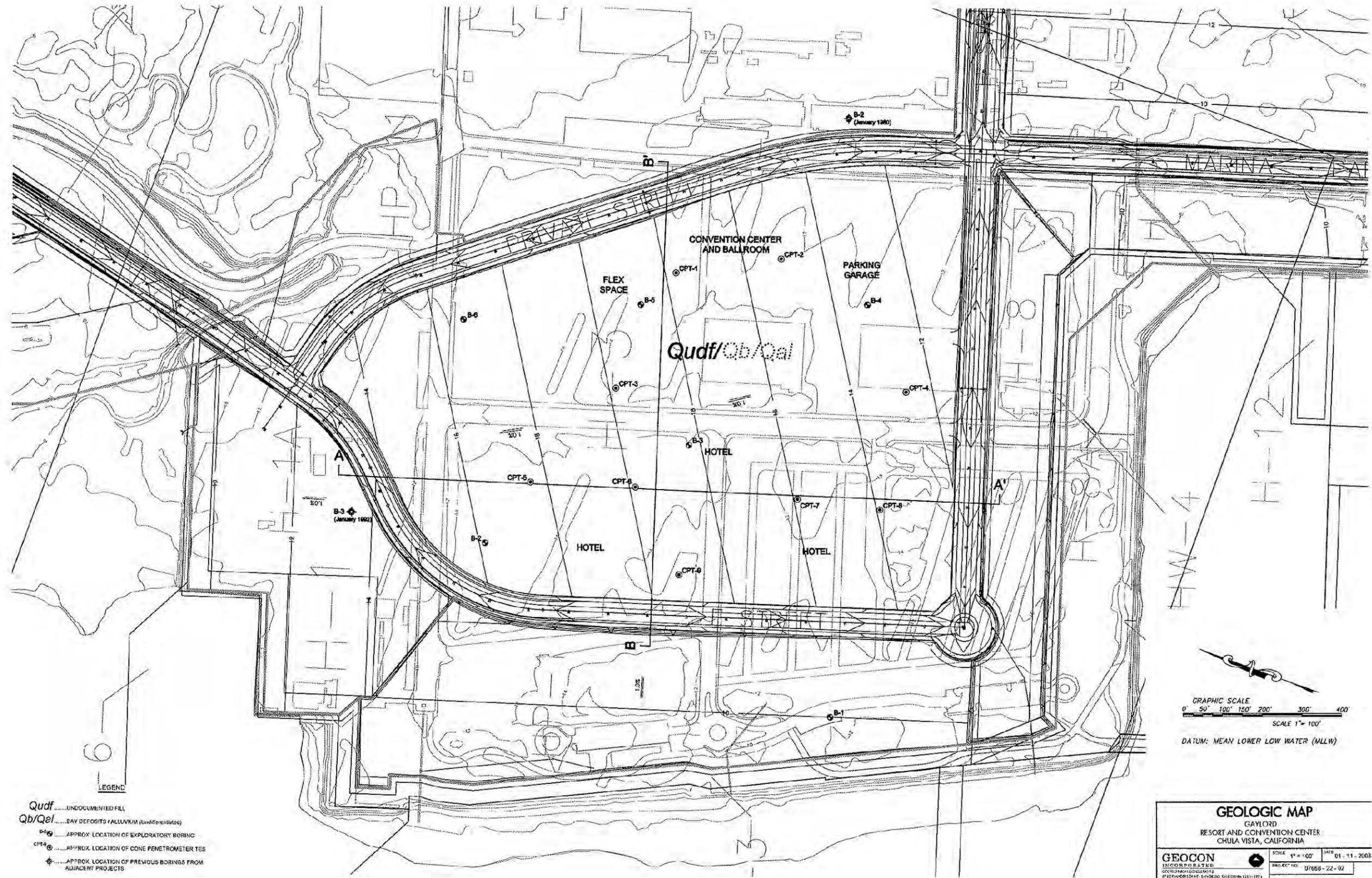
ii. ~~Gaylord Resort and Convention~~ Conference Center (RCC)

Groundwater is expected at elevations ranging from approximately 4 to 7 feet above MLLW, which corresponds to elevations of approximately 1 to 4 feet above MSL. A groundwater elevation of 6 feet above MLLW is recommended for project design. A wetted zone (capillary fringe) may extend approximately 1 to 2 feet above the groundwater elevation. Perched water should be expected in some of the project areas.

b. Faulting and Seismicity

The project area is considered to be seismically active, as is much of Southern California. As determined in the technical study, the project site is not underlain by known active or potentially active faults (i.e., faults that exhibit evidence of ground displacement in the last 11,000 years and 2,000,000 years, respectively) and the site is not within a State of California Earthquake Fault Zone (Alquist-Priolo). The Rose Canyon fault zone is the closest major fault system to the site. Strands of the Rose Canyon fault zone have been mapped within close proximity to the project site (approximately 3.3 miles west of the site). Portions of this fault zone in the Mount Soledad, Rose Canyon, and downtown San Diego areas have been designated by the State of California (California Geological Survey (CGS)) as being Earthquake Fault Zones (Alquist-Priolo). The Rose Canyon fault zone is the onshore portion of a more extensive fault zone that includes the Offshore Zone of Deformation and the Newport–Inglewood fault to the north, and several possible extensions southward, both onshore and offshore. The Rose Canyon fault zone consists of predominantly right-lateral strike-slip faults that extend south–southeast through the San Diego metropolitan area. The fault zone extends offshore at La Jolla and continues north–northwest sub-parallel to the coastline. South of downtown San Diego, the fault splits into several splays that underlie San Diego Bay west of the project site, Coronado, and the ocean floor south of Coronado.

In general, hazards associated with seismic activity include ground surface rupture, strong ground motion, liquefaction, seismically induced settlement, and tsunamis. These potential hazards are discussed in the following sections.



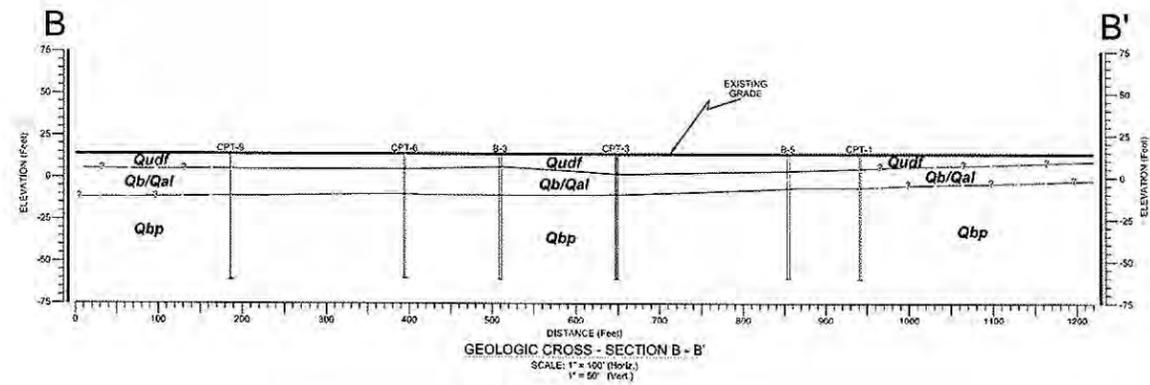
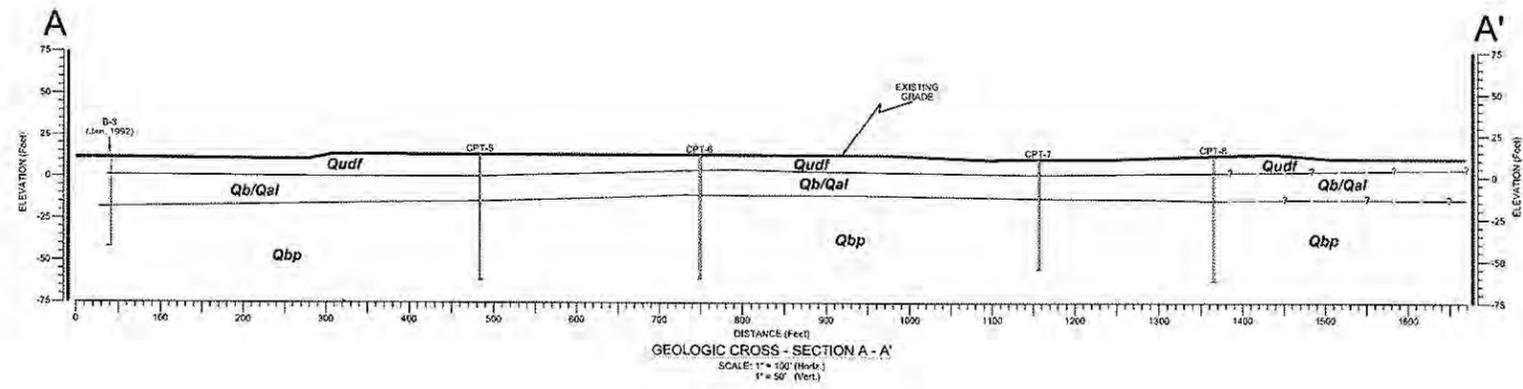
Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Geologic Map for RCC Parcel**

**FIGURE**  
**4.15-5**

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**GEOCON LEGEND**

<i>Qudf</i>	..... UNDOCUMENTED FILL
<i>Qb/Qal</i>	..... UNDIFFERENTIATED BAY DEPOSITS AND ALLUVIUM
<i>Qbp</i>	..... QUATERNARY BAY POINT FORMATION
B-3	..... APPROX. LOCATION OF BORING
CPT-6	..... APPROX. LOCATION OF CONE PENETROMETER TEST
~	..... APPROX. LOCATION OF GEOLOGIC CONTACT (Queried Where Uncertain)

<b>GEOLOGIC CROSS - SECTIONS</b>					
GAYLORD RESORT AND CONVENTION CENTER CHULA VISTA, CALIFORNIA					
<b>GEOCON</b> INCORPORATED GEOLOGICAL CONSULTANTS PROFESSIONAL OFFICE - SAN DIEGO, CALIFORNIA 92101-3974 PHONE 619-594-0700 • FAX 619-594-0157	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SCALE: 1" = 100' (HORIZ.) 1" = 50' (VERT.)</td> <td>DATE: 01 - 11 - 2002</td> </tr> <tr> <td>PROJECT NO. 07668 - 22 - 02</td> <td></td> </tr> </table>	SCALE: 1" = 100' (HORIZ.) 1" = 50' (VERT.)	DATE: 01 - 11 - 2002	PROJECT NO. 07668 - 22 - 02	
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Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Geologic Cross Sections for RCC Parcel**

**FIGURE**  
**4.15-6**

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c. **Ground Surface Rupture, Seismicity and Strong Ground Motion**

Earthquakes that might occur on the Rose Canyon Fault or other faults within the Southern California and northern Baja California area are potential generators of significant ground motion at the site. The computer program EQFAULT (Blake 2000) was utilized to approximate the distance of known faults to the site. Six known active faults are identified within a search radius of 50 miles from the site. The results of the seismicity analyses indicate that the Rose Canyon Fault is the dominant source of potential ground motion at the site. Earthquakes on the Rose Canyon Fault having a maximum magnitude of 7.2 are considered to be representative of the potential for seismic ground shaking within the property. The “maximum magnitude” is defined as the maximum earthquake that appears capable of occurring under the presently known tectonic framework (California Division of Mines and Geology Notes, Number 43). The seismic risk at the site is not considered significantly greater than that of the surrounding developments or the Chula Vista area in general.

i. **Pacifica Residential and Retail Project**

The site is not located on any active or potentially active trace faults as defined by the California Division of Mines and Geology. The site could be subject to moderate to severe ground shaking in the event of an earthquake along any of the faults in the Southern California/northern Baja California region. However, the site does not possess any greater seismic risk than that of the surrounding developments.

ii. **Gaylord Resort and Convention Conference Center (RCC)**

The site is not located on any active or potentially active fault traces as defined by the California Division of Mines and Geology. However, the site could be subject to moderate to severe ground shaking in the event of an earthquake along any of the faults in the Southern California/northern Baja California region. However, the site does not possess any greater seismic risk than that of the surrounding developments.

d. **Liquefaction and Seismically Induced Settlement**

Liquefaction typically occurs when a site is subjected to strong seismic shaking, on-site soils are cohesionless, groundwater is encountered within 50 feet of the surface, and soil relative densities are less than about 70 percent. If these criteria are met, a seismic event could result in a rapid pore-water pressure increase from the earthquake-generated ground accelerations. The majority of the site is located in areas mapped on the City of Chula Vista General Plan (2005) as being subject to hazards from liquefaction.

The geologic units most likely to be subject to liquefaction during a seismic event are hydraulic fill, alluvium, and bay deposits located below the groundwater table and consisting of sand, silty sand, and sandy silt. These materials underlie the portions of the site farther from the preexisting shoreline, within the river and stream drainages, and in areas of the previously existing bay and drainages that have been subject to filling. Estimated settlements due to liquefaction at the site have ranged from 3 to 10 inches in previous evaluations. In general, the deposits near the periphery of the original San Diego Bay shoreline and the portions of the site underlain by Bay Point Formation, alluvium and tidal flats deposits and bay deposits composed of clayey silt, silty clay, sandy gravel and gravelly sand are considered to possess a low liquefaction potential.

e. **Storm Surge, Tsunami, and Seiche**

Storm surges are large ocean waves that sweep across coastal areas where storms make landfall. Storm surges can cause inundation, severe erosion, and backwater flooding. Due to the elevation of the majority of the site over 10 feet above mean sea level and the protection from ocean waves provided by the Silver Strand, the potential for hazards associated with storm surge affecting the site is considered low.

A tsunami is a series of long period waves generated in the ocean by a sudden displacement of large volumes of water. Causes of tsunamis include underwater earthquakes, volcanic eruptions, or offshore slope failures. The first order driving force for locally generated tsunamis offshore Southern California is expected to be tectonic deformation from large earthquakes (Legg, et al. 2002). Historically, tsunami wave heights have ranged up to 3.7 feet in the San Diego area (URS 2004). The County of San Diego Hazard Mitigation Plan (2005) maps zones of high risk for tsunami run-up for coastal areas throughout the county. The site is included within one of these high-risk hazard areas. A seiche is a run-up of water within a lake or embayment triggered by fault- or landslide-induced ground displacement. The western portions of the site are located approximately 500 feet from San Diego Bay and one half mile from the Pacific Ocean at an elevation of about sea level to 10 feet above MLLW and are protected from ocean waves by the Silver Strand. Due to the elevation of the site and distance to the bodies of water, the potential impacts to the site from tsunamis is very low.

f. **Flooding and Dam Failure Inundation**

The County of San Diego Hazard Mitigation Plan (2005) maps flood hazard areas throughout the county based on the location of sites within 100-year floodplains and within coastal areas, including bays, coastal inlets, and estuaries. The majority of the site is located in an area mapped with a “moderate” risk for flooding. Proposed grades at the site are at least 10 feet above MLLW; therefore, the risk of flooding should be considered low.

According to the County of San Diego Hazard Mitigation Plan (2005), the site is located downstream from two dams considered to have relatively high hazard ratings; the Sweetwater Main Dam at the Sweetwater Reservoir and the Savage Dam at the Lower Otay Reservoir. A dam is considered high hazard if it stores more than 1,000 acre-feet of water, is higher than 150 feet tall, has a potential for downstream property damage, and potential for downstream evacuation. According to the County of San Diego, the Sweetwater and Lower Otay dams failed in 1916 causing the deaths of 22 people. The Sweetwater River channel in the northeastern portion of the site and the Otay River floodplain in the southeastern portion of the site are mapped as Dam Inundation Areas (high risk). A dam inundation area is considered high risk if it would be subject to flooding in the event of a dam failure.

g. Landsliding

As indicated in the geotechnical evaluation for the project site, no landslides exist at the site or in an area that could impact the property.

h. Expansive Soils

Expansive soils are soils that undergo volumetric change with change in water content. The soils will swell with increase in moisture content and will shrink with decrease in water content. Soils with high shrink-swell potential generally contain high percentages of certain clay minerals and can cause extensive damage to structures and improvements. The topsoil and clayey portions of the Bay Point Formation located on the project site are considered expansive soils.

i. Mineral Resources

No significant economic mineral resources have been discovered within the limits of the project site. Therefore the potential for loss of mineral deposits due to further development of the project site is considered low.

#### **4.15.1.3 Regulatory Framework**

Development projects within California are subject to the Uniform Building Code and the Alquist-Priolo Earthquake Fault Zoning Act to reduce or mitigate potential hazards from earthquakes and other geologic hazards.

a. Uniform Building Code/California Building Code

The Uniform Building Code, published by the International Conference of Building Officials in Whittier, California, forms the basis for about half the State building codes in the United States, including California's. The Uniform Building Code has been adopted by the State legislature together with additions, amendments, and repeals to address the specific building conditions and

structural requirements in California. The California Code of Regulations (CCR), Title 24, Part 2, of the California Building Code, provides minimum standards for building design. Local codes are permitted to be more restrictive than Title 24, but are required to be no less restrictive. Chapter 16 of the California Building Code deals with general design requirements, including (but not limited to) regulations governing seismically resistant construction (Chapter 16, Division IV) and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapters 18 and A33 deal with site demolition, excavations, foundations, retaining walls, and grading, including (but not limited to) requirements for seismically resistant design, foundation investigations, stable cut and fill slopes, and drainage erosion control (State of California 2001).

Among other things, the California Building Code defines different building regions in the state and ranks them according to their seismic hazard potential. There are four types of these regions: Seismic Zones 1 through 4, with Zone 1 having the least seismic potential and Zone 4 having the most seismic potential.

**b. Alquist-Priolo Earthquake Fault Zoning Act**

The purpose of the Alquist-Priolo Earthquake Fault Zoning Act of 1972 (renamed in 1994) is “to regulate development near active faults so as to mitigate the hazard of surface fault rupture.” The State Geologist (chief of the Division of Mines and Geology) is required to delineate Earthquake Fault Zones (formerly known as “Special Studies Zones”) along known active faults. Cities and counties affected by the zones must regulate certain development within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Typically, structures for human occupancy require a 50-foot setback from any known trace of an active fault.

**c. Chula Vista General Plan Policy EE 14**

Individual project development proposed on property under the City of Chula Vista’s jurisdiction is required to comply with objective EE 14 and its three associated policies (EE 14.1 through EE 14.3) contained in the adopted General Plan. Implementation of these objectives and policies reduce potential impacts associated with geological hazards and public safety. The objective and policies are:

**Objective EE 14**

Minimize the risk of injury, loss of life, and property damage associated with geologic hazards.

### Policies

- EE 14.1:** To the maximum extent practicable, protect against injury, loss of life, and major property damage through engineering analyses of potential seismic hazards, appropriate engineering design, and the stringent enforcement of all applicable regulations and standards.
- EE 14.2:** Prohibit the subdivision, grading, or development of lands subject to potential geologic hazards in the absence of adequate evidence demonstrating that such development would not be adversely affected by such hazards and would not adversely affect surrounding properties.
- EE 14.3:** Require site-specific geotechnical investigations for proposals within areas subject to potential geologic hazards and ensure that all measures deemed necessary by the City Engineer and/or Building Official to avoid or adequately mitigate such hazards will be implemented.

#### 4.15.2 Impact Significance Criteria

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on geology and public safety if it exposes people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; or strong seismic ground shaking
2. Seismic-related ground failure, including liquefaction or it is located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
3. It is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating a substantial risk to life or property
4. Tsunamis.

#### 4.15.3 Impact Analysis

Based on the impact significance criteria in *Section 4.15.2*, the following significant impacts would occur as a result of project development.

1. **The Proposed Project would have a significant impact if there were a rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; or strong seismic ground shaking.**

- a. All Phases

No active faults have been mapped or were observed within the project site, nor is the site located within a State of California Earthquake Fault Zone (Alquist-Priolo Special Studies Zone). The potential for ground rupture due to faulting at the site is considered low. However, lurching or cracking of the ground surface as a result of a nearby seismic event is possible. According to the California Building Code, San Diego County is located within Seismic Zone 4. Thus, there is potential for strong ground motions to occur at the site. Therefore, impacts associated with strong motion and surface rupture are significant and apply to all development phases (**Significant Impact 4.15-1**).

2. **The Proposed Project would have a significant impact if the site experienced seismic-related ground failure, including liquefaction, or it is located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.**

- a. All Phases

As described in the technical report, no landslides or indications of deep-seated slope instability were observed underlying the project site. In addition, the site is relatively flat. Based on this, the project site is generally not susceptible to landsliding or collapse hazards. Therefore, no significant impact is identified as it relates to on-site or off-site landslides and collapse.

Loose granular soils (i.e., fill materials and bay deposits/alluvium) underlie portions of the site combined with a relatively shallow groundwater table. The project proposes development on these areas during Phases I, II, and III. These soils have a moderate to high potential for liquefaction and settlement to occur during an earthquake and are not considered suitable for structural support. Adverse impacts associated with liquefaction include lateral spreading, ground rupture and/or sand boils, and settlement of the liquefiable layers. The potential of lateral spreading in the liquefiable soil below the groundwater table is not considered an adverse impact to the proposed development due to the relatively flat topography of the site, except for isolated locations such as the existing boat yard on G Street and the immediate vicinity of the Chula Vista Harbor. Therefore, impacts associated with liquefaction and seismically-induced settlement are significant (**Significant Impact 4.15-2**).

Because development is not proposed on loose granular soils (i.e., fill materials and bay deposits/alluvium) during Phase IV, there is no potential for impacts associated with liquefaction and induced settlement during this phase.

b. Phase I

i. Pacifica Residential and Retail Project

Groundwater could be a factor in development in liquefaction remediation, deep foundation design and construction, design and construction of subterranean parking structures, and utility installation. This is a significant impact (**Significant Impact 4.15-3**).

Based on the Geocon investigation, there are layers of loose sand within the bay deposits in the western portion of the subject site that have a potential for liquefaction which may result in seismically induced settlement. In general, these liquefiable soils are approximately 6 to 8 feet thick and are overlain by about 7 to 10 feet of non-liquefiable cover. A preliminary evaluation of liquefaction settlement indicates 2 to 3 inches of ground surface settlement may occur over portions of the site. Therefore, impacts as a result of seismically induced settlement are potentially significant (**Significant Impact 4.15-4**).

ii. ~~Gaylord~~ Resort ~~and Convention~~ Conference Center (RCC)

Based on the Geocon investigation (*Appendix 4.15-4*), there is a high potential for liquefaction to occur within scattered layers in the undocumented fill and bay deposits/alluvium below the groundwater table within a depth of 50 feet from the existing ground surface. Adverse impacts could include lateral spreading, ground rupture and/or sand boils, and settlement of the liquefiable layers. (**Significant Impact 4.15-5**).

**3. The Proposed Project would have a significant impact if it is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating a substantial risk to life or property.**

b. Phase I

i. Pacifica Residential and Retail Project

If soil with an Expansion Index (EI) greater than 90 exists within the upper 3 to 5 feet of finish grade, distress to structures, pavement, and improvements can occur. Based on laboratory tests within the area, the majority of on-site material is expected to have an EI of 90 or less. (*Appendix 4.15-5*). Expansive soil is therefore not expected to pose a geologic hazard at the site. Once final grades are achieved, additional testing for expansion potential may be performed.

ii. ~~Gaylord~~ Resort and Convention Conference Center (RCC)

As part of the Geocon investigation, laboratory tests were performed and soil samples tested to determine expansion potential, among other things. According to the laboratory tests and boring logs summarized in Appendix B to the Geocon report (*Appendix 4.15-4*), a majority of the on-site materials possess a “very low” to “low” expansion potential (expansion index of 90 or less) as defined by 2007 California Building Code Section 1802.3.2. Impacts would therefore be less than significant.

b. Phases II through IV

A detailed analysis has not been conducted, but no development is proposed on Bay deposits or alluvium during Phases II through IV. Therefore, no significant impacts would result.

**4. The Proposed Project would have a significant impact if there is the potential for tsunamis.**

a. All Phases

The site is protected from the open ocean by intervening land features (Coronado and Silver Strand) which would provide some protection from direct wave action in the event of a tsunami. Historically, the instances of damage from tsunamis in this area of Southern California are rare; therefore, impacts associated with tsunamis are not significant for all phases of development.

**4.15.4 Mitigation Measures**

The mitigation measures for the identified significant seismic/geologic impacts associated with the Proposed Project are provided below.

**Mitigation Measure 4.15-1**

Implementation of the following measures is required for each individual development project proposed during all phases of the Proposed Project. The following mitigation measures would reduce impacts associated with strong motion and surface rupture, settlement, and expansive soils during all phases to a less than significant level: Mitigation Measure 4.15-1 would mitigate **Significant Impacts 4.15-1** through **4.15-5**.

**Port/City:** 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:

- 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.

#### **Mitigation Measure 4.15-2**

Implementation of the following measures is required for each individual development project proposed during all phases under the Proposed Project. The following mitigation measures would reduce impacts associated with liquefaction, lateral spreading, consolidation and settlement during all phases to a less than significant level: Mitigation Measure 4.15-2 would mitigate **Significant Impact 4.15-2**.

**Port/City:** 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.

#### **Mitigation Measure 4.15-3**

Implementation of the following measure is required for the Pacifica development project proposed during Phases I and II under the Proposed Project. The following mitigation measure would reduce impacts associated with liquefaction, lateral spreading, consolidation and

settlement to a less than significant level: Mitigation Measure 4.15-3 would mitigate **Significant Impacts 4.15-3** and **4.15-4**.

**Port/City:** 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 (*Appendix 4.15-5*, Geocon Preliminary Geotechnical Investigation prepared for Pacifica Companies (February 2008), Sections 7 and 8 Conclusions and Preliminary Recommendations) 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 foundations, subterranean structures, concrete slabs-on-grade, concrete flatwork, retaining walls and lateral loads, pavement, and drainage and maintenance.

#### **Mitigation Measure 4.15-4**

Implementation of the following measures is required for the ~~Gaylord~~ **RCC** development project proposed during Phase I of the Proposed Project. The following mitigation measures would reduce impacts associated with liquefaction, lateral spreading, consolidation and settlement to a less than significant level: Mitigation Measure 4.15-4 would mitigate **Significant Impact 4.15-5**.

**Port/City:** Prior to the grading of parcels for the ~~Gaylord~~ **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 (*Appendix 4.15-4*, 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.

#### **4.15.5 Significance of Impacts After Mitigation**

Implementation of Mitigation Measures 4.15-1 through 4.15-4, identified above, would reduce each of the **Significant Impacts 4.15-1** through **4.15-5**, associated with seismic strong ground motion and surface rupture, soils, liquefaction and seismically induced settlement, and geologic hazards, to below a level of significance.

## 4.16 Energy

This section analyzes the potential impacts of the Proposed Project on energy consumption and identifies the existing distribution system for electricity and natural gas in the project area. This section also estimates energy consumption for the Proposed Project and describes service delivery effects of projected demands. Existing plans and policies relevant to electricity and natural gas are provided. This section addresses Appendix F of the CEQA Guidelines, which requires that Environmental Impact Reports include a discussion of the potential energy impacts of proposed projects, with particular emphasis on measures to avoid or reduce the inefficient, wasteful, or unnecessary consumption of energy. In addition to the traditional analysis of operational demands on electricity and natural gas supply, this section also includes an analysis of energy consumption due to the gasoline use from vehicle trips during construction and operation. Information for this analysis was obtained from the California Energy Commission (CEC) Integrated Energy Policy Report, Chula Vista General Plan, the Port Master Plan (PMP), and San Diego Gas & Electric (SDG&E).

### 4.16.1 Existing Conditions

#### 4.16.1.1 *Energy and Land Use*

Experts expect California's population to grow by 20 million people between 2000 and 2050. This growth will severely tax already constrained energy resources and the associated infrastructure and challenge the State's ability to provide the energy that new communities, homes, schools, industry, and other workplaces will require. This rapidly advancing scenario highlights the important relationship between land use decisions and energy consumption.

The burden that a rapidly increasing population will place on energy supply and infrastructure suggests a need for a fundamental shift in approaches to land use and development. The State needs to investigate approaches that go beyond decreasing transportation fuel use and relieving congestion to approaches that can serve as a nexus for developing distributed renewable generation and efficient transportation in communities to help California meet its statewide energy and climate change goals.

One of the single best ways to meet those goals resides with "smart growth." Smart growth refers to the application of specific development principles to make prudent use of resources and create genial, low-impact communities through enlightened design and layout. In general, there is a lack of energy consideration on the part of land use decision-making authorities and developers in their planning processes. Although some exceptions exist, most energy considerations of current land use planning practices relate exclusively to transportation issues: reducing the number of vehicle miles traveled (VMT), thus reducing fuel consumption, air pollution, and roadway congestion. Specifically, planners tend to focus on increasing density, changing zoning

to allow for mixed-use development, and building near transit stations to achieve these aims. The host of related support services and infrastructure (fueling stations, transmission lines, power plants, and pipelines) and the potential for distributed renewable generation and energy efficient design are rarely considered in planning uses for land parcels.

#### ***4.16.1.2 Regional Energy Supplies***

Senate Bill 1389 requires the California Energy Commission (CEC) to conduct “assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices.” The CEC reports the results of these assessments and forecasts every 2 years to the Governor, the Legislature, and the California public in the Integrated Energy Policy Report. In the alternative years, the CEC prepares the Integrated Energy Policy Report Update to discuss the status of energy issues identified in the previous Integrated Energy Policy Report and to identify energy issues that may have emerged since that report was completed.

#### ***4.16.1.3 Electricity***

SDG&E is the owner and operator of electricity transmission, distribution, and natural gas distribution infrastructure in San Diego County. Power generation and power use are not linked geographically. In other words, power generated within Chula Vista is not dedicated to users in Chula Vista. Electricity generated is fed into the statewide grid and is generally available to any users statewide.

The local power plants in San Diego County include the South Bay Power Plant. (SBPP, Dynegy), the Encina Power Plant (Cabrillo Power), San Onofre Nuclear Generation Station (SCE), and Palomar Energy Power Plant (SDG&E). The one major power plant in the City is in the Port’s jurisdiction and is the SBPP, located on the project site in the Otay District. There are also two cogeneration facilities in or near the City and a number of smaller generating plants in San Diego County that are used as backup during times of peak power demand. One of the cogeneration facilities is located at the Goodrich site located off site just north of the Harbor District, and a substation (transformer voltage–transmission kV/distribution k/V) is also located on the project site at the SDG&E switchyard in the Otay District.

#### ***4.16.1.4 Natural Gas***

Natural gas imported into Southern California originates from any of a series of major supply basins located from Canada to Texas. Although the San Diego region has access to all of these basins by interstate pipeline, the final delivery into the SDG&E system is dependent on just one Southern California Gas Company (SoCalGas) pipeline. Several Liquefied Natural Gas (LNG) plants are proposed in Mexico, which would provide an additional source of natural gas to Southern California.

#### 4.16.1.5 Energy Use

The Chula Vista General Plan Update indicates that the adopted General Plan will create a demand of 1,212 million kilowatt-hours (kWh) of electricity and 65.5 million therms (thm) of natural gas (not including the gas consumed by the SBPP). SDG&E has indicated that without an increased import capacity of at least 500 megawatts (MW) there would be a long-term grid reliability deficiency (Brown 2004). As population increases, demand for energy also increases. The SBPP is the largest consumer of natural gas in the City. The current facility has a maximum fuel gas demand of 177 standard cubic feet per day. The General Plan Update indicated that the SBPP represented approximately two-thirds of the natural gas used in the City.

Commercial uses along the marina, the RV Park, and the existing South Bay Boatyard are the primary consumers of electricity on the project site. Energy use is discussed in two main sections: fixed uses (homes and businesses) and mobile uses (primarily cars and trucks).

##### a. Fixed Uses

Electricity consumption in the San Diego region varies greatly by sector (residential, commercial, industrial, and agriculture). In 1999, the City of Chula Vista consumed about 700 million kWh or \$62 million of electricity (City of Chula Vista 2001:45). As was the case for the San Diego region, the largest electricity consumers in Chula Vista are commercial uses, followed by residential, industrial, and agricultural. The average monthly electricity used by a typical customer in the State of California is presented in *Table 4.16-1*.

**TABLE 4.16-1**  
**Monthly Electricity Used by a Typical Customer (State)**

	Residential	Commercial	Industrial	Agricultural
Usage kWh	500	23,103	735,305	5,093

SOURCE: California Energy Commission 2002 to 2012, Electricity Outlook Report.

SDG&E recommended using the Electricity Usage Rate Table A9-11-A, set forth in the 2003 South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, to determine annual electricity consumption. The annual electricity usage rates for land use types are listed in *Table 4.16-2*.

**TABLE 4.16-2  
Electricity Usage Rate**

Land Use Type	Unit Type	Usage Rate A (Average Annual Usage for Southern California Edison and Los Angeles Department Of Water and Power)
Residential	Kilowatt-hour/unit/year	5,626.50
Retail	Kilowatt-hour/square feet/year	13.55
Office	Kilowatt-hour/square feet/year	12.95
Hotel/Motel	Kilowatt-hour/square feet/year	9.95
Restaurant	Kilowatt-hour/square feet/year	47.45

*Table 4.16-3* summarizes the existing land uses for major tenants within the Chula Vista Bayfront Master Plan Area and the square footages associated with each of the identified uses. Based upon the annual electricity usage rates listed in *Table 4.16-2* above, the electricity usage estimated for existing land uses in the Chula Vista Bayfront Master Plan area are outlined below.

**TABLE 4.16-3  
Chula Vista Bayfront Master Plan  
Existing Land Uses and Square Footages**

Tenant	Land Use	Square Footage	Land Use/Multiplier Used	Estimated Annual Electricity Usage (kWh)
South Bay Boatyard (The Marine Group)	Interior warehouse space, including portion of warehouse converted to offices	37,569	Office (9.95)	373,812
Chula Vista RV Resort	Retail	9,845	Retail (13.55)	133,400
	Restroom	800	Retail (13.55)	10,840
	236 RV spaces with hookups	236 RV spaces	Hotel/Motel (9.95)*	587,050
Chula Vista Marina	General marina store	1,345		
	Restaurant (S Bay Fish & Grill)	7,500	Restaurant (47.45)	355,875
	Restaurant (Gallery at the Marina)	2,015	Restaurant (47.45)	95,612
	Coffee shop	906	Restaurant (47.45)	48,990
	Craft/novelty store	200	Retail (13.55)	2,710
	Yacht sales	550	Retail (13.55)	7,453
CA Yacht Marina	Yacht club	4,255		
	Charter office	320	Office (12.95)	4,144

\*RV square footage is assumed to be 250 square feet per space, multiplied by 236 RV spaces.

In 1999, about 150 million therms, or \$24 million of natural gas, were consumed in Chula Vista, approximately two-thirds of which was attributable to the SBPP (City of Chula Vista 2001).

Natural gas consumption by sector varies somewhat each year. Power plants account for the highest percentage of natural gas consumption in the San Diego region. Residential consumption of natural gas is the second highest percentage, followed by cogeneration, commercial consumption, industrial consumption, and natural gas vehicles.

SDG&E has been implementing electrical energy efficiency programs as part of its Long-Term Resource Plan, reducing energy needs by about approximately 10 percent. According to SDG&E's Long-Term Resource Plan, SDG&E estimates it will reduce its energy requirements by an additional 9 percent by 2014, after implementing new cost-effective energy efficiency programs (SDG&E 2004). Renewable resources are planned to provide 20 percent of SDG&E's energy needs in 2010, increasing to 24 percent by 2014 (SDG&E 2004). After accounting for the substantial reduction in energy use resulting from instated efficiency programs, remaining average-year annual energy needs are expected to be substantially met by existing SDG&E resources, California Department of Water Resources (CDWR) contract allocations, and renewable purchases through 2010. In a high demand year (e.g., during sustained hot weather), the additional energy will come from additional purchases from the market and from local generation added primarily for grid reliability.

SDG&E anticipates the need for additional energy resources and fuel diversity after the allocated CDWR contracts begin to expire in 2008 and beyond. By 2011, approximately 25 percent of average-year energy will come from resource addition, including additional renewable purchases, on- and off-system generation, and purchases for the market, facilitated by the additional import capability provided by the added transmission interconnection (SDG&E 2004).

As for energy capacity, cost-effective energy efficiency and response resources are estimated to meet 10 percent of San Diego's total capacity need in year 2014. By providing 20 percent of SDG&E's retail energy needs in 2010, renewable resources are estimated to meet roughly 10 percent of San Diego's total capacity need in that year and 11 percent in 2014 (SDG&E 2004).

#### b. Mobile Uses

Because of California's size and its dependence on the automobile, approximately 51 percent of all energy in the state is used by the transportation sector. California has nearly 28 million vehicles that consume more than 16 billion gallons of gasoline and nearly 3 billion gallons of diesel each year. (California Energy Commission, Fuels and Transportation Division, <http://www.energy.ca.gov/transportation/index.html>, accessed May 16, 2007). In addition, almost all of the fuel California uses for transportation is made from petroleum. Gasoline and diesel fuel account for about 99.75 percent of California's transportation fuels. California is the

second largest consumer of gasoline in the world behind the entire United States and just ahead of Japan.

The state's dependence on petroleum fuels is escalating with the demand for petroleum fuels in the residential and commercial sectors. California's refineries cannot keep up with the mounting need for petroleum fuels and consequently depend on increasing levels of imports to meet the state's needs. Because it is dependent on imports, California is vulnerable to supply disruptions and price increases.

As California makes plans to accommodate growth into the future, smart growth is proving to have potential as a powerful, innovative, and largely untapped tool, much as Title 24 has been an extremely effective tool in reducing energy demands of residential and nonresidential buildings. By including energy demand, supply, and infrastructure as central factors in the land use planning equation, the state and local governments can make intelligent use of all resources and meet energy-related goals. State and local governments need to investigate approaches that go beyond decreasing transportation fuel use and relieving congestion to approaches that can serve as a nexus for developing distributed renewable generation and efficient transportation in communities to help California meet its statewide energy and climate change goals.

The primary mobile use of energy is motorized vehicle travel. *Table 4.16-4* presents the 24-hour total vehicle miles of travel on a typical weekday. There were approximately 353.6 miles of roads in the City of Chula Vista in 2000. As *Table 4.16-4* shows, approximately 3,223,000 miles were traveled on a typical weekday in the City in 2000. According to the U.S. Department of Energy's Energy Information Administration, the average fuel consumption for all motorized vehicles including passenger cars, vans, pickup trucks, sport utility vehicles, trucks, motorcycles, and buses was approximately 17 miles per gallon in 2000 (U.S. Department of Energy 2005). Using this average, motorized vehicles in Chula Vista consumed approximately 190,000 gallons daily in 2000.

**TABLE 4.16-4**  
**Population Travel and Fuel Use 1995–2030, City of Chula Vista**

Year	1995	2000	2010	2020	2030
Population	149,791	174,319	244,332	269,529	282,664
Per Person VMT	18.49	18.49	18.49	18.49	18.49
Per Day VMT	2,769,000	3,223,000	4,517,000	4,984,000	5,226,000
Daily Gallons Used	163,000	190,000	266,000	293,000	307,000

SOURCE: SANDAG 2001; VMT = vehicle miles of travel.

Table 4.16-4 above also presents the estimated vehicle fuel consumption in Chula Vista from 1995 to 2030, as calculated by the San Diego Association of Governments (SANDAG). Projected daily vehicle miles of travel for 1995, 2010, 2020, and 2030 are based on 2000 VMT. This mileage rate was then applied to population figures provided by SANDAG to calculate VMT in other years. An estimate for the amount of vehicle fuel used per day was calculated by dividing the daily VMT by the estimated fuel consumption rate of 17 miles per gallon.

#### **4.16.1.6 Regulatory Framework**

##### **a. Federal**

The Federal Energy Regulatory Commission regulates the transmission and sale of electricity and interstate commerce, licensing of hydroelectric projects, and oversight of related environmental matters.

##### **b. State**

The California Public Utilities Commission (CPUC) sets forth specific rules that relate to the design, installation, and management of California's public utilities, including electric, natural gas, water and transportation, and telecommunications. CPUC Decisions #77187 and #78500 state that utilities must be underground if the developable lots are less than 3 acres in size. CPUC Decision #81620 states that lots over 3 acres (large lot subdivisions) are not required to underground utilities. A formal waiver from the CPUC is required for an exemption from complying with these decisions.

CPUC Decision 95-08-038 governs the planning and construction of new transmission facilities, distribution facilities, and substations. The decision requires permits for the construction of certain power line facilities or substations if the voltages would exceed 50 kilovolts or the substation would require the acquisition of land or an increase in voltage rating above 50 kilovolts. Distribution lines and substations with voltages less than 50 kilovolts do not need to comply with the decision; however, the utility must obtain any applicable local permits required for the construction and operation of these projects.

##### **i. Title 20 and Title 24, California Code of Regulations**

New buildings constructed in California must comply with the standards contained in Title 20, Energy Building Regulations, and Title 24, Energy Conservation Standards, of the California Code of Regulations (CCR). Title 20 contains standards ranging from power plant procedures and siting to energy efficiency standards for appliances to ensuring reliable energy sources are provided and diversified through energy efficiency and renewable energy resources. Title 24 contains energy efficiency standards for residential and nonresidential buildings based on a state

mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs.

The Energy Commission adopted the 2005 changes to the Building and Energy Efficiency Standards to address California's energy crisis and reduce energy bills, increase energy delivery system reliability, and contribute to an improved economic condition for the state. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current standards went into effect on October 1, 2005.

ii. Warren-Alquist Energy Resources Conservation and Development Act

The State Energy Commission regulates energy resources by encouraging and coordinating research into energy supply and demand problems to reduce the rate of growth of energy consumption (Warren-Alquist Energy Resources Conservation and Development Act Government Code Section 25000 *et seq.*).

iii. CEQA Guidelines, Appendix F

Appendix F of the CEQA Guidelines contains energy conservation measures that promote the efficient use of energy for projects (CEQA Guidelines). In order to ensure that energy impacts are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The analysis in this section considers the expected energy use of the Proposed Project, as well as measures that will help to reduce energy consumption at both a project and program level.

The goal outlined in Appendix F of the CEQA Guidelines is to conserve energy through the wise and efficient use of energy. The means of achieving this goal include the following:

- Decreasing the overall per capita energy consumption
- Decreasing reliance on natural gas and oil
- Increasing reliance on renewable energy sources.

iv. State of California, Flex Your Power Campaign

The State's intent to reduce energy consumption is also reflected in the established Flex Your Power Campaign. Flex Your Power aims to partner Californians across the state to maximize energy conservation and efficiency. The goal is to get local governments and elected officials to implement innovative energy conservation and efficiency measures in facilities throughout

communities. Flex Your Power distributes information packets with the latest initiatives (from targeted rebate programs to community assistance planning) and an initial Local Area Workplan to educate the community on how to get their local government involved and encourage their government to take advantage of these programs.

Flex Your Power collaborates with local businesses and community groups to get local business leaders and building owners to sign an Energy Conservation Declaration Action, thereby committing to follow measures that will help “achieve collectively an overall 20 percent reduction in energy use as compared to the same period last summer.” Some of the activities outlined in the declaration include setting building temperatures no cooler than 78 degrees during the months of May through October, reducing lighting levels by 25 percent, closing blinds and shades where windows contribute to indoor temperature increases, and turning off and unplugging all appliances in commercial and residential buildings. Businesses can also benchmark buildings using the Energy Star rating system, which calculates energy use in a building or a group of buildings, providing a tool with which to measure the impact of energy efficiency improvements. This can provide a way to compare energy use in buildings of similar size, shape, location, and operating characteristics. The results (a number on a scale of 1 to 100) determine which buildings will benefit most from energy efficiency upgrades. By increasing energy efficiency in buildings, local governments can save energy immediately.

#### c. Local

San Diego Gas and Electric (SDG&E) owns, operates, and maintains the pipes, wires, and appurtenances needed to transport natural gas, and transit and distribute electricity to Chula Vista and the San Diego region to all residential, commercial, industrial, and institutional facilities.

In ~~1994~~2003, SANDAG adopted the Updated San Diego Regional Energy Plan which provides policy and program recommendations to achieve energy sustainability and security. As a result, the San Diego Regional Energy Office (SDREO) was formed and provides a regional focus for several public-good energy program areas, including energy efficiency, renewable energy, coordinating energy issues with regional land use planning, clean fuel vehicles and infrastructure development, and energy information, education, and outreach. These programs are accomplished in conjunction with several state and federal energy programs, including statewide CPUC Energy Efficiency Programs, Department of Energy (DOE) Rebuild America, DOE Million Solar Roofs Initiative, EPA Climate Wise, and the CEC’s Renewable Energy and Public Interest Energy Research Programs.

Chula Vista has adopted an energy plan to address the City’s long-term energy issues and to protect its residents from unreliable energy supply and volatile prices. The plan, called the Chula Vista Energy Strategy and Action Plan, addresses demand-side management, energy efficient and renewable energy outreach programs for businesses and residents, energy acquisition, power

generation, and distributed energy resources and legislative actions (City of Chula Vista, February 23, 2001). There are also a number of other plans, projects, and actions that have been developed by the City of Chula Vista to help reduce energy use and costs for the City and the community, including the CO2 Reduction Plan. The CO2 Reduction Plan focuses on reducing fossil fuel consumption and decreasing reliance on power generated by fossil fuels.

The City of Chula Vista also has included many Policies and Objectives in their updated General Plan (Public Facilities and Services Element and Environmental Element). Those relevant policies are as follows:

### Objective

- E 7** Promote energy conservation through the efficient use of energy and through the development of local, non-fossil fuel-based renewable sources of energy.

### Policies

- Policy E 7.1** Promote development of regulations and building design standards that maximize energy efficiency through appropriate site and building design and through the use of energy-efficient materials, equipment, and appliances.
- Policy E 7.4** Pursue and encourage the expansion of local energy conservation, energy efficiency, and relative incentive programs.
- Policy E 7.6** Encourage the construction and operation of green buildings, considering such programs as the Leadership in Energy and Environmental Design (LEED) TM Green Building Rating System.
- Policy E 7.7** Support tree planting programs that will be implemented to reduce energy needs.

### 4.16.2 Impact Significance Criteria

According to the Chula Vista General Plan EIR threshold, the Proposed Project would result in a significant impact on energy if it would:

1. Increase the demand of energy resources to exceed the City's available supply or cause a need for new and expanded facilities.
2. Result in the wasteful, inefficient, or unnecessary use of energy.

### 4.16.3 Impact Analysis

**Method of Analysis.** To determine whether implementation of the Proposed Project would result in impacts on electricity, natural gas, and gasoline supplies, the projected increase in energy demand for each utility was analyzed and calculated using a per-square foot or per-dwelling unit (du) consumption rate. For electricity, the estimated consumption rate or electricity demand was estimated based on the proposed land uses for each project in Phase I. For natural gas, the demand factors were taken from similar estimated consumption rates. For transportation energy, the estimated VMT was used to calculate the project's demand for gasoline.

**1. The Proposed Project would have a significant impact on energy if it would increase the demand for energy to exceed the available supply or would cause the need for the construction of new or expanded facilities.**

**a. Project and Program Level**

Implementation of the proposed land uses identified in the Proposed Project has the potential to result in impacts to energy supply as a result of anticipated growth. Direct impacts would occur if, as a result of plan implementation, a substantial energy resource is reduced or eliminated, or if future demand outstrips available supply. The California Independent Systems Operation requires that SDG&E have sufficient on-system resources and import capability to serve the full adverse peak summer demand forecast when the largest generator and a single transmission circuit are out of service. To address long-term energy needs, SDG&E has filed a resource plan with the California Public Utilities Commission (CPUC), which proposes a mix of conservation, demand response, generation, and transmission to provide reliable energy for the next 20 years ([http://www.sdenenergy.org/uploads/7-9-04SDG&E\\_LTRP.pdf](http://www.sdenenergy.org/uploads/7-9-04SDG&E_LTRP.pdf)).

The project would implement the energy policies in the City of Chula Vista General Plan that seek to reduce energy consumption by optimizing traffic flow, directing higher density housing within walking distance of transit facilities, promoting use of alternatives to vehicular travel, and generally reducing vehicle trip length through improved community design. Currently, there are only limited uses of electricity within the project site. This electricity consumption represents a substantial increase in use over the existing use on the project site. In light of SDG&E's Long-Term Resource Plan, this demand would not result in a direct need for new or expanded facilities. SDG&E assumes an annual average growth rate of 2 percent with respect to system peak load (Katsapis 2004), with the actual timing and quantity of resources to be procured based on near term circumstances (McClenahan 2004). SDG&E has indicated that without an increased import capacity of at least 500 MW there would be a long-term cumulative grid reliability deficiency (Brown 2004). This is discussed in *Chapter 6, Cumulative Impacts*.

Tables 4.16-5 and 4.16-6 identify the projected electricity demands for the Phase I ~~Gaylord~~ RCC and Pacifica projects, respectively.

**TABLE 4.16-5**  
**~~Gaylord~~ Resort and Conference Center Electricity Usage Rates**

Electricity Usage Rate*				
Land Use	1,000 Sq. Ft.	(kWh/sq. ft. yr)	(kWh/year)	MWh/year
Office	400.0	12.95	5,180,000	5180.00
Retail	20.0	13.55	271,000	271.00
Hotel/Motel	1000.0	9.95	9,950,000	9950.00
Restaurant	100.0	47.45	4,745,000	4745.00
<b>Total Project</b>			<b>20,146,000</b>	<b>20,146.00</b>

\*Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

**TABLE 4.16-6**  
**Pacifica Residential and Retail Electricity Usage Rates**

Usage Rate*				
Land Use	1,000 Sq. Ft.	(kWh/sq. ft. yr)	(kWh/year)	MWh/year
Retail	15.0	13.55	203,250	203.25
Residential (DU)	1500.0	5,914	8,871,000	8871.00
<b>Total Project</b>			<b>9,074,250</b>	<b>9,074.25</b>

\*Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

Currently, there are only limited uses of electricity within the project site. Commercial uses along the marina, the RV Park, and the existing South Bay Boatyard are the main consumers of electricity on the project site. When the Proposed Project is considered in light of the existing condition, the increase in energy demand would be substantial.

Tables 4.16-7 and 4.16-8 identify the projected natural gas demands for the Phase I ~~Gaylord~~ RCC and Pacifica projects, respectively.

**TABLE 4.16-7**  
**~~Gaylord~~ Resort and Conference Center Natural Gas Usage Rates**

Natural Gas					
Land Use	1,000 Sq. Ft.	Usage Rate* (cu. ft./sq. ft. mo.)	Total Natural Gas Usage (cu. ft. mo.)	Total Natural Gas Usage (cu. ft. yr)	Total Natural Gas Usage (MMBTU/yr)
<b>Project</b>					
Office	400.0	2.0	800,000	9,600,000	9,792
Retail	20.0	2.9	58,000	696,000	710
Hotel/Motel	1000.0	4.8	4,800,000	57,600,000	58,752
Restaurant	100.0	4.8	480,000	5,760,000	5,875
<b>Total Project</b>			<b>6,138,000</b>	<b>73,656,000</b>	<b>75,129</b>

\*Natural Gas Usage Rates from. Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

**TABLE 4.16-8  
Pacifica Residential and Retail Natural Gas Usage Rates**

Natural Gas					
Land Use	1,000 Sq. Ft.	Usage Rate* (cu. ft.\sq. ft.\mo.)	Total Natural Gas Usage (cu. ft.\mo.)	Total Natural Gas Usage (cu. ft.\yr)	Total Natural Gas Usage (MMBTU\yr)
<b>Project</b>					
Retail	15.0	2.9	43,500	522,000	532
Residential (DU)	1500.0	4,012	6,017,250	72,207,000	73,651
<b>Total Project</b>			<b>6,060,750</b>	<b>72,729,000</b>	<b>74,184</b>

\*Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

Average annual energy needs are substantially met by existing SDG&E resources, CDWR contract allocations, and renewable purchases through 2010. In a high demand year, the additional energy would come from additional purchases from the market and from local generation added primarily for grid reliability. By 2011, approximately 25 percent of average-year energy would come from resource addition, including additional renewable purchases, on- and off-system generation, and purchases for the market, facilitated by the additional import capability provided by the added transmission interconnection (SDG&E 2004). To address long-term energy needs, SDG&E has filed a resource plan with CPUC, which proposes a mix of conservation, demand response, generation, and transmission to provide reliable energy for the next 20 years ([http://www.sdenergy.org/uploads/7-9-04SDG&E\\_LTRP.pdf](http://www.sdenergy.org/uploads/7-9-04SDG&E_LTRP.pdf)). The increased demand for energy is a significant impact (**Significant Impact 4.16-1**).

Implementation of the Proposed Project would increase the use of natural gas at the project site. SDG&E has indicated that an adequate supply of natural gas is currently available to serve the Proposed Project and the natural gas level of service provided to the surrounding area would not be impaired by the Proposed Project. New natural gas lines to serve the project site would be located underground and would be constructed in accordance with SDG&E's policies and extension rules on file with the CPUC at the time contractual agreements are made.

The construction impacts anticipated to result from implementation of the Proposed Project, including the construction of natural gas transmission lines are comprehensively analyzed in the *Air Quality*, *Noise*, and *Traffic* sections of this EIR. Further, as required by law, all utility connections would be constructed in accordance with all applicable Uniform Codes, City Ordinances, and Public Works standards to ensure an adequately sized and properly constructed electrical transmission and conveyance system. Implementation and extension of the utility infrastructure would be constructed prior to occupancy and in a manner that would minimize the potential for utility disruption.

Because the impacts associated with the construction or natural gas on-site transmission and/or distribution lines is considered in the appropriate sections of this recirculated draft EIR, and because the natural gas demand projected for the Proposed Project would not exceed the available or planned supply of natural gas resources, the implementation of the Proposed Project would not result in the construction of new (unplanned) natural gas supply facilities, the impacts of natural gas resources as a result would be considered less than significant.

In addition to an analysis of electricity and natural gas demands from the Proposed Project, this section also includes an analysis of energy consumption due to the gasoline use associated with the Proposed Project's vehicle trips during construction and operation (*Table 4.16-9*). Implementation of the Proposed Project would create the need for significant transportation resources (e.g., gasoline) for the construction and operation of the project. This analysis is based on the VMT which were calculated in the Traffic Report prepared by Kimley-Horn and Associates.

Based on these numbers, operation of the Proposed Project would require a considerable amount of gasoline for vehicle trips associated with build-out of the Proposed Project.

**TABLE 4.16-9**  
**Proposed Project VMT**

<b>On Road Mobile Source – GaylordRCC</b>		
<b>Land Use</b>	<b>Daily VMT</b>	<b>Annual VMT*</b>
<b>Total Project</b>	116,000	42,340,000
<b>On Road Mobile Source – Pacifica</b>		
<b>Land Use</b>	<b>Daily VMT</b>	<b>Annual VMT*</b>
<b>Total Project</b>	52,200	19,053,000

\*Multiplied Daily VMT by 365 to get Annual VMT.  
Factors derived from URBEMIS 2002.

In response to public comments on the Revised Draft EIR, the Port and the City engaged in extensive outreach and public participation with the Bayfront Coalition concerning energy issues. The parties agreed that development of the Proposed Project offers the Port and the City a unique opportunity to demonstrate the viability of responsible and sustainable development practices. Accordingly, the parties desired to establish guidelines to govern the future build-out of programmatic components of the Proposed Project and to ensure that the Proposed Project is comprised of high-performance and highly energy efficient buildings, as well as clean, efficient generation. Although the implementation of **Mitigation Measure 4.16-1** below will reduce energy impacts to below a level of significance, the Port has agreed to include additional guidelines in the Final EIR as a mitigation measure (**Mitigation Measure 4.16-2**) in order to provide for appropriate implementation and enforcement.

**2. The Proposed Project would have a significant impact on energy if it encourages the wasteful, inefficient, or unnecessary use of energy.**

The City of Chula Vista has objectives and policies contained in the General Plan that promote the use of non-polluting and renewable alternatives to vehicle travel and seek to reduce energy consumption by optimizing traffic flow, and directing higher density housing within walking distance of transit facilities. Implementation of the policies and objectives contained in the General Plan would aid in reducing adverse energy impacts.

The General Plan for the City established Objectives and Policies that promote energy conservation. These energy-related policies are directly applicable to the Proposed Project. The following discussion presents an assessment of the conformance of the Proposed Project to these policies.

a. Phase I (Project and Program Level)

As identified above, several City of Chula Vista General Plan policies promote energy conservation through the efficient use of energy. As such, the Proposed Project includes a number of measures which demonstrate consistency with Policies E 7.1, E 7.4, E 7.6 and E 7.7, including achieving LEED certification, identifying energy efficiency measures, significant tree planting. Consistent with the Objectives and Policies in the City of Chula Vista General Plan, the project features programs that ensure efficient use of energy as well as building design features as outlined below:

i. ~~Gaylord~~ Resort Conference Center (RCC) Project Features

- The future RCC project on Parcel H-3 includes access to mass transit, and will be located within a mixed-use, high-density project that provides work and shopping opportunities for visitors at the RCC.
- The RCC project will strive for a 20 percent reduction in water use, which may be achieved through the use of “grey water” for irrigation purposes, ultra low flow plumbing fixtures, native and adaptive landscaping, and high-efficiency irrigation technologies.
- The RCC project will be designed with sustainable design features within the building that will result in energy efficiency to the extent possible. These potential design features are outlined in *Section 4.6, Air Quality*. ~~Gaylord~~ The RCC development will ~~has committed~~ to achieving energy efficiency measures that will exceed Title 24 standards by 15 percent, as described in Mitigation Measure 4.16-2. ~~The Gaylord project will achieve LEED certification.~~
- The RCC project is part of a mixed-use development that utilizes smart growth land use patterns designed to reduce the number of trips and encourage use of local services.

ii. Pacifica Project Features

- The Pacifica project includes access to mass transit and will be located within a mixed-use, high-density project that provides work and shopping opportunities for residents and will achieve LEED certification.
- The Pacifica project will strive for a 50 percent reduction in residential water use through features such as low-flow appliances (incl. toilets, shower heads, washing machines), a drought-tolerant landscape palette, weather-based irrigation controllers, and other water conservation measures.
- Buildings at the Pacifica Project will achieve energy performance equivalent to 20 percent better than current Title 24 standards. This shall be achieved through building efficiency standards that shall be incorporated into the design of the buildings and include project design features as outlined in *Section 4.6, Air Quality*.
- Residents at the Pacifica project will be offered a choice of energy efficient appliances (incl. washers/dryers, refrigerators), and appliances installed by builders will be Energy Star (incl. dishwashers).
- Smart growth land use patterns that reduce the amount of land being developed will reduce greenhouse gas emissions and encourage use of locally serving retail.
- All residential units will have access to high-speed internet connections suitable for telecommuting.

b. Phases II through IV (Program Level)

As discussed in the Regulatory Framework section, all new buildings are required to conform to the energy conservation standards specified in CCR Titles 20 and 24. Further, as discussed, the project proposes to include a variety of additional energy conservation measures that could be included in the project's design and/or operational features to decrease the amount of overall energy consumed by the project.

The Proposed Project includes a number of features including alternative modes of transportation, such as attractive, pedestrian-friendly streets and walkways and bicycle route improvements in close proximity to local and regional transit. These features would help reduce the number of VMTs generated by the project and as a result, would also reduce the gallons of gasoline that would be consumed by project operation. Decreased consumption of gasoline would promote the use of alternative energy sources and would reduce the amount of emissions generated by project traffic. Impacts from the project resulting in a wasteful or unnecessary use of energy would not occur; therefore, this impact would be considered less than significant.

While it is not possible at this time to quantify all the reductions in energy anticipated from the above-listed measures, the Proposed Project would be consistent with the goals of the City of Chula Vista General Plan and Appendix F of the CEQA Guidelines. Therefore, the impact is less than significant. Although this impact is considered less than significant, there are opportunities to incorporate several energy conservation measures into the Proposed Project in order to further reduce the electricity demand of the project, which equates to lower energy bills and assisting the state in meeting its short-term and long-term Renewable Portfolio Standard Goals.

#### 4.16.4 Mitigation Measures

##### Mitigation Measure 4.16-1

The following mitigation measures are required to reduce **Significant Impact 4.16-1** (associated with long-term energy consumption that would result from the Proposed Project) to a level less than significant. In order to achieve Title 24, the following measures shall be implemented to the satisfaction of the Port/City.

**Port/City:** 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:

- Use of low NO<sub>x</sub> 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](http://www.sdenergy.org/uploads/7-9-04SDG&E_LTRP.pdf)) would reduce the potential significant impact to below a level of significance.

##### Mitigation Measure 4.16-2

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.

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 ~~thirty (30)~~ **fifty (50)** percent reduction in annual energy use as described below.

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 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 “Optimize 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.
  - a. Renewable Energy generated within the boundaries of the Development will be credited toward the energy reduction requirement. 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") 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.

- 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.
- 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.
- e. Participation in one of SDG&E’s ~~Voluntary~~ **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 described above.
- f. Participation in one of SDG&E’s ~~Mandatory~~ **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 described above.
- 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 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.

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 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.
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.
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:
  - 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:
    - 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
    - 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.
  - 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 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 Port’s website and received by the Port’s Board of Port Commissioners in a public forum.

#### 4.16.5 Significance of Impact after Mitigation

Implementation of mitigation measure Mitigation Measure 4.16-1 will reduce energy impacts to below a level of significance. Although the implementation of **Mitigation Measure 4.16-1** will reduce energy impacts to below a level of significance, the Port has agreed to include additional guidelines in the Final EIR as a mitigation measure (**Mitigation Measure 4.16-2**) in order to ensure appropriate implementation and enforcement.

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## 4.17 Population and Housing

This section analyzes the potential impacts of the Proposed Project on population and housing.

### 4.17.1 Existing Conditions

#### 4.17.1.1 Existing Physical Conditions

This section discusses the conditions that exist on the project site and the plans and policies related to population growth and housing issues. The total number of housing units in the City of Chula Vista, as of January 1, 2007, was 76,738 (SANDAG 2007). Between 2000 and 2007, approximately 17,243 dwelling units—an increase of 29 percent—were added to the housing stock in the City. The total population of the City, as of January 1, 2007, was 227,723 (SANDAG 2007). Chula Vista grew by approximately 31.2 percent, or 54,167 persons, from 2000 to 2007. SANDAG has projected that from 2004 to 2030, the City's population will increase by 52 percent. Civilian employment and housing units are expected to increase by 99 and 46 percent, respectively, within the same time frame.

Currently, there are no residential units located within the Proposed Project boundaries. A recreational visitor-serving park (RV Park), located north of the Chula Vista Marina on Sandpiper Way, abutting the Bayside Park parking lot, provides 236 vehicle spaces for short-term visits. The maximum allowable stay without management approval is 90 days. Depending on the number of available spaces and management approval, extended stays are permitted up to 4 months.

#### 4.17.1.2 Regulatory Framework

##### a. Chula Vista General Plan

The Housing Element of the General Plan is an important planning tool for the City of Chula Vista. It identifies the housing needs of the City and recommends ways to meet these needs while balancing other community objectives and resources. The California Legislature has set as its primary housing goal the provision of a decent home and suitable living environment for every Californian. Recognizing the important part that local planning programs play in pursuit of this goal, the Legislature has mandated that all cities and counties prepare a housing element as part of their comprehensive general plans.

Local Housing Element updates are subject to a regional council-of-governments process and are performed on a 5-year cyclical basis as prescribed through the State Housing Element Law. The current Chula Vista Housing Element covers the 5-year period from 2005 to 2010 and was certified by the City on October 24, 2006, pursuant to a state-approved program for jurisdictions in the San Diego Region. The Housing Element provides in-depth analysis of the City's

population, economic, and housing stock characteristics as required by State law. The Element also provides a comprehensive evaluation of existing programs and policies of the 1999–2005 Housing Element to determine necessary revisions to meet current needs. The existing Housing Element is located in Chapter 7 of the General Plan.

The City of Chula Vista Housing Element contains the following objectives to address a number of important housing-related issues:

- Objective 1: Enforce maintenance of safe and decent housing, enhance the quality of existing housing, and maintain the integrity of residential neighborhoods.
- Objective 2: Promote the efficient use of water and energy to conserve limited resources and reduce long-term operation costs of housing.
- Objective 3: As required by State law, preserve existing affordable housing opportunities, when feasible and practical, to maintain an adequate supply of affordable housing.
- Objective 4: Minimize the impacts associated with the conversion or demolition of rental housing on the availability of such housing for very low and low income residents.
- Objective 5: Encourage the provision of a wide range of housing choices by location, type of unit, and price level, in particular the establishment of permanent affordable housing for low and moderate income households.
- Objective 6: Promote the development of varied housing, coupled with appropriate services, to meet the needs of special population groups, including the homeless, those “at risk” of becoming homeless, persons with physical and/or developmental disabilities, students, athletes at the Olympic Training Center, single-parent households, and seniors.
- Objective 7: Facilitate the creation, maintenance, preservation, and conservation of affordable housing for lower and moderate income households through comprehensive planning documents and processes and the provision of financial assistance and other incentives.
- Objective 8: Ensure the availability of housing opportunities to all persons regardless of race, color, ancestry, national origin, religion, sex, disability, marital status, source of income, or sexual orientation.
- Objective 9: Promote and facilitate early, transparent public input and participation emphasizing community awareness of the City of Chula Vista’s goals, tools, available resources, and programs for lower income households.

The Housing Element includes Affordable Housing Program Implementation Guidelines that offer flexibility in meeting affordable housing goals by considering alternatives to actual developer built-in production. These alternatives include land set-asides, off-site projects, and in-lieu contributions.

As stated in the Housing Element, the City has an inclusionary policy that requires all projects of 50 or more dwelling units to provide 10 percent (5 percent low income and 5 percent moderate income) affordable housing within the development (“on site”). Alternatives to the provision of housing include an “off-site” provision of affordable housing and payment of in-lieu fee to be considered at the sole discretion of the City.

#### b Local Coastal Program

The Local Coastal Program (LCP) is the planning tool used to carry out the shared partnership between the California Coastal Commission’s (CCC’s) mandate to protect coastal resources and the local government’s regulation of land use through its General Plan. The Chula Vista LCP includes a land use plan with land use classifications, types, and densities of allowable development plus goals, objectives, and policies concerning development and use of coastal resources. The CCC certified the City’s LCP and zoning in 1985, and a subsequent amendment was approved in 1993; as a result, the City is now authorized to issue Coastal Development Permits for projects within its jurisdiction.

The current LCP Land Use Plan approves 700 high-intensity residential dwelling units at one location within the Sweetwater District on a large portion of S-1 and the southeast portion of SP-3 and approximately 300 mixed-use residential dwelling units at another location within the Sweetwater District. The two sites planned for residential development total approximately 21 acres.

#### c. State Lands Commission

As discussed in *Chapter 3, Project Description*, the Port is trustee and manages and protects the State’s coastal tidelands and submerged lands surrounding San Diego Bay for the people of the State of California (pursuant to Chapter 67, Statutes of 1962, as amended, the Port District Act). These State lands are held in public trust for purposes of water-related commerce, navigation, fisheries, recreation, and the environment, for which private development including residential use is not constitutionally allowed. The Port, as a trustee of these sovereign lands, must ensure that the specific uses proposed in the plan are consistent with the provisions of the Port District Act and the Public Trust Doctrine.

### 4.17.2 Impact Significance Criteria

According to Appendix G of the CEQA Guidelines, the Proposed Project would result in a significant impact if:

1. It induces substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
2. It displaces substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

### 4.17.3 Impact Analysis

- 1. The Proposed Project would have a significant impact if it induces substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).**

Assessment of this threshold includes a determination of whether substantial growth in population is induced by the Proposed Project and where that population growth might occur.

#### a. Population Growth

The project site is primarily undeveloped or underdeveloped lands with no residential units. Development of the Proposed Project would introduce more intensified land uses with residential, hotels, commercial/retail uses, and the ~~Gaylord~~ Resort Conference Center (RCC). Approximately 1,500 multifamily residential units would be developed within the Proposed Project area. The residential units are proposed on approximately 14 acres of primarily undeveloped land and a portion of the existing Marina Parkway in Phase I. Proposed development would consist of mid-rise and high-rise residential and up to 15,000 square feet of supporting ancillary retail uses. The retail uses would be included at the street level to create a village atmosphere and pedestrian-friendly area.

Using the population generation rate of 2.519 from the General Plan, the 1,500 units proposed during Phase I would result in a total projected population increase of 3,779 people on the Bayfront. The population would not increase as a result of Phase II through IV development because no residential units are proposed during these phases.

In addition to residential development, the Proposed Project would contain high-tech businesses, visitor service retail, parkland, and open space, which would not only create jobs, but would also increase activity and use of the waterfront. It is expected that both locally unemployed and under-employed persons, as well as people from regions outside of San Diego County, would fill

most of the jobs created by implementation of the Proposed Project. Thus, the Proposed Project would have a beneficial effect by contributing to the economy of the Chula Vista region in terms of jobs, personal income, and tax revenues.

#### b. Planned Growth

San Diego Association of Governments (SANDAG) is the agency responsible for forecasting regional growth. They indicate that population grows in two ways: natural increase, which results from the number of births over deaths; and net migration, which is primarily based on the condition of the local economy. The growth effects of the Proposed Project are manifested not in how many people arrive in the San Diego area, but in where those people elect to live and work, either in Chula Vista or elsewhere in the region.

The Proposed Project consists of a combination of low-rise, mid-rise, and high-rise residential units with a maximum of 1,500 units on approximately 14 acres of land. For purposes of this analysis, it is assumed that all units will be high-rise residential. Using the population generation rate of 2.52 people per unit for high rise residential as outlined in the General Plan, the additional units would result in a population increase of 3,779. The General Plan Update anticipates an increase in residential uses along the Bayfront and acknowledges that the 2030 projected population in the Bayfront planning area is conditional on the adoption of the Proposed Project.

The Proposed Project is immediately adjacent to the Urban Core Specific Plan area of the Northwest Planning Area within the City. The General Plan Update that was completed in 2005 identified the Urban Core area for significantly increased population and development. That plan update addressed much of the projected growth for the region.

Although the Proposed Project would create 1,500 new residential units with approximately 3,780 new residents in an area where no residences currently exist, direct impacts would not have a significant adverse environmental effect for the following reasons:

- a. The Bayfront is an area that has been planned for future residential growth.
- b. Project design is planned to accommodate population growth.
- c. Growth is not likely to extend beyond the project boundaries due to physical constraints of the project site (bay on the west, I-5 on the east, and Chula Vista Nature Reserve on the north and south).

#### c. Indirect Impacts

Increased population growth and intensity of use associated with the Proposed Project requires construction of new infrastructure and facilities, including new roads and water and sewer systems. As a result, the Proposed Project would have indirect impacts associated with traffic, air

quality, hydrology/water quality, public services, and public utilities. Please refer to *Sections 4.2, Traffic and Circulation; 4.5, Hydrology/Water Quality; 4.6, Air Quality; 4.13, Public Services; and 4.14, Public Utilities* for detailed discussion of these indirect impacts.

- 2. The Proposed Project would have a significant impact if it displaces substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.**

There are currently no residences on the Proposed Project site; therefore, development of the Proposed Project would not displace any existing housing or residents. No impact would result.

**In response to public comments on the Revised Draft EIR, the Port and City engaged in extensive outreach and public participation with the Bayfront Coalition in regard to housing issues. Although the Proposed Project will not have a significant impact with respect to the displacement of housing or people, the City agreed to include a provision regarding the use of Low and Moderate Income Housing funds generated from within the Bayfront Redevelopment Project Area in the Final EIR as a mitigation measure (Mitigation Measure 4.17-1) in order to provide for appropriate implementation and enforcement.**

#### **4.17.4 Mitigation Measures**

**Although ~~no~~ mitigation is required to reduce impacts to below a level of significance, the following measure is provided to ensure appropriate implementation and enforcement:**

##### **Mitigation Measure 4.17-1**

**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.**

#### **4.17.5 Significance of Impacts After Mitigation**

Direct impacts of the Proposed Project with respect to population and housing would not be significant. Indirect impacts including traffic and circulation, air quality, water quality, public services, and public utilities are analyzed in other sections of this report (see *Sections 4.2, 4.5, 4.6, 4.13, and 4.14*).

## CHAPTER 5 ALTERNATIVES

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### 5.1 Introduction

Pursuant to State CEQA Guidelines, EIRs are required to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (Section 15126.6(a)). This EIR “must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation” (Section 15126.6 (a)) The alternatives discussion is required even if these alternatives “would impede to some degree the attainment of the project objectives, or would be more costly” (Section 15126.6 (b)).

#### 5.1.1 Summary of Project Objectives

The purpose and need for the Proposed Project and project objectives are set forth in *Chapter 2, Introduction*, of this EIR. The overall objective of the proposed CVBMP is to establish the Chula Vista Bayfront as an active, accessible, vibrant area, with attractions that draw people to and celebrate the waterfront experience, while protecting and enhancing environmental resources. Another important objective includes linking the Bayfront to the downtown Chula Vista Urban Core, and providing a network of trails and open space along the shoreline. Among other things, it is important that the approved plan establish the location and character of future commercial and residential development as well as public amenities that complement the setting and character of the Bayfront and nearby Chula Vista Urban Core. The approved plan must also create a circulation pattern and parking strategy to support development and enhance public access.

#### 5.1.2 Summary of Proposed Project Impacts for Alternatives Comparison

*Table 1-9* in the *Chapter 1, Executive Summary*, provides a summary of potential impacts from the Proposed Project for each of the issues addressed in this report, as well as the significance of each impact after mitigation. *Table 5.1-1* below displays the potential significant impacts of the Proposed Project after mitigation and provides a comparison of the Proposed Project’s impacts prior to mitigation to each of the five alternatives’ impacts prior to mitigation. *Table 5.1-1* identifies whether each of the alternatives would have an equal, greater, or lesser impact on the environment than the Proposed Project.

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**TABLE 5.1-1  
Comparison of Impacts between Proposed Project and Project Alternatives**

Environmental Issue	Proposed Project Significance After Mitigation	No Project	Harbor Park	No Land Trade	Reduced Overall Density	Alternate L-Ditch Remediation
<b>4.1 Land/Water Use Compatibility</b>						
1. The Proposed Project would have a significant impact if it conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the General Plan, Specific Plan, local coastal program, master plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	<del>Less than significant</del> <b>Significant and unmitigable</b>	Greater	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact if it conflicts with any applicable habitat conservation plan or natural community conservation plan.	Less than significant	Less	Equal	Greater	Equal	Equal
3. The Proposed Project would have a significant impact if it creates a substantial or extreme land/water use incompatibility with adjacent or nearby existing and proposed land uses, resulting in significant incompatibility or nuisance impacts.	Less than significant	Equal	Equal	Greater	Equal	Equal
4. The Proposed Project would have a significant impact if it is inconsistent or conflicts with an adopted PMP water use designation where substantial indirect or secondary environmental impacts would occur.	Less than significant	Equal	Equal	Equal	Equal	Equal
<b>4.2 Traffic and Circulation</b>						
1. The Proposed Project would have a significant impact on traffic circulation if it substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	Less than significant	Equal	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact on traffic circulation if it conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)	Less than significant	Equal	Equal	Equal	Equal	Equal
3. The Proposed Project would have a significant impact if changes to the land use and the circulation plans would result in the following: For non-Chula Vista Urban Core circulation element roadways (Expressway, Prime Arterial, Major Street, Town Center Arterial, Class I Collector): a) A roadway segment that currently operates at LOS C or better and with the proposed changes would operate at LOS D or worse at General Plan build-out. b) A roadway segment that currently operates at LOS D or E and with the proposed changes would operate at LOS E or F at General Plan build-out (respectively), or which operates at LOS D, E, or F and would worsen by 5 percent or more at General Plan build-out. For Chula Vista Urban Core Circulation Element roadways (Gateway Street, Urban Arterial, Commercial Boulevard, and Downtown Promenade): a) A roadway segment that currently operates at LOS D or better and with the proposed changes would operate at LOS E or F at General Plan build-out. b) A roadway segment that currently operates at LOS F and would worsen by 5 percent or more at General Plan build-out.	Significant and unmitigable	Greater	Greater	Greater	Less	Equal
4. The Proposed Project would have a significant impact if changes to the land use and circulation plans would affect signalized and unsignalized intersections as follows: a) An intersection that currently operates at LOS D or better and with proposed changes would operate at LOS E or worse at General Plan build-out. b) An intersection that currently operates at LOS E or F and the project trips generated comprise 5 percent or more of the entering volume. Entering volumes are the total approach volumes entering an intersection. c) A cumulative impact would occur if the operations at intersection are at LOS E or F only.	Less than significant	Greater	Greater	Equal	Less	Equal
<b>4.3 Parking</b>						
1. The Proposed Project would have a significant impact if it causes the parking supply to be less than the generated demand or if it exacerbates an existing parking shortage.	Less than significant	Equal	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it results in parking shortfalls during major events within the Chula Vista Bayfront area.	Less than significant	Equal	Equal	Equal	Less	Equal
3. The Proposed Project would have a significant impact if it removes parking lots designated for public use that are heavily utilized and not replaced.	Less than significant	Equal	Equal	Equal	Less	Equal
<b>4.4 Aesthetics/Visual Quality</b>						
1. <i>View Quality:</i> The Proposed Project would have a significant impact if it has a substantially adverse effect on a scenic vista, public view, or public resource (such as a symbol or landmark).	Significant and unmitigable	Less	Greater	Greater	Less	Equal
2. <i>Visual Quality:</i> The Proposed Project would have a significant impact if it substantially degrades the existing visual character or quality of the site and its surroundings.	Less than significant	Less	Equal	Greater	Less	Equal
3. <i>Light and Glare:</i> The Proposed Project would have a significant impact if it creates a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less than significant	Equal	Equal	Equal	Less	Equal
4. <i>Visual Character:</i> The Proposed Project would have a significant impact if it conflicts with urban design guidelines in adopted plans and policies.	Less than significant	Equal	Equal	Greater	Less	Equal
<b>4.5 Hydrology/Water Quality</b>						
1. The Proposed Project would have a significant impact if it substantially depletes groundwater or interferes substantially with groundwater recharge.	Less than significant	Equal	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact if it alters an existing 100-year floodplain or would place structures within a 100-year flood hazard area which would impede or redirect flood flows.	Less than significant	Equal	Equal	Equal	Equal	Equal
3. The Proposed Project would have a significant impact if it exposes people or structures to a significant risk of loss, injury, or death involving flooding, and/or exposes people or structures to inundation by seiche, tsunami, or mudflow.	Less than significant	Equal	Equal	Equal	Equal	Equal
4. The Proposed Project would have a significant impact if it substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.	Less than significant	Equal	Equal	Equal	Equal	Equal

TABLE 5.1-1 (Cont.)

Environmental Issue	Proposed Project Significance After Mitigation	No Project	Harbor Park	No Land Trade	Reduced Overall Density	Alternate L-Ditch Remediation
5. The Proposed Project would have a significant impact if it degrades water quality or would violate any water quality standards or waste discharge requirements, resulting from a substantial increase in the rate or amount of polluted surface runoff.	Less than significant	Equal	Equal	Equal	Less	Equal
6. The Proposed Project would have a significant impact if it creates or contributes runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Less than significant	Equal	Equal	Equal	Less	Equal
7. The Proposed Project would have a significant impact if it results in pollution or contamination that may have an impact on human health and the environment, including the aquatic habitat, or impacts on biological communities.	Less than significant	Equal	Equal	Equal	Equal	Equal
8. The Proposed Project would have a significant impact if it results in substantial erosion and subsequent sedimentation of water bodies.	Less than significant	Equal	Equal	Equal	Equal	Equal
<b>4.6 Air Quality</b>						
1. The Proposed Project would have a significant impact if it conflicts with or obstructs implementation of the applicable air quality plan (e.g., RAQS).	Less than significant	Greater	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it violates any air quality standard or contributes substantially to an existing or projected air quality violation.	Less than significant	Greater	Equal	Equal	Less	Equal
3. The Proposed Project would have a significant impact if it results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	Significant and unmitigable	Greater	Equal	Equal	Less	Equal
4. The Proposed Project would have a significant impact if it exposes sensitive receptors to substantial pollutant concentrations.	Significant and unmitigable	Greater	Equal	Greater	Less	Equal
5. The Proposed Project would have a significant impact if locates residential housing within 1,000 feet of a plant or any other toxic air emitting facility.	Less than significant	Less	Equal	Equal	Equal	Equal
6. The Proposed Project would have a significant impact if it creates objectionable odors affecting a substantial number of people.	Less than significant	Equal	Equal	Equal	Equal	Equal
7. The Proposed Project would have a significant impact if conflicts with or obstructs goals or strategies of the California Global Warming Solutions Act of 2006 (AB 32) or related Executive Orders.	Less than significant	Greater	Equal	Equal	Equal	Equal
8. The Proposed Project would have a significant impact if it results in substantially increased exposure of the project from the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006 (AB 32).	Less than significant	Greater	Equal	Equal	Equal	Equal
<b>4.7 Noise</b>						
1. The Proposed Project would have a significant impact if it exposes persons to or generates noise levels in excess of standards established in the City of Chula Vista General Plan or noise ordinance, or applicable standards of other agencies.	Less than significant	Greater	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it exposes persons to or generates excessive groundborne or waterborne vibrations or noise levels.	Less than significant	Equal	Equal	Equal	Less	Equal
3. The Proposed Project would have a significant impact if it results in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant	Greater	Equal	Equal	Less	Equal
4. The Proposed Project would have a significant impact if it results in substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant	Equal	Greater	Equal	Less	Equal
<b>4.8 Terrestrial Biological Resources</b>						
1. The Proposed Project would have a significant impact if it has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFG or USFWS.	Less than significant	Greater	Equal	Greater	Equal	Equal
2. The Proposed Project would have a significant impact if it has a substantial adverse effect on federally or state protected wetlands as defined by Sections 401 and 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.), and Section 1600 of the CDFG Code through direct removal, filling, hydrologic interruption, or other means.	Less than significant	Greater	Equal	Equal	Equal	Equal
3. The Proposed Project would have a significant impact if it interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.	Less than significant	Greater	Equal	Equal	Equal	Equal
4. The Proposed Project would have a significant impact if it conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than significant	Greater	Equal	Equal	Equal	Equal
5. The Proposed Project would have a significant impact if it conflicts with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.	Less than significant	Greater	Greater	Equal	Equal	Equal
<b>4.9 Marine Biological Resources</b>						
1. The Proposed Project would have a significant impact if it has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG or USFWS.	Less than significant	Greater	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact if it interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.	Less than significant	Greater	Equal	Equal	Equal	Equal
3. The Proposed Project would have a significant impact if it has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.	Less than significant	Greater	Equal	Equal	Equal	Equal

TABLE 5.1-1 (Cont.)

Environmental Issue	Proposed Project Significance After Mitigation	No Project	Harbor Park	No Land Trade	Reduced Overall Density	Alternate L-Ditch Remediation
4. The Proposed Project would have a significant impact if it has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrologic interruption, or other means.	Less than significant	Equal	Equal	Equal	Equal	Equal
5. The Proposed Project would have a significant impact if it conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than significant	Greater	Equal	Equal	Equal	Equal
6. The Proposed Project would have a significant impact if it conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Less than significant	Greater	Equal	Equal	Equal	Equal
<b>4.10 Cultural Resources</b>						
1. The Proposed Project would have a significant impact if it causes a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5, including resources that are eligible for the CRHR and the National Register of Historic Places and resources that are locally designated as historically significant, or the City of Chula Vista finds the resource historically significant based on substantial evidence.	Less than significant	Equal	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact if it disturbs any human remains, including those interred outside of formal cemeteries.	Less than significant	Equal	Greater	Equal	Equal	Equal
<b>4.11 Paleontological Resources</b>						
1. The Proposed Project would have a significant impact if it directly or indirectly destroys a unique paleontological resource or site or unique geologic feature.	Less than significant	Equal	Equal	Equal	Equal	Equal
<b>4.12 Hazards and Hazardous Materials/Public Safety</b>						
1. The Proposed Project would have a significant impact if it creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than significant	Equal	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact if it creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less than significant	Equal	Equal	Equal	Equal	Equal
3. The Proposed Project would have a significant impact if it emits hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	Less than significant	Equal	Equal	Equal	Equal	Equal
4. The Proposed Project would have a significant impact if it is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment would be created.	Less than significant	Equal	Equal	Equal	Equal	Equal
5. The Proposed Project would have a significant impact if it is located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and would result in a safety hazard for people residing or working in the project area.	Less than significant	Equal	Equal	Equal	Equal	Equal
6. The Proposed Project would have a significant impact if it impairs implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan.	Less than significant	Equal	Equal	Equal	Equal	Equal
<b>4.13 Public Services</b>						
<b>Fire Protection</b>						
1. The Proposed Project would have a significant impact if it reduces the ability to respond to calls throughout the City within the City's threshold standard to respond to calls within 7 minutes in 80 percent of the cases.	Less than significant	Greater	Greater	Greater	Greater	Equal
2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the fire protection and emergency services.	Less than significant	Greater	Greater	Greater	Greater	Equal
<b>Police Protection</b>						
1. The Proposed Project would have a significant impact on police protection services if it: <ul style="list-style-type: none"> <li>Reduces the ability to respond to calls within the City's threshold standard for Priority One emergency calls within 7 minutes in 81 percent of the cases and maintain an average response time to all Priority One calls of 5.5 minutes or less.</li> <li>Reduces the ability to respond to calls within the City's threshold standard for Priority Two urgent calls, within 7 minutes in 57 percent of cases, and maintain an average response time to all Priority Two calls of 7.5 minutes or less.</li> </ul>	Less than significant	Equal	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.	Less than significant	Equal	Equal	Equal	Less	Equal
<b>Parks and Recreation</b>						
1. The Proposed Project would have a significant impact if it results in the inability for the City to provide an adequate level of service in accordance with the Chula Vista Municipal Code Chapter 17.10.040 Parklands and Public Facilities.	Less than significant	Less	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental or recreational facilities and/or the need for new, expanded, or physically altered governmental or recreational facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for park services.	Less than significant	Less	Equal	Equal	Less	Equal

TABLE 5.1-1 (Cont.)

Environmental Issue	Proposed Project Significance After Mitigation	No Project	Harbor Park	No Land Trade	Reduced Overall Density	Alternate L-Ditch Remediation
3. The Proposed Project would have a significant impact if it increases the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	Less than significant	—	—	—	—	—
<b>Schools</b>						
1. The Proposed Project would have a significant impact if it the CVESD and SUHSD do not have the necessary school facilities to meet the needs of the students in new development areas in a timely manner.	Less than significant with mitigation	Less	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for school services.	Less than significant	Less	Equal	Equal	Less	Equal
<b>Library Service</b>						
1. The Proposed Project would have a significant impact if it exceeds the population ratio, which requires that 500 square feet (gross) of adequately equipped and staffed libraries be provided per 1,000 populations.	Significant and unmitigable	Less	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for library services.	Less than significant	Less	Equal	Equal	Less	Equal
<b>4.14 Public Utilities</b>						
<b>Water Supply and Water Availability</b>						
1. The Proposed Project would have a significant impact if sufficient water supplies are not available to serve the project from existing entitlements and resources, or results in the need for new or expanded entitlements.	Less than significant	Greater	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if the project requires or results in the construction of new water treatment facilities or expansion of existing facilities and services, the construction of which could cause significant environmental effects.	Less than significant	Greater	Equal	Equal	Less	Equal
3. The Proposed Project would have a significant impact if it the Proposed Project is inconsistent with the assumptions used in the SDCWA UWMP.	Less than significant	Equal	Equal	Equal	Equal	Equal
<b>Sewer</b>						
1. The Proposed Project would have a significant impact if it results in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate planned capacity to serve projected demand in addition to the provider's existing commitments.	Less than significant	Equal	Greater	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it requires or results in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less than significant	Equal	Equal	Equal	Less	Equal
<b>Solid Waste Management</b>						
1. The Proposed Project would have a significant impact if the project was served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less than significant	Equal	Equal	Equal	Less	Equal
2. The Proposed Project would have a significant impact if it does not comply with federal, state, and local regulations related to solid waste.	Less than significant	Equal	Equal	Equal	Less	Equal
<b>4.15 Seismic/Geologic Hazards</b>						
1. The Proposed Project would have a significant impact if the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, or strong seismic ground shaking occurred.	Less than significant	Equal	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact if seismic-related ground failure, including liquefaction, occurred, or if it is located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Less than significant	Equal	Equal	Equal	Equal	Equal
3. The Proposed Project would have a significant impact if it is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating a substantial risk to life or property.	Less than significant	Equal	Equal	Equal	Equal	Equal
4. The Proposed Project would have a significant impact if there is the potential for tsunamis.	Less than significant	Equal	Equal	Equal	Equal	Equal
<b>4.16 Energy</b>						
1. The Proposed Project would have a significant impact if it increases the demand for energy resources to exceed the City's available supply or causes a need for new and expanded facilities.	<del>Less than significant</del> Significant and unmitigable	Equal	Equal	Greater	Less	Equal
<b>4.17 Population and Housing</b>						
1. The Proposed Project would have a significant impact if it induces substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	Less than significant	Equal	Equal	Equal	Equal	Equal
2. The Proposed Project would have a significant impact if it displaces substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.	Less than significant	Equal	Equal	Equal	Less	Equal

## 5.2 Selected Alternatives

This section discusses five alternatives for the proposed CVBMP, including the No Project Alternative. The Harbor Park Alternative and the No Land Trade Alternative, discussed below, are analyzed in greater detail than is normally required. This was done to fulfill the Port's long-standing commitment to the community groups and resource agencies who have participated in planning efforts. The list of project alternatives addressed in this section is shown below, followed by a more detailed discussion of each:

- No Project Alternative
- Harbor Park Alternative
- No Land Trade
- Reduced Overall Density Alternative
- Alternate L-Ditch Remediation Alternative.

## 5.3 No Project Alternative

For the No Project Alternative, no land trade would occur between the Port and the private developer, and therefore, no action by the SLC would be required. Lands held under private option in the Sweetwater District would remain in the City of Chula Vista's jurisdiction. No land use designation changes would occur and no amendment to the PMP or LCP would be approved. Public trust lands in the Harbor and Otay Districts would remain in the Port's jurisdiction.

Under this alternative, development is assumed to be in conformance with the adopted land use plans (LCP, which includes the LUP, and PMP/Chula Vista Bayfront Planning District 7: Precise Plan) and zoning designations. Coastal Commission action on development of privately held lands in the Sweetwater District would not be required, provided such development conforms to the adopted LCP, which includes the LUP. Coastal Commission action may be required for development of Port lands in accordance with the adopted plan.

For Port lands, the Precise Plan for Planning District 7 would be retained, expanded, or upgraded consistent with goals and policies as allowed by the plan. Permitted uses would include existing marine sales and service, commercial recreation, industrial business park and marine-related industrial, public recreation and conservation areas, and public facilities.

For public and private lands under the City's jurisdiction, including the Midbayfront property in the Sweetwater District, current adopted planning designations would apply (see *Figures 4.1-3* and *4.1-4*). In some cases, the amount and location of development would create impacts more severe than those of the Proposed Project.

The existing LCP Land Use Plan anticipates high-intensity development of the Sweetwater District, including development of up to ~~1,060~~ 1,000 high-density residential units, 1,906,000 square feet of commercial/hotel use (including 1,860 hotel rooms), ~~2,373,000 square feet of commercial use and~~, 60,000 square feet of office use, 75,000 square feet of cultural arts facilities, and 34 acres of parks. In addition, development in the City's jurisdiction within the Harbor and Otay Districts permits industrial development at a floor area ratio of 0.50 and commercial development at a floor area ratio of 0.25. Given the acreage presented in the adopted land use plan, this plan could result in about 5,700,000 square feet of industrial use.

The existing plan provides for a central resort district and park and recreation uses. Designated visitor and visitor/highway commercial, professional/administrative, public/quasi-public uses (including an existing railroad ROW), as well as research, limited industrial, general industrial, and open space/parks comprise remaining uses in the City's jurisdiction.

The F & G Street Marsh component of the Sweetwater Marsh NWR is one of three designated open space areas. Permitted building heights in the Sweetwater District would range from a maximum height of 229 feet for high-rise residential sites in the northeastern area to a maximum 30-foot height in the area generally adjacent to the Sweetwater Marsh NWR. Building heights in the Harbor and Otay Districts would be limited to 44 feet.

### 5.3.1 Land/Water Use Compatibility

Existing land uses and zoning would be retained, and development would proceed in accordance with the adopted plans for the applicable jurisdiction. For example, industrial uses would be developed in the Harbor and Otay Districts and commercial and residential uses in the Sweetwater District. Expansion of public parkland and open space would not increase to the extent anticipated for the Proposed Project. The No Project Alternative does not preclude long-term development of the project area consistent with the adopted land use plans.

Implementation of the No Project Alternative would ensure conformance to the adopted plans and zoning. The current General Plan, Specific Plan, LCP, and PMP would not be amended. Development in accordance with the adopted plans would not conflict with the MSCP, but, as with the Proposed Project, an HLIT permit would be required.

While development in accordance with adopted plans would avoid planning conflicts, selection of the No Project Alternative and future development of high-intensity residential, recreation, commercial/retail, and office uses in the Sweetwater District would be inconsistent with the long-term collaborative public process intended to reduce development intensity in the Sweetwater District due to the site's proximity to the Sweetwater Marsh NWR and Bay. These efforts have involved regional environmental groups and City residents as well as CDFG, USFWS, and other responsible agencies. Working together with Port and City planners, these organizations have helped to develop plans for an economically feasible development that is

environmentally sensitive yet capable of creating a vibrant, active urban waterfront with improved connectivity to the Chula Vista Urban Core.

### 5.3.2 Traffic/Circulation and Parking

In the near term, there would be no change to traffic/circulation and parking. Increased traffic would be expected as development proceeds consistently with the adopted land use plans. The traffic impacts for the currently adopted plans in the Bayfront Planning District were included in the analysis conducted for the General Plan Update. That plan identified significant impacts to roadways within the Bayfront District. It also identified roadways in the vicinity of the Bayfront to which traffic from the Bayfront would contribute.

The traffic analysis for the General Plan Update identified a significant traffic impact to the following roadways within the planning area. These roadways currently operate at LOS C or better and would operate at LOS D or worse with the build-out of the General Plan, which includes the current Bayfront land use plans (the No Project Alternative). In addition, I-5 between SR-54 and Main Street would operate at LOS F with this alternative.

- E Street between Marina Parkway and I-5
- H Street between Marina Parkway and I-5
- J Street Between Marina Parkway and Bay Boulevard
- Marina Parkway between E Street and J Street.

Furthermore, the General Plan Update EIR concluded that traffic-related impacts would be worse with the adopted plan than those impacts would be with the plan under consideration for the Chula Vista Bayfront Master Plan (2005: 575–576).

The No Project Alternative's impacts on traffic/circulation and parking would be greater than impacts that may result from the Proposed Project. As a result, the No Project Alternative would not avoid or substantially lessen the significant effects of the Proposed Project on traffic/circulation.

### 5.3.3 Aesthetics/Visual Quality

Under the No Project Alternative, permitted building heights in the Sweetwater District would range from a maximum height of 229 feet for high-rise residential sites in the northeastern area to a maximum 30-foot height in the area generally adjacent to the Sweetwater Marsh NWR. The bulk and scale of buildings in the Sweetwater District would be greater with the No Project Alternative than with the Proposed Project, and in the Harbor and Otay Districts, buildings would be larger.

The views from the Sweetwater District are more sensitive than in the Otay and Harbor Districts. This is due to the adjacent Sweetwater Marsh NWR and the currently undeveloped character of the area. The existing and previous industrial development in the Harbor and Otay Districts make this area less sensitive. The No Project Alternative would reduce the visual effects of development in the Harbor and Otay Districts, but would still have a significant effect because of the scale of the buildings in the more sensitive Sweetwater District.

While development under the No Project Alternative would reduce aesthetics/visual quality impacts in the Harbor and Otay Districts, impacts in the Sweetwater District would be similar to the Proposed Project. As a result, the No Project Alternative would avoid or lessen some of the significant effects of the Proposed Project on aesthetics/visual quality. Impacts regarding light and glare would be similar to the Proposed Project, as they would introduce substantial new sources of light from the approved land uses in the Sweetwater District.

#### **5.3.4 Hydrology/Water Quality**

In the near term, there would be no change to the existing drainage network or land uses. New development would be required to comply with existing water quality regulations to avoid or reduce impacts. Development would proceed in accordance with approved plans that implement best available technologies and best management practices as required by the Clean Water Act and other regulations (see *Section 4.5, Hydrology/Water Quality* of this report). Similar to the Proposed Project, this would reduce impacts to below the level of significance.

#### **5.3.5 Air Quality**

The No Project Alternative assumes that development occurs in a manner consistent with the adopted land use plans. Impacts would be consistent with regional planning projections and would not be in conflict with adopted plans. As with the Proposed Project, the No Project Alternative represents a significant air quality impact because it is inconsistent with the assumptions used for the current RAQS; the current General Plan is also in conflict with the assumptions used to generate the strategy. While the No Project Alternative is the land use plan for the district that was used in the most recent growth projections upon which the strategy is based, the General Plan itself is no longer consistent with those assumptions.

Development in accordance with the adopted plans would result in additional air emissions to the SDAB both from construction and from operations. While the Proposed Project increases the commercial and residential uses within the planning district, it eliminates the industrial use. Increased industrial development in the Harbor and Otay Districts, as permitted under the existing LCP Land Use Plan, would result in increased pollutants in the project area over that which is expected under the Proposed Project. GHG emissions would also be greater under the No Project Alternative than as expected under the Proposed Project. In addition, the Proposed

Project will implement measures to reduce GHG emissions consistent with AB 32 and related Executive Orders.

It is anticipated that the construction of the No Project Alternative would produce air pollutant emissions on the same order of magnitude as the Proposed Project. The actual effect of those emissions would depend on the timing of construction and the nature of the industrial uses ultimately proposed for the Harbor and Otay Districts. Therefore, as with the Proposed Project, in the absence of a more specific development proposal, air quality impacts would be significant.

### **5.3.6 Noise**

In the near term, there would be no change to the existing noise environment. As new development occurs in a manner consistent with the adopted land use plans, increased traffic and associated noise would be expected. Furthermore, selection of the No Project Alternative could result in new industrial, commercial, or other noise-generating uses that may cause noise levels to rise over time. Operational noise levels from the increased commercial and industrial development permitted under the existing LCP Land Use Plan would therefore be expected to be greater under the No Project Alternative than the Proposed Project. In addition, the existing LCP Land Use Plan anticipates high-intensity development of the Sweetwater District, while the Proposed Project focuses development away from the Sweetwater District due to the site's proximity to the Sweetwater Marsh NWR. Noise-sensitive uses such as the F & G Street Marsh and Sweetwater Marsh NWR would be greatly impacted by high-intensity development in the Sweetwater District. Prior to approval, any new uses would be subject to review for conformance with adopted noise ordinances. Future projects would be assessed for conformance to existing noise ordinances. Implementation of mitigation identified for a specific use or conformance with applicable ordinances would reduce impacts to below the level of significance.

Noise impacts under the No Project Alternative would result primarily from increased traffic on area roads. The effects of noise resulting from traffic increases on city streets in light of the development of the General Plan were considered as part of the City's General Plan Update EIR (December 2005). That document indicated that noise impacts associated with this increased traffic were significant and identified mitigation measures to lessen that effect. Therefore, consistent with the mitigation identified in the adopted General Plan Update EIR, the No Project Alternative would result in a significant cumulative noise impact for which mitigation measures would be required.

### **5.3.7 Biological Resources (Terrestrial and Marine)**

The No Project Alternative would result in greater impacts to biological resources than the Proposed Project as a result of higher intensity development in the Sweetwater District. In addition, the PMP calls for development of marine-related industrial and commercial uses on

Port holdings which likely would cause similar significant impacts to sensitive vegetation communities, sensitive plants and animals, wetlands, and marine resources (including eelgrass) as discussed in *Sections 4.8, Terrestrial Biological Resources*, and *Section 4.9, Marine Biological Resources*. Environmental review would be required at the time plans are proposed to identify specific impacts. Mitigation similar to that identified in *Sections 4.8 and 4.9* for the Proposed Project would be required to address potential impacts related to loss of sensitive habitats, including coastal sage scrub, wetlands, and dependent species. Indirect impacts from human activity adjacent to the wildlife refuge (including noise and lighting impacts, potential intrusion affecting wildlife movement) has the potential to be greater than for the Proposed Project if development is approved as envisioned in the adopted LCP, which includes the LUP. Future development within the Pacific Flyway would be expected to be similar to that of the project except that the approved LCP, which includes the LUP, could result in taller buildings closer to the Sweetwater Marsh NWR, which, in turn, may increase bird strikes against buildings and adjacency issues due to increased activity, greater potential for encroachment, and lighting impacts on the preserve.

### **5.3.8 Cultural Resources**

The general development footprint for the No Project Alternative would be same as the Proposed Project, and, therefore, the impacts to cultural resources would be similar. As with the Proposed Project, no cultural resources were identified in the project area and none are expected to occur. Impacts under this alternative would remain less than significant.

### **5.3.9 Paleontological Resources**

Impacts to paleontological resources would be similar to those identified for the Proposed Project. Uses with the potential to impact identified paleontological resources would be required to either avoid the impact or implement mitigation. As with the Proposed Project, development under the No Project Alternative could result in disturbance of the fossil-bearing Bay Point Formation. This would be a significant impact. Therefore, the No Project Alternative does not avoid or substantially lessen impacts of the Proposed Project.

### **5.3.10 Hazards and Hazardous Materials/Public Safety**

Under the No Project Alternative, no residences would be built in the Harbor and Otay Districts, both of which have a long history of industrial uses. Thus, compared to the Proposed Project, the No Project Alternative would incrementally reduce the risk that sensitive populations would be exposed to chemicals that may be present. There is the potential for hazardous materials to be present within the Sweetwater District, where the No Project Alternative would place high-density residential uses. However, because there would be less residential uses under the No

Project Alternative relative to the Proposed Project, this alternative represents a less substantial impact.

The site is currently under a Cleanup and Abatement Order (CAO No. 98-08, revised April 2, 1998) for cleanup of contamination associated with past uses on the former BF Goodrich South Campus. Cleanup activities are being performed under separate approvals, and site remediation to appropriate standards for proposed uses is assumed as a baseline condition. As with the Proposed Project, implementation of Cleanup and Abatement Order programs and other remediation, combined with implementation of mitigation measures detailed in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, which require the project to coordinate with responsible agencies to show that remediation has been completed to a standard acceptable for proposed uses, would ensure that impacts are avoided or reduced to a level of less than significant prior to development of any given site. As for the Proposed Project, implementation of the above measures would ensure that impacts of the No Project Alternative would be reduced to below a level of significance.

### 5.3.11 Public Services

Impacts to schools, parks and recreation, and library services would be reduced under this alternative, as only ~~1,060~~ 1,000 residential units would be allowed to develop, provided plans are approved for development of the Sweetwater District in conformance with the approved LCP/LUP. Furthermore, high-intensity near-term development is not anticipated under the adopted plan, so impacts to services would be incremental and expected to occur over an extended period of time. Impacts to police protection services would be expected to be similar to those under the Proposed Project.

The City's Fire Department considers the Bayfront area to be a geographic location that is underserved by the existing fire station network. While the Proposed Project would include the construction of a new fire station, the No Project Alternative would not include a new fire station. The Port is precluded by law from providing municipal facilities, including fire protection facilities, on Port land. Under this alternative, the City has not agreed to acquire Parcel H-17 from the Port and, as such, a suitable location for a new fire facility has not been identified. As a result, a significant impact on fire protection services would continue to exist under the No Project Alternative. This impact is greater than the Proposed Project and would result in a significant impact. In order to address this impact, the City would have to provide additional equipment and/or facilities as deemed necessary by the City's Fire Department to ensure adequate fire protection services. The changes that may result from the provision of additional equipment or facilities as may be identified in the City's Fire Master Plan would be the responsibility and within the jurisdiction of the City and not the Port.

### 5.3.12 Public Utilities

Impacts to public utilities would be similar to those resulting from implementation of the Proposed Project. For new industrial facilities, however, future uses could require greater supplies than would be required for the Proposed Project. Ultimate build-out consistent with the adopted land use plans would be expected to require upgrades to sewer and water supply facilities to meet increased demand over time. Required upgrades to utility systems would not be coordinated to meet future need at build-out, as would occur with implementation of the Proposed Project.

### 5.3.13 Seismic/Geologic Hazards

Because the grading footprint for the No Project Alternative would be similar to the Proposed Project with ultimate development based on existing land use approvals, impacts to geologic and seismic hazards would be similar. Implementation of site-specific engineering/geotechnical mitigation measures, as detailed in *Section 4.15, Seismic/Geologic Hazards*, would be expected to reduce impacts to below a level of significance.

### 5.3.14 Energy

Selection of the No Project Alternative would ensure that development occurs in a manner consistent with the adopted land use plans and therefore consistent with regional planning projections. Impacts would be less than significant.

### 5.3.15 Population and Housing

Selection of this alternative provides for development of fewer residential units (~~1,060~~ 1,000) than for the Proposed Project (1,500) and ultimately fewer new residents in the Chula Vista Bayfront. Development under this alternative would result in an estimated 2,288 people living in the Sweetwater District. As with the Proposed Project, the No Project Alternative would not displace any existing residences and no housing would need to be constructed elsewhere. Impacts, therefore, would be less than significant.

## 5.4 Harbor Park Alternative

The Harbor Park Alternative was developed in conjunction with the community as one of three design options (including the Proposed Project) that is discussed in greater detail in this report. At build-out, the proposed Harbor Park Alternative would result in a project impact area slightly less than that of the Proposed Project, by not developing the triangular parcel south of HP-11 and east of the proposed E Street Extension/Marina Parkway Realignment (see *Figure 5.4-1*). The Harbor Park Alternative provides less-intensive land uses, such as a signature park, along the shoreline between G Street and H Street via location of a resort conference center (RCC) on H-

23, away from the shoreline. The Harbor Park alternative also entails location of a resort hotel on H-1 and cultural uses on H-3. The Harbor Park Alternative combines Parcels HP-1 and H-3 under the Proposed Project to establish one parcel, HP-1, which would be developed as a 35-acre signature park adjacent to the Bay, within walking distance of proposed cultural, retail, residential, and marina uses. In addition, modifications to H-18, S-2, S-1, H-8/H-9, and E Street Extension/Marina Parkway alignment are proposed under the Harbor Park Alternative, as described below.

The Harbor Park Alternative is similar to the Proposed Project except for the following major differences:

- An RCC would be located on a smaller, 24-acre Parcel H-23 in the Harbor District, which is further away from the Bayfront. However, only 1,500 of the hotel rooms would be built in Phase II, and the remaining 500 rooms would be built in Phase III.
- A Signature Park would be integrated with the existing Bayside Park on Parcel HP-1 in the Harbor District, bringing the park closer to the water's edge on a larger, 35-acre parcel.
- Adjacent to the signature park on H-3, up to 400,000 square feet of cultural/retail would be built in Phase III.
- The interim surface parking lot on H-18 would be constructed in Phase II, instead of in Phase I as with the Proposed Project.
- A maximum 400-room conference hotel with a maximum height of 60 feet would be constructed on S-2 in Phase II, instead of a Signature Park in the Sweetwater District in Phase I.
- Mixed-use office/commercial/recreation/cultural uses with a maximum height of 60 feet would replace the 750-room resort hotel with a maximum height of 100 feet on S-1 in the Sweetwater District. Specifically, up to 300,000 square feet of mixed-use office/commercial recreation and 50,000 square feet of cultural would be built on S-1.
- A 500-room resort hotel with a maximum height of 65 feet and a 200-slip marina would replace the community boating center on H-1 in the Harbor District.
- Up to 100,000 square feet of retail would be built around the northern portion of the harbor on H-8/H-9, instead of up to 50,000 square feet of retail as with the Proposed Project.
- The E Street Extension/Marina Parkway alignment within Sweetwater would be modified to direct traffic easterly as the road enters the Harbor District. The Marina Parkway segment between Goodrich and H-3 would be a primary public access road. Under the

Proposed Project, this road traverses west as it enters the Harbor District connecting to the end of H Street.

- No fire station would be proposed on H-17, as is proposed under the Proposed Project. This parcel would remain in the Port's jurisdiction and would be designated for Industrial Business Park use.
- SP-3 would be constructed in Phase IV, instead of in Phase I as proposed under the Proposed Project.

*Table 5.4-1* provides a summary of proposed land uses for the Harbor Park Alternative. *Figure 5.4-1* provides a detailed parcel plan layout under the Harbor Park Alternative. *Figure 5.4-2* illustrates this plan. The required cut-and-fill details are listed in *Table 5.4-2* below.

**TABLE 5.4-1  
Harbor Park Alternative Summary Table  
Proposed Uses and Development Program/Height Ranges**

District, Phase, Parcel Number	Proposed Use	Approximate Program Range	Maximum Stories	Maximum Height (feet)
<b>Sweetwater District</b>				
<b>Phase II</b>				
S-2	Conference Hotel	250 to 400 rooms	2 to 4	40 to 60
S-2A	Open Space	3 acres	N/A	N/A
SP-1	Ecological Buffer	41 acres	N/A	N/A
Streets	E Street Extension, F Street Termination, Street D	N/A	N/A	N/A
SP-2	Seasonal Wetland	14 acres	N/A	N/A
<b>Phase IV</b>				
S-1	Mixed-Use Office/Commercial Recreation	200,000 to 300,000 square feet	2 to 4	40 to 60
S-1	Cultural	10,000 to 50,000 square feet	2 to 3	30 to 45
S-3	Mixed-Use Office/Commercial Recreation	60,000 to 120,000 square feet	2 to 3	30 to 45
S-4	Office	120,000 square feet	8	125
SP-3	Nature Center Parking and Access Road	3 acres	N/A	N/A
SP-4, SP-5, SP-6, SP-7	Parks/Open Space	11 acres	N/A	N/A
<b>Harbor District</b>				
<b>Phase I</b>				
H-13, H-14	Residential	1,500 units	4 to 19	70 to 220
H-13, H-14	Retail	15,000 square feet	N/A	N/A
HP-1	Signature Park, Street	35 acres	N/A	N/A
HP-3	Shoreline Promenade (abutting HP-1)	2 acres	N/A	N/A
HP-5	Wetlands and Buffer	9 acres	N/A	N/A
Streets	H Street Extension, Street A, Street C, Bay Blvd. Segment Termination, J Street/Marina Parkway Realignment, Marina Way	N/A	N/A	N/A
<b>Phase II</b>				
H-8, H-9	Retail/Commercial Recreation and Marina Support	50,000 to 100,000 square feet	1 to 2	15 to 30
H-15	Mixed-Use Office/Commercial Recreation Hotel	420,000 square feet	14 to 17	90 to 130
H-15		250 rooms	14 to 17	
H-23	Resort Conference Center (RCC)	1,500 rooms	20 to 25	250 to 300
H-23	RCC Conference Space	400,000 square feet (net)	20 to 25	250 to 300

TABLE 5.4-1 (Cont.)

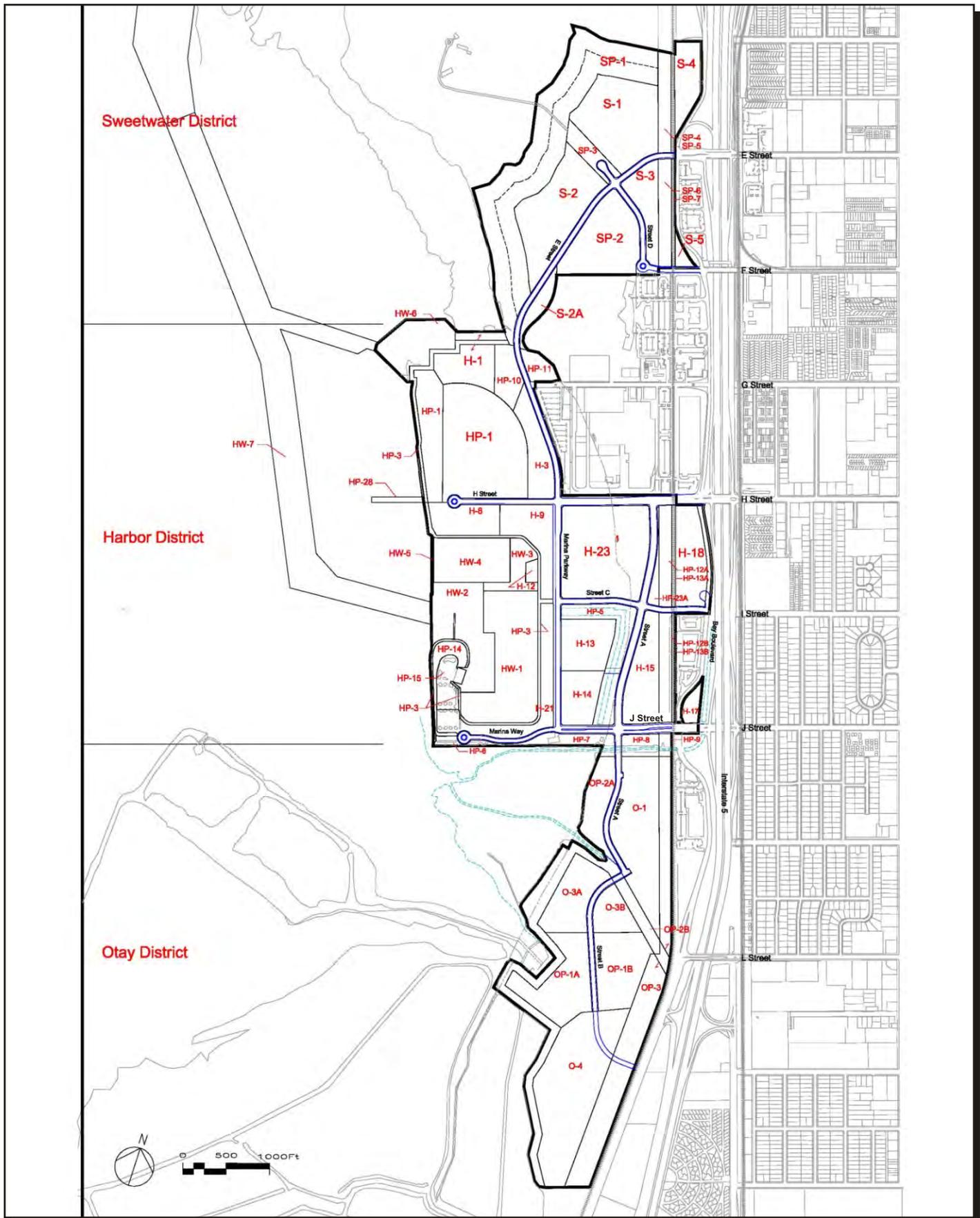
District, Phase, Parcel Number	Proposed Use	Approximate Program Range	Maximum Stories	Maximum Height (feet)
H-23	RCC Retail	100,000 square feet	20 to 25	250 to 300
HP-28	H Street Pier (first half)	0.4 acre	N/A	N/A
<b>Phase III</b>				
H-3	Cultural/Retail	200,000 to 415,000 square feet	3 to 5	45 to 75
HP-23A	Industrial Business Park Use	3 acres	N/A	N/A
H-21	Retail/Commercial Recreation and Marina Support	75,000 to 150,000 square feet	1 to 2	15 to 30
H-23	Resort Conference Center (RCC)	500 rooms	20 to 25	250 to 300
HP-3	Shoreline Promenade (abutting H-21)	3 acres	N/A	N/A
HP-9, HP-12, HP-13, HP-14, HP-15	Parks/Open Space	19 acres	N/A	N/A
<b>Phase IV</b>				
H-1	Resort Hotel	350 to 500 rooms	3 to 5	50 to 65
H-18	Mixed-Use Office/Commercial Recreation	100,000 square feet	6 to 10	85 to 155
H-18	Collector Parking Garage	1,100 to 3,000 parking spaces	6 to 10	85 to 155
HP-3	Shoreline Promenade (abutting H-1)	2 acres	N/A	N/A
HP-10	Parks/Open Space	5 acres	N/A	N/A
HP-28	H Street Pier (second half)	0.4 acre	N/A	N/A
HW-1, HW-2, HW-4, HW-6	Marinas (see H-1, H-9, and H-21), Boat Navigation/Open Water Area	54 acres, 900 slips	N/A	N/A
HW-3	Commercial Harbor	4 acres	N/A	N/A
H-12	Ferry Terminal/Restaurant	10,000 to 25,000 square feet	2	30 to 40
HW-7	Navigation Channel	60 acres	N/A	N/A
<b>Otay District</b>				
<b>Phase III</b>				
O-1	Industrial Business Park Use	N/A	N/A	N/A
O-3	RV Park	175 to 236 RV parking spaces	1 to 2	15 to 35
O-4	Industrial Business Park Use	28 acres	N/A	N/A
OP-1, OP-3	Park/Open Space	51 acres	1	N/A
OP-2A, OP-2B	Ecological Buffer/Telegraph Creek Channel	28 acres	N/A	N/A
Streets	Street A, Street B	N/A	N/A	N/A

S-5 Existing 1-acre Park will remain.

HP-11 Existing Wetland will remain.

HW-5 Existing Fishing Pier will remain.

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SOURCE: Port of San Diego

# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan Harbor Park Alternative Parcel Plan

**FIGURE**  
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SOURCE: Port of San Diego, 2008

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Harbor Park Alternative Illustrative Plan**

**FIGURE**  
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**TABLE 5.4-2**  
**Grading Quantities (cubic yards)**

District	Cut	Fill	Import/Export
Sweetwater District	159,000	95,000	64,000 export
Harbor District	100,000	510,000	<410,000> import
Otay District	61,000	365,000	<304,000> import
<b>Total</b>	<b>320,000</b>	<b>970,000</b>	<b>&lt;650,000&gt; import</b>

### 5.4.1 Land/Water Use Compatibility

In order to evaluate the land/water use compatibility impacts of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each Land/Water Use compatibility threshold was conducted. *Section 5.4.1.1* provides an impact analysis, and *Section 5.4.1.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

#### 5.4.1.1 *Impact Analysis of the Harbor Park Alternative*

Some of the proposed uses for the Harbor Park Alternative are not consistent with the existing land/water use plans applicable to the project site; however, the Harbor Park Alternative includes amendments to the PMP, City of Chula Vista General Plan, and Chula Vista LCP (which includes the LUP and the Bayfront Specific Plan), which, if adopted, would eliminate the inconsistency and would allow the land/water uses proposed for the project site. Similar to the Proposed Project, the approval of the land exchange and adoption of the amendments to the PMP and City LCP would make the Harbor Park Alternative consistent with these plans. The discussion below outlines land/water use elements of the Harbor Park Alternative that are different from the Proposed Project.

#### a. Public Trust Doctrine

Similar to the Proposed Project, the Harbor Park Alternative involves a land exchange to improve land use compatibility in the Sweetwater District by moving the proposed residential uses away from sensitive resources. The land exchange involves the same parcels as those under the Proposed Project (Parcels S-1, S-3, SP-2, SP-3, and most of SP-1 and S-2 may be exchanged for all or some of Parcels H-13, H-14, H-15, and HP-5). The Harbor Park Alternative would be consistent with Section 6307, which provides rationale for allowing the SLC to enter into a land exchange. Similar to the Proposed Project, the Harbor Park Alternative would (1) improve navigation of waterways via rerouting the harbors approach channels to improve boat navigation and access; (2) enhance the physical configuration of the shoreline or trust land ownership via creation of a 400-foot-wide buffer between development and the Sweetwater March NWR; (3)

enhance public access to or along the water by providing an extension of H Street to the waterfront and a promenade along the shoreline; (4) enhance the development for public trust purposes by replacing abandoned industrial areas and creating commercial recreation opportunities and providing additional parkland; and (5) enhance wetlands via wetland restoration measures and the creation of eelgrass habitat.

b. California Coastal Act

Overall, the Harbor Park Alternative would result in impacts similar to that of the Proposed Project. The Harbor Park Alternative would require mitigation measures for the same impacts as those identified in *Table 4.1-7* pertaining to the Proposed Project.

A total of 22.21 acres of California Coastal Commission wetland have been mapped within the project impact area. Impacts to wetlands under the Harbor Park Alternative would be similar to that of the Proposed Project. The project would be required to avoid, minimize, or mitigate in accordance with Coastal Act requirements.

c. Port Master Plan

Similar to the Proposed Project, the Harbor Park Alternative achieves the goals of the current PMP. The Harbor Park Alternative provides increased access to public parks and commercial recreation. The intensity of development in the Sweetwater District would be greater for the Harbor Park Alternative as compared to the Proposed Project. The Harbor Park Alternative provides an additional 128 acres of parkland as compared to the Proposed Project, which is consistent with the Port's public amenities objectives. Because the adoption of the PMP proposed amendment is a proposed action covered under this EIR, the Harbor Park Alternative would be consistent with the PMP. This less than significant finding is similar to that of the Proposed Project. *Appendix 3.4-1* of this report contains the entire draft PMP Amendment text and graphics for the Harbor Park Alternative.

d. City of Chula Vista General Plan

Similar to the Proposed Project, the Harbor Park Alternative requires General Plan Amendment text and graphics. The objectives to be added to the City of Chula Vista General Plan in Section 11 are identical to that of the Proposed Project.

The Harbor Park Alternative would result in impacts similar to that of the Proposed Project. The Harbor Park Alternative would require mitigation measures for the same objectives as those identified in *Table 4.1-9* pertaining to the Proposed Project.

### e. Local Coastal Program

Similar to the Proposed Project, the Harbor Park Alternative includes an amendment to the Chula Vista LCP. The LCP Amendments for the LUP and Specific Plan are included as appendices to this report (*Appendices 4.1-2 and 4.1-3*). Of specific interest unique to the Harbor Park Alternative is the following project feature:

- A Signature Park would be integrated with the existing Bayside Park on Parcel HP-1 in the Harbor District, bringing the park closer to the water's edge on a larger, single 35-acre parcel.

Because the Harbor Park Alternative achieves the goals of the current LCP, and since the adoption of the proposed LCP amendment is a proposed action covered by this report, the Harbor Park Alternative would be consistent with the LCP if it is adopted. This finding is similar to that of the Proposed Project.

***MSCP Conformance.*** Approval of the proposed land trade would transfer parcels in the Harbor District from the Port jurisdiction to the City.

As with the Proposed Project, the Harbor Park Alternative would result in significant indirect impacts. The F & G Street Marsh, an MSCP preserve, is adjacent to the City's jurisdiction in the Sweetwater District and there is the potential for indirect impacts to occur from public access, such as pets traversing the preserve areas and litter from human beings, lighting during construction illuminating nearby roost sites and nests, noise from construction and operation, invasive plant species, and the potential release of toxic substances.

Land/water use compatibility would be similar to that of the Proposed Project. Non-industrial uses would be placed adjacent to the Goodrich facility, which would not represent an incompatible land use. In addition, this alternative provides 400-foot buffers and setbacks for the Sweetwater District and relocates the existing development from this district, placing the more urbanized uses in the Harbor District. It is noted that land uses within the Sweetwater District under the Harbor Park Alternative, which involves development on both Parcel S-2 with a conference hotel and Parcel S-1 with mixed/cultural uses, would be higher intensity as compared to the Proposed Project, which involves development of a signature park on S-2 and a resort hotel on S-1.

As with the Proposed Project, there are no identified significant impacts associated with this threshold pertaining to the Harbor Park Alternative.

#### ***5.4.1.2 Land/Water Use Summary and Mitigation***

The Harbor Park Alternative would result in significance findings similar to that of the Proposed Project for land/water use as shown in *Table 5.4-3* below. All mitigation measures applicable to

the Proposed Project as detailed in *Section 4.1, Land/Water Use Compatibility*, would be required in order to reduce land/water use impacts to below a level of significance. **Similar to the Proposed Project, impacts from this alternative would be reduced to less than significant, provided that proposed amendments to the City of Chula Vista General Plan, LCP Land Use Plan, and Bayfront Specific Plan are approved, with the exception of impacts on City of Chula Vista General Plan policies related to view quality and library services which would remain significant and unmitigated as under the Proposed Project.**

**TABLE 5.4-3  
Comparison of Land/Water Use Impacts**

	Proposed Project	Harbor Park Alternative
Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project, including but not limited to the General Plan, Specific Plan, local coastal program, master plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Yes: <b>Significant Impacts 4.1-1 through <del>4.1-3</del> 4.1-5</b>	Similar
Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	Yes: <b>Significant Impact <del>4.1-4</del> 4.1-6</b>	Similar
Would the project create a substantial or extreme land/water use incompatibility with adjacent or nearby existing and proposed land uses, resulting in significant incompatibility or nuisance impacts?	No	No
Would the project conflict with an adopted PMP water use designation where substantial indirect or secondary environmental impacts would occur?	No	No

#### 5.4.2 Traffic/Circulation and Parking

In order to evaluate the traffic/circulation and parking impacts of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each traffic/circulation and parking threshold was conducted. *Section 5.4.2.1* provides an impact analysis and *Section 5.4.2.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The information presented in this section is based on the Traffic Impact Analysis prepared for the Chula Vista Bayfront Master Plan by Kimley-Horn and Associates, Inc. in February 2008.

##### 5.4.2.1 Impact Analysis of the Harbor Park Alternative

The following discussion describes the traffic-related impacts for each of the three development phases for the Harbor Park Alternative. The intersection lane geometry and roadway segment

improvements incorporated into the Harbor Park Alternative project design to restore LOS to the minimum LOS performance standard are shown in *Table 5.4-4*.

As with the Proposed Project, under the Harbor Park Alternative, the segment of H Street between Street A and I-5 would be constructed as a five-lane major street. The fifth lane would be in the eastbound direction and would terminate in the southbound I-5 entrance ramp. H Street would also be designed to match the eight lanes that exist at the I-5 over-crossing. The over-crossing has two through lanes and two left-turn lanes in each direction. Appendix E of the Traffic Report (see this report's *Appendix 4.2-1*) contains a conceptual diagram depicting the improvements along H Street.

In addition, the segment of Marina Parkway between E Street and J Street would be reconstructed as a two-lane roadway. The downsizing of this segment of Marina Parkway is intended to provide space for the construction of wider sidewalks and an improved bicycle path along the western side of the roadway, creating a pedestrian and bicycle-friendly corridor.

**TABLE 5.4-4  
Harbor Park Alternative Proposed Roadway Segment, Intersection, and Freeway Improvements**

Facility	Description of Improvement	Timing
<b>Roadway Segments</b>		
E Street between Bay Boulevard and F Street	Construct as a 4-lane Class I Collector	Phase I
H Street west of Marina Parkway	Construct as a 2-lane Class II Collector	Phase I
H Street between Marina Parkway and Street A	Construct as a 4-lane major street	Phase I
H Street between Street A and I-5	Construct as a 5-lane major street	Phase I
J Street west of Marina Parkway	Construct as a 2-lane Class III Collector	Phase I
J Street between Marina Parkway and Street A	Construct as a 4-lane major street	Phase I
J Street between Street A and Bay Boulevard	Construct as a 6-lane major street	Phase I
Marina Parkway between E Street and J Street	Re-build as a 2-lane Class II Collector and use excess ROW for pedestrian facilities	Phase I
Street A between H Street and J Street	Construct as a 4-lane Class I Collector	Phase I
Street C between Marina Parkway and Bay Boulevard	Construct as a 2-lane Class II Collector	Phase I
Bay Boulevard between H Street and Street C	Remove segment	Phase I
Street A between J Street and Street B	Construct as a 2-lane Class II Collector	Phase II
Street B between Street A and Bay Boulevard	Construct as a 2-lane Class II Collector	Phase II
<b>Intersections</b>		
E Street and I-5 SB Off-Ramp	Additional through lane in the EB/WB direction and separating the EB RT lane	Phase I
Marina Parkway and H Street	Construct and install a traffic signal	Phase I
Bay Boulevard and H Street	Remove the south leg and all movements related to the south leg, restrict movements on north leg to RT only, eliminate EB LT movement	Phase I
H Street and I-5 SB Ramps	Additional through lane in EB direction and separating the EB RT lane	Phase I
Bay Boulevard and J Street	Install a traffic signal, add a through lane in the EB/WB direction, separate the SB RT lane	Phase I
H Street and Street A	Construct and install a traffic signal	Phase I
J Street and Street A	Construct and install a traffic signal	Phase I
E Street and F Street	Construct two-way stop-controlled intersection	Phase I
J Street and Marina Parkway	Construct all-way stop-controlled intersection	Phase I
Street C and Marina Parkway	Construct two-way stop-controlled intersection	Phase I
Street C and Street A	Construct all-way stop-controlled intersection	Phase I
Street B and Street A	Construct two-way stop-controlled intersection	Phase II
Street B and Bay Boulevard	Construct two-way stop-controlled intersection	Phase II
<b>Freeway Segments</b>		
I-5 between State Route 54 and Palomar Street	Participate in fair share of the I-5 Corridor Study conducted by Caltrans and SANDAG	Phase III (Build-out)

SOURCE: Kimley-Horn and Associates, Inc. 2006.

SB = Southbound; EB = Eastbound; WB = Westbound; RT = Right-turn; LT = Left-turn;

## Trip Generation

Overall, the Harbor Park Alternative is expected to generate a total of 86,406 daily trips as compared to 80,767 total daily trips for the Proposed Project. This includes 5,843 (3,742 in, 2,101 out) A.M. peak-hour trips and 8,278 (3,874 in, 4,404 out) P.M. peak-hour trips.

With implementation of the Harbor Park Alternative, Phase I is expected to generate a total of 46,808 daily trips with 3,359 (2,041 in, 1,318 out) A.M. peak-hour trips and 4,313 (2,137 in, 2,176 out) P.M. peak-hour trips. Although more trips would ultimately be generated, Phase I would result in 15,861 fewer average daily trips than would occur in the first phase of the Proposed Project. Phase II is expected to generate a total of 29,418 daily trips, including 1,271 (612 in, 659 out) A.M. peak-hour trips and 2,579 (1,430 in, 1,149 out) P.M. peak-hour trips. By build-out of Phase II, the number of trips generated by the Harbor Park Alternative would be roughly the same as for the Proposed Project. Phase III is expected to generate a total of 10,180 daily trips (compared to 4,080 daily trips for the Proposed Project), including 1,213 (1,089 in, 124 out) A.M. peak-hour trips and 1,386 (307 in, 1,079 out) P.M. peak-hour trips. At build-out, trip generation from development of the Harbor Park Alternative is calculated to generate an average of 5,639 more daily trips than for the Proposed Project.

## Intersection Analysis

Six study intersections would experience direct impacts over the three phases under this alternative (see *Appendix 4.2-1*). Phase I traffic impacted two intersections, Phase II impacted three intersections, and Phase III project traffic impacted one intersection. As shown in *Table 5.4-5*, proposed improvements incorporated into the Harbor Park Alternative project design would restore LOS to the minimum performance standard (i.e., LOS D or better) except at the H Street/Broadway intersection where the operations would remain at LOS E. Prior to implementation of proposed mitigation, significant direct and cumulative project impacts would be worse for the Harbor Park Alternative than for the Proposed Project at the following intersections:

- E Street/I-5 southbound off-ramp during the P.M. peak hour (Direct Impact, LOS F as compared to LOS E for the Proposed Project), and
- H Street and Broadway during the P.M. peak hour (Cumulative Impact, LOS F as compared to LOS E for the Proposed Project).

**TABLE 5.4-5  
Harbor Park Alternative — Peak-Hour Intersection Level of Service Summary**

Intersection		Phase I Improvements				Phase II Improvements				Phase III Improvements				
1	E Street and I-5 SB Off-Ramp	—				—				Add second NB right-turn lane, second SB left-turn lane, second SB right-turn lane				
14	H Street and Bay Boulevard	—				Signalize Intersection				—				
16	H Street and I-5 NB Ramps <sup>1</sup>	—				Add two WB thru lanes				—				
17	H Street and Woodlawn Avenue <sup>1</sup>	—				Add EB and WB thru lane				Add WB right-turn lane				
18	H Street and Broadway	—				—				Add third WB thru lane and WB right-turn lane				
22	J Street and Bay Boulevard	—				Add EB right-turn lane				—				
24	J Street and I-5 NB Ramps	—				Add WB right-turn lane				Add second EB left-turn lane				
27	L Street and Bay Boulevard	Construct Traffic Signal				—				—				
30	I-5 SB Ramps and Bay Boulevard	Construct Traffic Signal				—				—				
Intersection	Peak-Hour	Before Phase I Improvement		After Phase I Improvement		Before Phase II Improvement		After Phase II Improvement		Before Phase III Improvement		After Phase III Improvement		
		Delay <sup>2</sup>	LOS <sup>3</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	
1	E Street and I-5 SB Off-Ramp	A.M.	—	—	—	—	—	—	—	—	27.6	C	22.2	C
		P.M.	—	—	—	—	—	—	—	—	149.7	F	51.7	D
14	H Street and Bay Boulevard	A.M.	—	—	—	—	11.9	B	3.2	A	—	—	—	—
		P.M.	—	—	—	—	80.3	F	15.8	B	—	—	—	—
16	H Street and I-5 NB Ramps <sup>1</sup>	A.M.	—	—	—	—	16.8	B	14.2	B	—	—	—	—
		P.M.	—	—	—	—	53.5	D	19.7	B	—	—	—	—
17	H Street and Woodlawn Avenue <sup>1</sup>	A.M.	—	—	—	—	38.7	D	27.5	C	65.7	E	52.8	D
		P.M.	—	—	—	—	41.8	D	36.8	D	57.1	E	47.6	D
18	H Street and Broadway	A.M.	—	—	—	—	—	—	—	—	47.8	D	36.9	D
		P.M.	—	—	—	—	—	—	—	—	81.3	F	64.4	E
22	J Street and Bay Boulevard	A.M.	—	—	—	—	24.3	C	21.6	C	—	—	—	—
		P.M.	—	—	—	—	61.6	E	31.6	C	—	—	—	—
24	J Street and I-5 NB Ramps	A.M.	—	—	—	—	70.7	E	52.2	D	76.7	E	52.8	D
		P.M.	—	—	—	—	63.0	E	44.7	D	45.0	D	23.8	C
27	L Street and Bay Boulevard	A.M.	ECL	F	6.5	A	—	—	—	—	—	—	—	—
		P.M.	ECL	F	15.0	B	—	—	—	—	—	—	—	—
30	I-5 SB Ramps and Bay Boulevard	A.M.	28.3	D	7.9	A	—	—	—	—	—	—	—	—
		P.M.	63.7	F	13.4	B	—	—	—	—	—	—	—	—

SOURCE: Kimley-Horn and Associates, Inc. 2006.

Bold values indicate intersections operating at LOS E or F. Bold and shaded values indicate direct project significant impact.

SB = Southbound; NB = Northbound; WB = Westbound; LOS = Level of Service; ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds.

<sup>1</sup>Intersections 16 and 17 are improved as part of Phase II roadway mitigation widening of H Street.

<sup>2</sup>Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

<sup>3</sup>LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0.

However, as compared to the Proposed Project, build-out of the Harbor Park Alternative would lessen the significant cumulative impacts at:

- H Street and Woodlawn during the A.M. and P.M. peak hours (LOS E as compared to LOS F), and
- H Street and the I-5 northbound ramps (LOS C during the P.M. peak hour as compared to LOS E).

Project mitigation for impacted intersections under this alternative are included in *Table 5.4-6*. The mitigation measures in the table would restore traffic levels to LOS D or better, except at the H Street/Broadway intersection. As with the Proposed Project, the impact at the H Street/Broadway intersection would remain significant and unmitigable.

### Roadway Segment Analysis

As shown in *Table 5.4-7*, development of the Harbor Park Alternative would directly impact one segment along H Street during Phase II development. Additionally, as discussed in *Chapter 6, Cumulative Impacts*, segments along Bay Boulevard and Marina Parkway would have a cumulative project impact in Phases I, II, and/or III. Figure 5-33 of the Traffic Report (see *Appendix 4.2-1*) shows locations of the roadway segments that have an impact (direct or cumulative) for each phase of development. For roadway segments that have a significant direct or cumulative impact which occur in multiple phases, the first phase in which the impact occurs is shown on the figure.

At build-out, the following significant direct and cumulative project impacts to road segments would be worse for the Harbor Park Alternative than for the Proposed Project:

- H Street, I-5 ramps to Broadway (Direct Impact, LOS E as compared to LOS D for the Proposed Project),
- J Street, Bay Boulevard to the I-5 ramps (Cumulative Impact, LOS E as compared to LOS D for the Proposed Project),
- Bay Boulevard, between C and J Streets (Cumulative Impact, LOS E as compared to LOS C for the Proposed Project), and
- Bay Boulevard, between J and L Streets (Cumulative Impact, LOS E as compared to LOS D for the Proposed Project).

**TABLE 5.4-6  
Harbor Park Alternative Roadway Segment, Intersection, and Freeway Mitigation**

Facility	Description of Improvement	Timing
<b>Roadway Segments</b>		
H Street between I-5 Ramps and Broadway	Widen to a 6-lane gateway street	Phase II
<b>Intersections</b>		
L Street & Bay Boulevard	Construct and install a traffic signal	Phase I
I-5 SB Ramps & Bay Boulevard	Construct and install a traffic signal	Phase I
H Street & I-5 NB Ramps	Add two WB through lanes as part of roadway segment mitigation	Phase II
H Street & Woodlawn Avenue	Add EB and WB through lane as part of roadway segment mitigation	Phase II
H Street & Bay Boulevard	Signalize intersection	Phase II
J Street & Bay Boulevard	Add EB right-turn lane	Phase II
J Street & I-5 NB Ramps	Add WB right-turn lane	Phase II
E Street & I-5 SB Off-Ramp	Add second NB right-turn lane, second SB left-turn lane, second SB right-turn lane	Phase III
H Street & Woodlawn Avenue	Add WB right-turn lane	Phase III
H Street & Broadway	Add WB through lane and WB right-turn lane	Phase III
J Street & I-5 NB Ramps	Add second EB left-turn lane	Phase III
<b>Freeway Segments</b>		
I-5 between State Route 54 and Palomar Street	Add an HOV lane in each direction	Phase III (Build-out)

SOURCE: Kimley-Horn and Associates, Inc. 2006.

SB = Southbound; WB = Westbound; EB = Eastbound; HOV = High Occupancy Vehicle; Caltrans = California Department of Transportation

**TABLE 5.4-7  
Harbor Park Alternative Roadway Segment Level of Service Summary by Phase**

Roadway Segment	Roadway Classification	Acceptable Volume	Phase I Baseline		Phase I Baseline Plus Project		Phase II Baseline		Phase II Baseline Plus Project		Phase III Baseline		Phase III Baseline Plus Project	
			ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
<b>E Street</b>														
Marina Parkway to F Street	2 Lanes Class II Collector	12,000	–	–	4,040	A	4,040	A	6,340	A	6,340	A	7,350	A
F Street to Bay Boulevard	4 Lanes Class I Collector	22,000	740	A	5,600	A	5,890	A	7,470	A	8,210	A	15,930	A
Bay Boulevard to I-5 Ramps	4 Lanes Major Street	30,000	14,520	A	18,710	A	18,710	A	19,840	A	19,840	A	26,160	B
I-5 Ramps to Woodlawn Avenue	4 Lanes Gateway Street	43,200	26,800	A	29,690	B	29,690	B	30,540	B	30,540	B	34,620	C
Woodlawn Avenue to Broadway	4 Lanes Gateway Street	43,200	26,560	A	29,170	B	29,170	B	30,020	B	30,020	B	33,380	B
Broadway to Third Avenue	4 Lanes Urban Arterial	37,800	18,410	A	20,390	A	20,390	A	20,950	A	20,950	A	23,810	A
<b>F Street</b>														
E Street to Bay Boulevard	2 Lanes Class II Collector	12,000	–	–	1,510	A	1,510	A	2,690	A	2,690	A	4,150	A
Bay Boulevard to Broadway	4 Lanes Downtown Promenade	33,750	4,350	A	5,670	A	5,670	A	6,940	A	6,940	A	8,530	A
Broadway to Fourth Avenue	2 Lanes Downtown Promenade	14,400	10,310	B	11,030	B	11,030	B	11,910	C	11,910	C	12,280	C
Fourth Avenue to Third Avenue	4 Lanes Downtown Promenade	33,750	10,440	A	10,950	A	11,410	A	11,700	A	12,890	A	13,100	A
<b>H Street</b>														
West of Marina Parkway	2 Lanes Class II Collector	12,000	–	–	3,240	A	3,240	A	6,770	A	6,770	A	6,770	A
Marina Parkway to Street A	4 Lanes Major Street	30,000	–	–	3,610	A	3,840	A	4,510	A	5,130	A	5,490	A
Street A to I-5 Ramps	5 Lanes Major Street	35,000	–	–	29,890	B	29,890	B	36,760	<b>D</b>	36,760	<b>D</b>	37,120	<b>D</b>
I-5 Ramps to Broadway	4 Lanes Gateway Street	43,200	31,760	B	39,130	D	41,280	D	43,700	<b>E</b>				
I-5 Ramps to Broadway	6 Lanes Gateway Street	61,200									49,270	C	49,520	C
Broadway to Third Avenue	4 Lanes Urban Arterial	37,800	27,430	B	31,360	C	31,360	C	32,620	C	32,620	C	32,930	C
<b>J Street</b>														
Marina Pkwy to Street A	4 Lanes Major Street	30,000	6,700	A	6,700	A	6,700	A	13,230	A	13,230	A	13,230	A
Street A to Bay Blvd	6 Lanes Major Street	40,000	6,700	A	22,730	A	22,730	A	29,520	A	29,520	A	29,570	A
Bay Blvd to I-5 Ramps	4 Lanes Major Street	30,000	17,200	A	29,670	C	29,670	C	35,570	<b>E</b>				
Bay Blvd to I-5 Ramps	6 Lanes Major Street	40,000									35,570	C	35,570	C
I-5 Ramps to Broadway	4 Lanes Major Street	30,000	17,280	A	20,700	A	20,750	A	23,020	B	23,160	B	23,160	B
<b>L Street</b>														
Bay Boulevard to Industrial Way	4 Lanes Gateway Street	43,200	15,100	A	18,530	A	18,530	A	20,800	A	20,800	A	20,800	A
Industrial Way to Broadway	4 Lanes Gateway Street	43,200	20,400	A	23,600	A	23,600	A	25,070	A	25,070	A	25,070	A
<b>Marina Parkway</b>														

TABLE 5.4-7 (Cont.)

Roadway Segment	Roadway Classification	Acceptable Volume	Phase I Baseline		Phase I Baseline Plus Project		Phase II Baseline		Phase II Baseline Plus Project		Phase III Baseline		Phase III Baseline Plus Project	
			ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
E Street to H Street	2 Lanes Class II Collector	12,000	–	–	4,390	A	4,390	A	7,710	A	7,710	A	8,670	A
H Street to Street C	2 Lanes Class II Collector	12,000	1,870	A	6,060	A	6,060	A	13,060	<b>D</b>	13,060	<b>D</b>	13,780	<b>E</b>
Street C to J Street	2 Lanes Class II Collector	12,000	2,470	A	7,970	A	7,970	A	14,760	<b>E</b>	14,760	<b>E</b>	15,480	<b>F</b>
<b>Bay Boulevard</b>														
E Street to F Street	2 Lanes Class III Collector	7,500	9,700	<b>F</b>	9,940	<b>F</b>	9,940	<b>F</b>	9,940	<b>F</b>	9,940	<b>F</b>	10,430	<b>F</b>
F Street to H Street	2 Lanes Class III Collector	7,500	2,810	A	3,370	A	3,740	A	4,250	A	5,210	A	5,330	A
Street C to J Street	2 Lanes Class III Collector	7,500	2,710	A	5,630	B	5,790	B	8,420	<b>E</b>	8,810	<b>E</b>	8,810	<b>E</b>
J Street to L Street	2 Lanes Class II Collector	12,000	3,040	A	10,090	B	10,140	B	13,670	<b>E</b>	13,810	<b>E</b>	13,860	<b>E</b>
L Street to I-5 Ramps	2 Lanes Class II Collector	12,000	3,520	A	4,800	A	4,950	A	6,160	A	6,550	A	6,600	A
South of I-5 Ramps	2 Lanes Class III Collector	7,500	3,520	A	4,800	A	4,950	A	5,800	B	6,190	B	6,240	B
<b>Broadway</b>														
C Street to E Street	4 Lanes Commercial Boulevard	33,750	26,010	B	26,310	C	26,310	C	26,510	C	26,510	C	27,130	C
E Street to H Street	4 Lanes Commercial Boulevard	33,750	25,670	B	26,730	C	26,730	C	27,290	C	27,290	C	27,800	C
H Street to K Street	4 Lanes Commercial Boulevard	33,750	29,570	C	30,490	D	30,730	D	31,500	D	32,130	D	32,130	D
K Street to L Street	4 Lanes Commercial Boulevard	33,750	26,600	C	27,030	C	27,030	C	27,320	C	27,320	C	27,320	C
South of L Street	4 Lanes Major Street	30,000	27,060	C	28,230	C	28,230	C	28,680	C	28,680	C	28,680	C
<b>Street A</b>														
H Street to Street C	4 Lanes Class I Collector	22,000	–	–	14,800	A	14,800	A	17,930	B	17,930	B	18,040	B
Street C to J Street	4 Lanes Class I Collector	22,000	–	–	17,290	B	17,290	B	21,040	C	21,040	C	21,090	C
J Street to Street B	2 Lanes Class II Collector	12,000	–	–	–	–	–	–	7,170	A	7,170	A	7,170	A
<b>Street B</b>														
Street A to Bay Boulevard	2 Lanes Class II Collector	12,000	–	–	–	–	–	–	2,740	A	2,740	A	2,740	A
<b>Street C</b>														
Marina Parkway to Street A	2 Lanes Class II Collector	12,000	–	–	2,770	A	2,770	A	4,140	A	4,140	A	4,140	A
Street A to Bay Boulevard	2 Lanes Class II Collector	12,000	–	–	2,450	A	2,450	A	5,090	A	5,090	A	5,090	A

SOURCE: Kimley-Horn and Associates, Inc. 2006.

ADT = Average Daily Trips; LOS = Level of Service

Bold values indicate roadway segments operating at LOS E or F. Bold and shaded values indicate project direct impact.

Dashes indicate that road is not constructed in that scenario. Blank spaces indicate that road is reclassified.

However, as compared to the Proposed Project, build-out of the Harbor Park Alternative would lessen the significant cumulative impact to the following segment:

- Marina Boulevard, between H Street and Street C (LOS E as compared to LOS F).

Project mitigation for impacted roadway segments under this alternative is identified in *Table 5.4-7*. Implementation of the mitigation measures in this table would reduce the potential impacts to below a level of significance.

### **Freeway Segment Analysis**

Impacts to freeway segments resulting from development of the Harbor Park Alternative would be similar to the Proposed Project. As with the Proposed Project, under this alternative, all freeway segments would function at LOS F or worse for all phases. Direct project impacts only occur along the I-5 segment between SR-54 and E Street during both peak periods in Phase I. As identified for the Proposed Project (see *Chapter 6, Cumulative Impacts*), all other freeway segments would be cumulatively impacted. Because the freeway system is developed and managed by Caltrans, the City has only limited ability to affect the level of congestion on these roadways. However, as with the Proposed Project, fair-share participation by the Port and City in the I-5 Corridor Study conducted by Caltrans and SANDAG to address existing and future traffic conditions, needed improvements, a timeline for implementation of improvements, associated costs, coordination with local and regional transportation plans, and assurances of participation as required by mitigation measures identified in *Section 4.2, Traffic/Circulation*, reduces the significant impact but not to below a level of significance.

### **Parking**

The parking summary for the Harbor Park Alternative from Phase I through Phase III is shown in *Table 5.4-8*. With the completion of Phases I through III, a total of approximately 15,000 parking spaces would be provided, which is an excess of approximately 200 parking spaces. All of the new parking spaces provided in Phase III would be located in the Sweetwater District. In addition, as with the Proposed Project, Parcel H-18 would provide extra parking that may be used by other uses within the study area as remote parking for appropriate consideration. Under the Harbor Park Alternative, the same amount of parking would be provided in Parcel H-18 as under the Proposed Project. This would provide an excess capacity of 200 parking spaces. Because more parking spaces would be provided than are required by the project, impacts would be similar to those identified for the Proposed Project and no significant impact would occur.

### 5.4.2.1 *Traffic/Circulation and Parking Summary and Mitigation*

Prior to implementation of proposed mitigation, significant direct and cumulative project impacts would be worse for the Harbor Park Alternative than for the Proposed Project at the following intersections:

- E Street/I-5 southbound off-ramp during the P.M. peak hour (Direct Impact, LOS F as compared to LOS E for the Proposed Project)
- H Street and Broadway during the P.M. peak hour (Cumulative Impact, LOS F as compared to LOS E for the Proposed Project).

The mitigation measures identified would restore traffic levels to LOS D or better, except at the H Street/Broadway intersection. Unlike the Proposed Project, the impact at the H Street/Broadway intersection would remain significant and unmitigable.

At build-out, the following significant direct and cumulative project impacts to road segments would be worse for the Harbor Park Alternative than for the Proposed Project:

- H Street, I-5 ramps to Broadway (Direct Impact, LOS E as compared to LOS D for the Proposed Project)
- J Street, Bay Boulevard to the I-5 ramps (Cumulative Impact, LOS E as compared to LOS D for the Proposed Project)
- Bay Boulevard, between C and J Streets (Cumulative Impact, LOS E as compared to LOS C for the Proposed Project).

**TABLE 5.4-8  
Harbor Park Alternative Parking Summary**

Phase	Parcel	Land Use	Intensity <sup>a</sup>	Rate <sup>b</sup>	Parking Required	Parking Provided	Provided - Required
<b>Sweetwater District</b>							
III	S-1	Office	300 ksf	3 : ksf	900	900	
III	S-1	Cultural	50 ksf	1 : ksf	50	50	
I	S-2	Conference Hotel	400 rooms	1 : room	400	400	
III	S-3	Mixed-Use Commercial	120 ksf	4 : ksf	480	480	
III	S-4	Office	120 ksf	3 : ksf	360	360	
III	SP-3	Nature Center Parking	2.96 acres	:	100	100	
<b>Subtotal</b>					<b>2,290</b>	<b>2,290</b>	
<b>Harbor District</b>							
II	H-1	Resort Hotel	500 rooms	1 : room	500	500	
II	H-1/HW-06	Yacht Club/Relocated Berths <sup>c</sup>	200 berth	0.7 : berth	180	180	
II	H-3	Cultural	400 ksf	1 : ksf	400	200	-200
I	H-9	Retail/Commercial Recreation	100 ksf	4 : ksf	400	400	
	H-9	Existing Marina	200 berth	0.7 : berth	140	200	60
II	H-12	Restaurant	25 ksf	9.3 : ksf	233		-233
II	H-12	Ferry Terminal	1 site	20 : site	20		-20
I	H-13	Residential	918 DU	1.85 : DU	1,698	1,700	2
I	H-14	Residential	382 DU	1.85 : DU	707	710	3
I	H-15	Mixed-Use Office	210 ksf	3 : ksf	630	630	
I	H-15	Visitor Hotel	250 rooms	1.25 : room	313	313	
I	H-15	Retail	120 ksf	4 : ksf	480	480	
I	H-15	General Office	90 ksf	3 : ksf	270	270	
I	H-18	Office/Parking	100 ksf	3 : ksf	300	1,600	1,300
II	H-21	Retail	150 ksf	4 : ksf	600	250	-350
	H-21	Existing Marina	500 berth	0.7 : berth	350	350	
I	H-23	Hotel	1,500 rooms	1 : room	1,500	1,500	
II	H-23	Hotel	500 rooms	1 : room	500		-500
I	H-23	Hotel Restaurant	1,600 seats	0.11 : seats	176	176	
I	H-23	Conference Center	400 ksf	1.6 : ksf	640	640	

TABLE 5.4-8 (Cont.)

I	HP-01	Signature Park <sup>d</sup>	35.4 acres	12 : acre	425	472	47
I	HP-03	50-foot Baywalk	9.2 acres	4 : acre	37		-37
	HP-07	Existing Marina View Park	6.4 acres	12 : acre	76	76	
	HP-15	Existing Bayfront Park <sup>e</sup>	10.1 acres	12 : acre	180	180	
I	HP-28	H Street Pier	0.4 acres	12 : acre	5		-5
II	HP-28	H Street Pier	0.4 acres	12 : acre	5		-5
<b>Subtotal</b>					<b>10,764</b>	<b>10,827</b>	<b>63</b>
<b>Otay District</b>							
II	O-1	Residential	466 DU	1.85 : DU	862	870	8
II	O-1	Residential — Garden	135 DU	2 : DU	270	270	
II	O-1	Residential — Garden	99 DU	2 : DU	198	198	
II	O-3	RV Park	236 DU	1 : DU	236	236	
II	OP-1	South Park	23.65 acres	4 : acre	95	95	
II	OP-3	150-foot SDG&E ROW	28.36 acres			150	150
<b>Subtotal</b>					<b>1,661</b>	<b>1,819</b>	<b>158</b>
<b>TOTAL</b>					<b>14,714</b>	<b>14,936</b>	<b>221</b>

SOURCE: Kimley-Horn and Associates, Inc. 2006.

ksf = thousand square feet; DU = dwelling units

<sup>a</sup>The Intensity of each land use was provided by the Port of San Diego

<sup>b</sup>The parking rate was provided by the Port of San Diego

<sup>c</sup>H-1 includes a 10 ksf Community Boating Center to support the slips that generates a parking demand of 40 spaces.

<sup>d</sup>The Signature Park includes a 5,000-seat amphitheater, and the parking requirement rate for the amphitheater is equal to 0.34 spaces per seat; therefore, 1,700 spaces will be required to serve the amphitheater during special events.

<sup>e</sup>Parking includes 100 boat trailer spaces and 80 vehicle spaces.

### 5.4.3 Aesthetics/Visual Quality

In order to evaluate the aesthetics/visual quality impacts of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each aesthetics/visual quality threshold was conducted. *Section 5.4.3.1* provides an impact analysis, and *Section 5.4.3.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The analysis below is based on the visual impact assessment prepared by KTU+A in June 2006 to assess the Proposed Project and two alternatives, including the Harbor Park Alternative. This study is included in *Appendix 4.4-1*. Existing site conditions as well as methodology and visual character definitions are discussed in *Section 4.4, Aesthetics/Visual Quality*, of this report.

#### 5.4.3.1 Impact Analysis of the Harbor Park Alternative

Like the Proposed Project, the Harbor Park Alternative would substantially change background views from the north, including views from the Sweetwater Marsh NWR/Chula Vista Nature Center, and from across San Diego Bay. Additional public views altered by the project include on-site bay views, off-site bay views from the east, off-site bay views from the north, and gateway and scenic roadway views. Scenic landmarks within the project impact area include Bayside Park.

##### a. Sweetwater Marsh NWR

Visitors to the Sweetwater Marsh NWR/Chula Vista Nature Center have the highest sensitivity because they expect the visual environment within the refuge to be “natural.” The focal point of development near the water’s edge is the existing South Bay Boatyard/storage lot. Views would be slightly improved by replacing the existing boatyard with upgrades to the waterfront, including a resort hotel use on H-1. The RCC would be located on H-23, east of the marina and further from the Bay and the Sweetwater Marsh NWR, which would reduce impacts of this feature by locating it further from the shoreline. However, this beneficial aesthetic impact is counteracted via the development of S-2, which would bring development in the Sweetwater District closer to the Sweetwater Marsh and Chula Vista Nature Center compared to the Proposed Project. In the Harbor Park Alternative, both S-1 and S-2 would be developed. Similar to the Proposed Project, the Harbor Park Alternative would result in a significant impact to public views from the Sweetwater Marsh NWR/Chula Vista Nature Center.

##### b. Silver Strand

As with the Proposed Project, development of this alternative would dominate the public view and skyline and be visible at great lengths from the project site. Although the RCC would be

relocated to H-23 away from the shoreline, the Harbor Park Alternative would still result in a dramatic scale imbalance between the existing landform and structures and Proposed Project components. As compared to the Proposed Project, a more distant RCC would be combined with high-rise residential and other large-scale elements, such as the hotel proposed on S-2 and H-1. Similar to the Proposed Project, the Harbor Park Alternative would result in a significant impact to public views from the Silver Strand and would require mitigation.

c. **Adjacent/On-Site Bay Views**

The adjacent or on-site viewing locations of the Bay include important view corridors as follows: E, F, and J Streets; Marina Parkway (north to south); unobstructed views from the existing parks; and the I-5 overpass at J Street. Impacts to views along Marina Parkway would be greater as compared to the Proposed Project since the roadway would be located further east, obstructing views along the portion east of Parcel H-3. Views looking west from the portion of E Street adjacent to S-2 would be obstructed via development of this parcel, which is part of the signature park under the Proposed Project. Furthermore, building heights viewed from I-5 over the J Street corridor significantly encroach on views from this location. This is contrary to the goals and policies set forth in the PMP and City planning documents and would be significant.

In summary, the Harbor Park Alternative would result in a significant impact to adjacent/on-site Bay views from Marina Parkway, the E Street Corridor, and the I-5 overpass and would require mitigation. This finding is different from that of the Proposed Project, which identified a low impact to on-site Bay views, which is considered less than significant.

d. **Off-Site Bay Views from the East**

Views to the Bay across the Sweetwater District would be more obstructed as compared to the Proposed Project due to development on both S-1 and S-2. This development would contribute to blockage of views from the freeway flyover from SR-54 at I-5. The Harbor Park Alternative would result in development on S-3, S-4, S-1, and S-2, which together would partially block the view to the water. However, the distance between this view location and the proposed new building reduces their perceived size, and the vista is only visible from passing vehicles for a limited time. Regardless, this partial loss of Bay views would be considered a significant impact and would require mitigation. This impact would not result from the Proposed Project.

e. **Off-Site Bay Views from the North**

Waterfront views are considered from Pepper Park (located north of the Sweetwater Marsh NWR and Sweetwater River). Impacts from this location would be similar to that of the Proposed Project. The existing views of the water and existing marsh would not be compromised, and the change in horizon would be considered a less than significant impact.

### Gateway and Scenic Roadway Views

- Bay Views from Marina Parkway: See adjacent/on-site Bay views above. Impact would be greater as compared to the Proposed Project since the roadway would be located further east, obstructing views along the portion of Marina Parkway east of Parcel H-3.
- Bay Views from E Street: See adjacent/on site Bay views above. Views looking west from the portion of E Street adjacent to S-2 would be obstructed via development of this parcel, which is part of the signature park under the Proposed Project.
- Bay Views from the I-5 Overpass at J Street: See adjacent/on-site Bay views above. This impact would be considered significant and would require mitigation.
- Bay Views from H and F Streets: The realignment of F Street would not affect the existing view corridor or view of the Bay, thus no impact would occur at this location. The H Street Corridor would be opened to provide views of the Bay and the new pier. Similar to the Proposed Project, there would be a less than significant impact from these locations.

#### f. Scenic Landmarks

The Harbor Park Alternative would result in substantial changes to the visual character of the existing Bayside Park. The development of a 35-acre park on Parcel HP-1 is considered a benefit to the overall visual quality of the site. This large shoreline park would create additional waterfront green spaces and connect to adjacent parcels both north and south along the water/wetlands. The Harbor Park Alternative would result in a less than significant impact on scenic landmarks.

#### g. Visual Impacts

Similar to the Proposed Project, the design character, scale, and form of the viewing scene would be adversely affected by the Harbor Park Alternative. Although the shoreline includes a 35-acre signature park, more distant views of the RCC would still contrast with the scale of adjacent buildings and surrounding natural character. Development on both S-1 and S-2 would contribute to the contrast between the natural areas and man-made areas. Overall, the Harbor Park Alternative would result in a significant impact to view quality. This finding is similar to that of the Proposed Project. As with the Proposed Project, impacts to this already urban area would not adversely impact the character of the site.

The height of the proposed structures in the Harbor Park Alternative would encroach on views when looking west from the I-5 overpass at J Street. The proposed building heights would be substantially larger than those currently on the site. Impacts to Bay views are considered significant from this location. The Harbor Park Alternative would significantly contrast with the

scale of the existing structures and semi-open character of the site, which is a similar impact to the Proposed Project. Impacts from this vantage point are similar to that of the Proposed Project. The introduction of high-rise residential structures where no buildings currently exist, as well as an RCC and residential towers that will dominate the view is a potentially significant impact.

The Harbor Park Alternative would generate artificial light during the evening and nighttime hours. Lighting impacts would be generated due to adjacency impacts to the Sweetwater Marsh NWR, increased use of reflective glasses, and impacts to nighttime views. Due to development on both S-1 and S-2, more light would be generated adjacent to the Sweetwater March NWR as compared to the Proposed Project. Adjacency impacts and impacts associated with reflective glass surfaces are addressed in the Biological Resources section. The Harbor Park Alternative would generate increased amounts of light that could affect nighttime views in the area. This impact would be significant, similar to the Proposed Project.

The building heights viewed from I-5 over the J Street corridor significantly encroach on views from this location. This impact would be inconsistent with the goals and policies set forth in the PMP and City planning documents and would therefore be a significant impact.

#### 5.4.2.2 *Aesthetics/Visual Quality Use Summary and Mitigation*

The Harbor Park Alternative would result in significance impacts to aesthetics/visual quality greater than that of the Proposed Project as summarized in *Table 5.4-9* below. Mitigation measures applicable to the Proposed Project, as detailed in *Section 4.4, Aesthetics/Visual Quality*, would be required in order to reduce these impacts. Additional mitigation would be required to reduce impacts associated with the Harbor Park Alternative. Overall, the Harbor Park Alternative would result in a greater impact on visual quality as compared to the Proposed Project.

**TABLE 5.4-9  
Comparison of Aesthetics/Visual Quality Impacts**

	Proposed Project	Harbor Park Alternative
Would the project have a substantially adverse effect on a scenic vista, public view, or public resources (such as a symbol or landmark)?	Yes: <b>Significant Impacts 4.4-1 through 4.4-5</b>	Greater (Same as Proposed Project, as well as significant impacts from Marina Parkway, the E Street Corridor, <del>the I-5 overpass at J Street Corridor,</del> and impacts due to loss of bay view at SR-54/I-5)
Would the project degrade the existing visual character or quality of the site and its surroundings?	No	No
Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Yes: <b>Significant Impact 4.4-6</b>	Similar
Would the project conflict with urban design guidelines in adopted plans and policies?	Yes: <b>Significant Impacts 4.4-7 and 4.4-8</b>	Similar:

#### 5.4.4 Hydrology/Water Quality

In order to evaluate the Hydrology/Water Quality impacts of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each hydrology/water quality threshold was conducted. *Section 5.4.4.1* provides an impact analysis and *Section 5.4.4.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The analysis is based on a hydrology, water quality, and sediments study prepared by MBC Applied Environmental Sciences and a Civil Engineering Technical Study prepared by Kimley-Horn and Associates, Inc. (*Appendix 4.5-1* and *4.5-2*).

##### 5.4.4.1 Impact Analysis of the Harbor Park Alternative

The Harbor Park Alternative does not propose the direct use of groundwater during phases of the project, and permanent dewatering would be prohibited by on-site operations. In addition, the Harbor Park Alternative would reduce the amount of water running off the site despite the increase in impervious surfaces due to construction of new landscaped areas and parks. These findings are similar to the Proposed Project and impacts would be less than significant. As with the Proposed Project, however, construction-related dewatering in the Harbor Park Alternative would withdraw water from the aquifer, which may be contaminated depending on the location in the plan area. The potential to disturb contaminated soils and groundwater during construction activities would be significant.

The Harbor Park Alternative would result in development within the same footprint as that of the Proposed Project. The project site is within an area of a 500-year flood or an area protected by levees from a 100-year flood. Under the Harbor Park Alternative, no structures are within SP-1 and OP-2A, which are areas of potential inundation during a 100-year flood. These areas are protected by the Sweetwater Dam and channel system in the event of a 100-year flood. Avoiding development in this area ensures people or structures are not exposed to a significant risk of loss, injury, or death involving flooding. The project's location is protected from tsunamis by natural formations such as Coronado, the Silver Strand, and Point Loma. The impact from flooding or inundation from seiche, tsunami, or mudflow is similar to that of the Proposed Project and would be less than significant.

Mass grading of the site would be required for the Harbor Park Alternative. This alternative would require approximately 90,000 cubic yards less imported fill than required for the Proposed Project. The total fill required for this project is estimated to be 650,000 cubic yards. No streams or rivers would be altered by grading, and drainage would continue to flow toward structural controls before entering the Bay. Therefore, similar to the Proposed Project, the Harbor Park Alternative would have a less than significant impact on the existing drainage pattern of the site.

As with the Proposed Project, new development under this alternative would be required to comply with existing water quality regulations intended to avoid or reduce impacts to water quality. This includes all applicable regulations established by the U.S. EPA as set forth in the NPDES permit requirement for urban runoff and stormwater discharge. Temporary construction BMPs would be implemented and the project would be subject to the requirements of the RWQCB Permit No. CA 0108758.

Dredge and fill activities within the Bay for the Harbor Park Alternative would be identical to those of the Proposed Project. These activities would not restrict tidal flow; the tides would remain unchanged in the harbor. Similar to the Proposed Project, dredge and fill operations and in-water construction activities associated with improvements for the H Street Pier, the existing South Bay Boatyard Marina, and the realignment of the navigation channel could result in significant impacts to water quality and biological communities, including marine resources, if contaminated sediments are exposed, redistributed, or released into the water column. This would be a potentially significant impact.

The Harbor Park Alternative would result in water quality impacts similar to that of the Proposed Project. Although the impervious surface area would increase, the amount of runoff would decrease as a result of more mature landscape and better quality vegetation, which slows the flow rate of runoff. The Harbor Park Alternative would control the amount and quality of runoff through implementation of permanent source control and treatment control BMPs in compliance with specific Port and City SUSMP requirements as well as monitoring programs. BMPs applicable to the Harbor Park Alternative are the same as those for the Proposed Project as described in *Section 4.5, Hydrology/Water Quality*, of this report. The Harbor Park Alternative also proposes protection of the seasonal wetlands located north of Lagoon Drive in the Sweetwater District on S-2 that are considered environmentally sensitive via design and implementation of permanent BMP facilities adjacent these areas. Implementation of these measures would reduce potential polluted surface water runoff, groundwater, and Bay contamination to a level less than significant. The planned storm drain system is designed to accommodate the proposed Harbor Park Alternative.

The increased pedestrian activities and debris-generating businesses on the waterfront would increase the potential for wind-blown litter entering the Bay. In addition to pollutants carried in runoff, wind-blown litter would have the potential to result in significant impacts on Bay water quality. Although not expected to occur, a spill or unintentional discharge of fuel, lubricants, or hydraulic fluid from equipment used during construction activities could also impact water quality. These impacts are considered significant under both the Harbor Park Alternative and the Proposed Project.

Impacts would be similar to that of the Proposed Project. The Harbor Park Alternative would be required to comply with and implement the NPDES permit, City grading ordinances, and other relevant BMPs and codes during the planning, construction, and maintenance phases of the project which would mitigate impacts generated from erosion and sedimentation. These various ordinances and regulations assure that erosion and sedimentation would be minimized by addressing effluent limitation, the preparation and implementation of an SWPPP, and monitoring program and record keeping requirements.

- Regardless of compliance with ordinances and regulations, in-water construction activities would result in suspension of sediments, which reduces water clarity, increases nutrients, and decreases dissolved oxygen available for marine organisms. Water quality and dissolved oxygen concentration would return to pre-construction conditions upon completion of these construction activities. This temporary impact would be significant under both the Harbor Park Alternative and the Proposed Project.

#### 5.4.4.2 Hydrology/Water Quality Summary and Mitigation

The Harbor Park Alternative would result in significance findings similar to that of the Proposed Project as shown in *Table 5.4-10* below. All mitigation measures applicable to the Proposed Project and detailed in *Section 4.5, Hydrology/Water Quality*, would be required in order to reduce these impacts to below a level of significance.

**TABLE 5.4-10**  
**Comparison of Hydrology/Water Quality Impacts**

	Proposed Project	Harbor Park Alternative
Would the project substantially deplete groundwater or interfere substantially with groundwater recharge?	No	No
Would the project alter an existing 100-year floodplain or place structures within a 100-year flood hazard area, which would impede or redirect flood flows?	No	No
Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, and/or expose people or structures to inundation by seiche, tsunami, or mudflow?	No	No
Would the project substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?	No	No
Would the project degrade water quality or would violate any water quality standards or waste discharge requirements, resulting from a substantial increase in the rate or amount of polluted surface runoff?	Yes: <b>Significant Impact 4.5-1</b>	Similar
Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	No	No
Would the project result in pollution or contamination that may have an impact on human health and the environment, including the aquatic habitat, or impacts on biological communities?	Yes: <b>Significant Impacts 4.5-2, 4.5-3, and 4.5-4</b>	Similar
Would the project result in substantial erosion and subsequent sedimentation of water bodies?	Yes: <b>Significant Impact 4.5-5</b>	Similar

All phases of development of the Proposed Project are required to comply with federal, state, and local regulations, laws, and permitting requirements related to urban stormwater runoff. In addition, the following mitigation measures are required to reduce potential impacts to below significant:

#### **5.4.5 Air Quality**

In order to evaluate the Air Quality impacts of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each air quality threshold was conducted. *Section 5.4.5.1* provides an impact analysis and *Section 5.4.5.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The technical analysis of potential air quality impacts was performed by RECON. Construction and operation emissions were calculated using the using the URBEMIS2002 Version 8.7.0 computer program (South Coast Air Quality Management District 2005). Air quality calculations can be found in *Appendix 4.6-3* of this report.

##### ***5.4.5.1 Impact Analysis of the Harbor Park Alternative***

Similar to the Proposed Project, the Harbor Park Alternative would not conform to the planning assumptions that were used to generate the forecast of the region's ability to achieve the NAAQS. As noted, the current RAQS are based on the former General Plan. The current adopted General Plan accounted for development at the Chula Vista Bayfront. While the proposed land use changes for both the Proposed Project and Harbor Park Alternative would be different from the former General Plan (upon which growth projections used for the RAQS and SIP were based), the RAQS and SIP do account for air emissions associated with the current adopted General Plan. Emissions from area sources and energy use would be similar to the uses proposed in the former General Plan. The main source of emissions associated with the Proposed Project would be from vehicles. Given that the amount of traffic and associated vehicular emissions assumed in the Chula Vista General Plan Update are higher than the current Proposed Project and Harbor Park Alternative traffic and emissions, neither development alternative would be inconsistent with either the General Plan that served as the basis of the RAQS or with the growth assumptions in the RAQS and, therefore, would not result in a significant impact.

There are currently no air quality violations on or near the project site. Contributions to pollutants for which the area is currently in non-attainment is discussed below. Environmental effects of the Rohr Industries/Goodrich and the SBPP are also evaluated.

As discussed in *Section 4.6, Air Quality*, the region is in attainment for all criteria pollutants except ozone, PM<sub>10</sub>, and for PM<sub>2.5</sub>. The SDAB is non-attainment for the 8-hour federal ozone standard. For PM<sub>10</sub>, the region has a federal designation of unclassifiable and is non-attainment

of the State of California standard, while the region is designated non-attainment for the State of California PM<sub>2.5</sub> standard.

Tables 5.4-11, 5.4-12, and 5.4-13 show the projected quarterly emission levels for each pollutant resulting from each phase of construction. Grading activities were assumed to occur 22 construction days per month. The only control assumed during construction was watering three times per day to reduce dust and PM<sub>10</sub> emissions. Otherwise, the default URBEMIS2002 parameters were used for equipment and other emissions. The model does not calculate PM<sub>2.5</sub> emissions. In addition, emission factors are not available for lead, and consequently, lead emissions are not calculated. The basin is currently in attainment of the state and federal lead standards. Furthermore, diesel fuel is not leaded. As seen in these tables, with the exception of sulfur dioxide, all pollutant emissions are projected to exceed applicable thresholds.

**TABLE 5.4-11**  
**Projected Construction Emissions by Year Phase I (tons/quarter)**

Year	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
2007	2.92	22.80	21.82	0.00	5.87	24.78
2008	22.67	158.80	177.53	0.00	5.81	6.56
2009	40.12	151.50	185.48	0.00	5.48	6.21
2010	22.63	144.15	187.81	0.00	4.94	5.58
2011	22.63	144.15	187.81	0.00	4.94	5.58
Significance Threshold	2.50	2.50	24.75	6.75	2.50	6.75

Source: RECON

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

**TABLE 5.4-12**  
**Projected Construction Emissions by Year Phase II (tons/quarter)**

Year	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
2010	22.73	144.58	191.49	0.00	4.94	5.58
2011	22.73	144.58	191.49	0.00	4.94	5.58
2012	22.73	144.58	191.49	0.00	4.94	5.58
2013	22.73	144.58	191.49	0.00	4.94	5.58
2014	42.61	144.65	192.88	0.00	4.95	5.60
Significance Threshold	2.50	2.50	24.75	6.75	2.50	6.75

Source: RECON

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

**TABLE 5.4-13**  
**Projected Construction Emissions by Year Phase III (tons/quarter)**

Year	ROG	NOx	CO	SO2	PM2.5	PM10
2015	22.47	144.09	186.00	0.00	4.93	5.55
2016	22.47	144.09	186.00	0.00	4.93	5.55
2017	22.47	144.09	186.00	0.00	4.93	5.55
2018	22.47	144.09	186.00	0.00	4.93	5.55
2019	25.17	144.09	186.16	0.00	4.94	5.55
Significance Threshold	2.50	2.50	24.75	6.75	2.50	6.75

Source: RECON

ROG = Reactive Organic Gas; NOx = nitrogen oxide; CO = carbon oxide; SO2 = sulfur dioxide;  
 PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

As shown in *Tables 5.4-11 through 5.4-13*, construction activities would result in significant air quality impacts for each criteria pollutant except sulfur dioxide for each phase of the project and for PM<sub>10</sub> after the first year of construction, during which rough grading occurs. Construction emissions are projected to exceed the standards for NOx, CO, PM<sub>2.5</sub>, and ROG for during each year of construction.

*Table 5.4-14* compares the construction emissions for the Harbor Park Alternative and Proposed Project. The Harbor Park alternative has roughly the same construction emissions as the Proposed Project except for CO in Phase II, where the Harbor Park alternative represents increased emissions.

Operation impacts stem primarily from emissions from mobile sources, although area emissions (e.g., natural gas combustion) also contribute. *Table 5.4-15* provides the projected area and operational emissions in pounds per day for Phase I. As shown in this table, Phase I emissions are expected to exceed the standard for each criteria pollutant except SO<sub>2</sub>. This would be a significant impact resulting primarily from the size of the project. Similar to the Proposed Project, this would be a significant impact.

**TABLE 5.4-14  
Harbor Park Alternative Comparison to Proposed Project (Construction Emissions in Tons per Quarter)**

Year	ROG			NOx			CO			SO <sub>2</sub>			PM <sub>2.5</sub>			PM <sub>10</sub>		
	Harbor Park Alternative	Proposed Project	Difference	Harbor Park Alternative	Proposed Project	Difference	Harbor Park Alternative	Proposed Project	Difference	Harbor Park Alternative	Proposed Project	Difference	Harbor Park Alternative	Proposed Project	Difference	Harbor Park Alternative	Proposed Project	Difference
<b>Phase I</b>																		
2007	2.92	2.93	0.01	22.80	22.95	0.15	21.82	21.85	0.03	—	—	—	5.87	5.88	0.01	24.78	24.78	0.00
2008	22.67	22.70	0.03	158.80	158.82	0.02	177.53	177.88	0.35	—	—	—	5.81	5.81	—	6.56	6.57	0.01
2009	40.12	42.27	2.15	151.50	151.53	0.03	185.48	186.12	0.64	—	—	—	5.48	5.48	—	6.21	6.23	0.02
2010	22.63	22.65	0.02	144.15	144.16	0.01	187.81	188.11	0.30	—	—	—	4.94	4.94	—	5.58	5.59	0.01
2011	22.63	22.65	0.02	144.15	144.16	0.01	187.81	188.11	0.30	—	—	—	4.94	4.94	—	5.58	5.59	0.01
<b>Phase II</b>																		
2010	22.73	22.61	(0.12)	144.58	144.35	(0.23)	191.49	188.87	(2.62)	—	—	—	4.94	4.94	—	5.58	5.55	(0.03)
2011	22.73	22.61	(0.12)	144.58	144.35	(0.23)	191.49	188.87	(2.62)	—	—	—	4.94	4.94	—	5.58	5.55	(0.03)
2012	22.73	22.61	(0.12)	144.58	144.35	(0.23)	191.49	188.87	(2.62)	—	—	—	4.94	4.94	—	5.58	5.55	(0.03)
2013	22.73	22.61	(0.12)	144.58	144.35	(0.23)	191.49	188.87	(2.62)	—	—	—	4.94	4.94	—	5.58	5.55	(0.03)
2014	42.61	34.12	(8.49)	144.65	144.39	(0.26)	192.88	188.67	(4.21)	—	—	—	4.95	4.96	0.01	5.60	5.57	(0.03)
<b>Phase III</b>																		
2015	22.47	22.43	(0.04)	144.09	143.87	(0.22)	186.00	185.63	(0.37)	—	—	—	4.93	4.93	—	5.55	5.54	(0.01)
2016	22.47	22.43	(0.04)	144.09	143.87	(0.22)	186.00	185.63	(0.37)	—	—	—	4.93	4.93	—	5.55	5.54	(0.01)
2017	22.47	22.43	(0.04)	144.09	143.87	(0.22)	186.00	185.63	(0.37)	—	—	—	4.93	4.93	—	5.55	5.54	(0.01)
2018	22.47	22.43	(0.04)	144.09	143.87	(0.22)	186.00	185.63	(0.37)	—	—	—	4.93	4.93	—	5.55	5.54	(0.01)
2019	25.17	24.66	(0.51)	144.09	143.87	(0.22)	186.16	185.77	(0.39)	—	—	—	4.94	4.93	(0.01)	5.55	5.54	(0.01)

Source: RECON

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide; PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

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**TABLE 5.4-15**  
**Projected Daily Area and Operations Emissions Phase I (pounds/day)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions	57.47	48.32	46.62	0.00	0.12	0.12
Operation	483.46	512.73	5088.13	4.29	87.70	417.60
<b>TOTAL</b>	<b>540.93</b>	<b>591.05</b>	<b>5134.75</b>	<b>4.29</b>	<b>87.82</b>	<b>417.72</b>
STANDARD	55	55	550	150	55	150

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

### Phase II

Table 5.4-16 provides the projected area and operational emissions in pounds per day for Phase II. As with Phase I, the Phase II emissions are expected to exceed the standard for each criteria pollutant except SO<sub>2</sub>, resulting in a significant impact. Note however, that PM<sub>10</sub> emissions for this phase of the development nearly match the pounds per day emission standard. The Proposed Project does not result in impacts to PM<sub>10</sub> during operation of Phase II.

**TABLE 5.4-16**  
**Projected Daily Area and Operations Emissions Phase II (pounds/day)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions	33.02	26.23	26.83	0.00	.07	0.07
Operation	250.91	258.16	2558.47	2.13	43.53	207.28
<b>TOTAL</b>	<b>283.93</b>	<b>284.39</b>	<b>2585.30</b>	<b>2.13</b>	<b>43.60</b>	<b>207.35</b>
STANDARD	55	55	550	150	55	150

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

### Phase III

Table 5.4-17 provides the projected area and operational emissions in pounds per day for Phase III. Emissions projected for this Phase of development are not anticipated to exceed the standard for each criteria pollutant. As such, this would not be a significant impact for Phase III development.

**TABLE 5.4-17**  
**Projected Daily Area and Operations Emissions Phase III (pounds/day)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions	4.59	2.10	4.09	0.00	.01	0.01
Operation	49.11	58.55	589.04	0.50	10.25	48.82
<b>TOTAL</b>	<b>53.70</b>	<b>60.65</b>	<b>593.13</b>	<b>0.50</b>	<b>10.26</b>	<b>48.83</b>
STANDARD	55	55	550	150	55	150

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

Table 5.4-18 compares the area and operations emissions for the Harbor Park Alternative to the Proposed Project. This alternative has higher air emissions than the Proposed Project. As with the Proposed Project, the alternative exceeds the standard for each of the criteria pollutants except for SO<sub>2</sub>.

**TABLE 5.4-18**  
**Comparison Projected Daily Area/Operations Emissions**  
**All Phases Harbor Park Alternative (pounds/day)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Total Proposed Project	808.06	841.16	7448.08	6.42	131.60	625.93
Harbor Park Alternative	878.56	936.09	8313.18	6.92	141.04	670.90
STANDARD	55.0	55.0	550.0	150.0	55.0	150.0

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

If the Harbor Park Alternative is approved, sensitive receptors would include the proposed residences and the RV park. The Harbor Park Alternative does not propose a use that would generate substantial pollutant concentrations at a location within or adjacent to the project. Sensitive receptors would be exposed to pollutant concentrations in excess of the CAAQS and NAAQS due to regional air pollutant concentrations, to which the alternative contributes. Similar to the Proposed Project, because the SDAB is not in compliance with the standards for criteria pollutants for ozone, PM<sub>10</sub>, and the state standard for PM<sub>2.5</sub>, the contribution to the particulates and to ozone precursors would contribute to the exposure of sensitive receptors to substantial pollutant concentrations.

A CO hotspot analysis performed for the Proposed Project concluded that 1-hour and 8t-hour CO concentrations at identified intersections are well below the state standard. This conclusion holds true for the Harbor Park Alternative as well.

There are two major sources of pollution within the Bayfront project area: (1) Rohr Industries/Goodrich, and (2) South Bay Power Plant (SBPP). A health risk assessment of these facilities indicates that both facilities are below the Public Notification and Risk Mitigation

levels. Residential uses associated with the Harbor Park Alternative are situated on parcels identical to that of the Proposed Project.

Similar to the Proposed Project, there are no uses proposed by the Harbor Park Alternative that would generate objectionable odors. Impacts would be less than significant.

The Harbor Park Alternative would have similar GHG emissions as the Proposed Project. The mitigation measures applicable to the Proposed Project would be applicable to this Alternative. The project design features would also be part of the Harbor Park Alternative and would reduce impacts to below a level of significance.

#### 5.4.5.2 Air Quality Summary and Mitigation

The Harbor Park Alternative would result in significance findings similar to that of the Proposed Project as shown in *Table 5.4-19* below. All mitigation measures applicable to the Proposed Project as detailed in *Section 4.6, Air Quality*, would be required in order to reduce air quality impacts. Despite implementation of mitigation measures, impacts to air quality would remain significant. Similar to the Proposed Project, the Harbor Park Alternative would not avoid or substantially lessen the significant effects of the Proposed Project on air quality.

**TABLE 5.4-19  
Comparison of Air Quality Impacts**

	Proposed Project	Harbor Park Alternative
Would the project conflict with or obstruct implementation of the applicable air quality plan (e.g., RAQs)?	No	Similar
Would the project violate any air quality standards or contribute substantially to an existing or projected air quality violation?	No	No
Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	Yes: <b>Significant Impacts 4.6-1 through 4.6-5</b>	Similar
Would the project expose sensitive receptors to substantial pollutant concentrations, such as ozone or respirable particulates (PM <sub>10</sub> )?	Yes: <b>Significant Impact 4.6-6</b>	Similar
Would the project include residential housing within 1,000 feet of a plant or any other toxic air emitting facility?	No	No
Would the project create objectionable odors affecting a substantial number of people?	No	No
Would the project conflict with or obstruct goals or strategies of the California Global Warming Solutions Act of 2006 (AB 32) or related Executive Orders?	Yes: <b>Significant Impact 4.6-7</b>	Similar
Would the project result in substantially increased exposure of the project from the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006 (AB 32)?	No	No

## 5.4.6 Noise

In order to evaluate the noise impacts of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each noise threshold was conducted. *Section 5.4.6.1* provides an impact analysis and *Section 5.4.6.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The analysis presented below is based on information presented in the Noise Technical Report for the Chula Vista Bayfront Master Plan prepared by RECON in June 2006. This document is provided as *Appendix 4.7-1* to this report. RECON conducted noise measurements to determine the variability of noise throughout the study area. Eight daytime noise measurements throughout the study area were conducted, as well as eight daytime noise measurements at the South Bay Power Plant and three daytime measurements at the Goodrich facility (see *Appendix 4.7-1*). In order to evaluate noise generated from traffic, traffic volumes were obtained from the traffic report prepared for the project by Kimley Horn and Associates Inc. (*Appendix 4.2-1*).

### 5.4.6.1 Impact Analysis of the Harbor Park Alternative

Noise impacts under the Harbor Park Alternative could result from traffic noise, the South Bay Power Plant, the Goodrich facilities, and construction activities.

#### a. Traffic Noise

Traffic noise impacts would result from (1) future traffic on existing area roads and new roadways constructed on site, and (2) the addition of traffic on roads located off the project site.

##### i. On-Site Roads – Direct Impacts

Similar to the Proposed Project, noise levels are projected to be greater than 65 CNEL across most of the project site, with the greatest noise levels occurring adjacent to I-5. Residential uses adjacent to the circulation element roadways proposed in the Harbor and Otay Districts would be exposed to noise levels greater than 65 CNEL. This impact would be significant.

Also similar to the Proposed Project, exterior noise levels are greater than CNEL for the Harbor Park Alternative. Therefore, interior noise levels due to exterior sources could exceed 45 CNEL with standard construction practices. This impact would be significant.

##### ii. Off-Site Roads

The greatest increase in noise at project build-out, located on F Street between Woodlawn Avenue and Broadway, is 2.9 dB(A). This increase in noise due to traffic on off-site roadways is less than 3dB(A) and is therefore not significant.

**b. Stationary Sources****i. Goodrich Facility**

Similar to the Proposed Project, there are no residential uses proposed within 1,000 feet of the Goodrich facility. Noise levels are within daytime and nighttime noise ordinance standards and impacts would be less than significant.

**ii. Construction Noise**

Construction impacts would be similar to that of the Proposed Project. Three significant impacts are identified as follows:

- The construction of off-site improvements, such as water and sewer mains, that could affect residences would occur in Phase I. These improvements would occur within J Street between Bay Boulevard and Broadway, L Street between Bay Boulevard and Broadway, and Broadway between J Street and Main Street. Construction activities could affect residents in those areas and the impact would be significant. Other off-site roadway improvements are not adjacent to residential uses.
- The project would construct residential and park uses near the center of the project site in Phase I. During Phases II through IV, these uses could be exposed to construction noise levels of 85 dB(A) Leq., depending upon the location of the construction relative to the sensitive user. Construction noise during these subsequent phases of the project could affect the sensitive uses established through the development of Phase I. Subsequent analysis of construction noise impacts would be needed during the CEQA review process of Phases II, III, and IV. Construction noise impacts are considered significant.
- Construction noise adjacent to the refuge in the Sweetwater District would be considered significant during breeding season. The noise impacts to the Sweetwater Marsh NWR are discussed further in *Section 4.8, Terrestrial Biological Resources*.

The Harbor Park Alternative would not generate or expose persons to excessive groundborne vibration or groundborne noise levels at build-out. The project does propose possible pile driving activities associated with the marina and pier designs that could impact marine habitat; as indicated in *Section 4.9, Marine Biological Resources*, pile driving noise/vibration impacts to fish would not be significant.

Similar to the Proposed Project, the increase in noise resulting from the Harbor Park Alternative relative to the existing traffic would be less than 3 dB at project build-out. As such, the Harbor Park Alternative would not result in a substantial permanent increase in ambient noise levels and impacts would be less than significant.

As with the Proposed Project, significant temporary noise increases would result from construction activities under the Harbor Park Alternative. These impacts would be more severe under the Harbor Park Alternative, however, due to construction in the Sweetwater District on Parcels S-1 and S-2.

#### 5.4.6.2 Noise Summary and Mitigation

The Harbor Park Alternative would not avoid or reduce the significant noise impacts associated with the Proposed Project as shown on *Table 5.4-20* below. All mitigation measures applicable to the Proposed Project as detailed in *Section 4.7, Noise* would be required in order to reduce noise impacts associated with the Harbor Park Alternative.

**TABLE 5.4-20  
Comparison of Noise Impacts**

	Proposed Project	Harbor Park Alternative
Would the project expose persons to or generate noise levels in excess of standards established in the City of Chula Vista General Plan or noise ordinance, or applicable standards of other agencies?	Yes: <b>Significant Impacts 4.7-1 through 4.7-11</b>	Similar
Would the project expose persons to or generate excessive groundborne or waterborne vibrations, or noise levels?	No	No
Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Yes: <b>Significant Impacts 4.7-2, 4.7-3, 4.7-4, 4.7-6, 4.7-7, and 4.7-8</b>	No
Would the project result in substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Yes: <b>Significant Impacts 4.7-1, 4.7-5, 4.7-9, 4.7-10, and 4.7-11</b>	Greater (Same as Proposed Project, but construction noise impact is more severe due to construction on S-1 and S-2.)

#### 5.4.7 Biological Resources (Terrestrial and Marine)

In order to evaluate the impacts to biological resources of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each terrestrial and marine biological resource threshold was conducted. *Section 5.4.7.1* provides an impact analysis and *Section 5.4.7.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

### 5.4.7.1 *Impact Analysis of the Harbor Park Alternative*

#### a. Terrestrial Biological Resources

##### i. Direct Impacts to Sensitive Wildlife: Port and City Jurisdiction

###### ***All Phases:***

Both the Proposed Project and the Harbor Park Alternative would result in significant impacts to Raptors, the Western Burrowing Owl, and birds protected by the MBTA as follows:

- Raptors: Significant impacts would result from grading and construction of the site, which would modify existing habitat that supports nesting and foraging raptors. Direct impacts to nesting raptors due to the removal of an active nest would be significant.
- Western Burrowing Owl: Grading and construction activities during development of the Otay District could result in the potential loss of western burrowing owls and/or their nests. This impact would be significant.
- Birds Protected by the MBTA: There is the potential for a number of birds protected by the MBTA to nest within the open space and tress in all three districts. Construction and grading activities could result in removal of active nests during breeding season. This impact would be significant.

##### ii. Direct Impacts to Sensitive Wildlife: City Jurisdiction

###### ***All Phases:***

The project would potentially impact MSCP-covered species within the City's jurisdiction including the salt marsh skipper, orange throated whiptail, northern harrier, Cooper's hawk, peregrine falcon, light-footed clapper rail, long-billed curlew, western burrowing owl, and Belding's savannah sparrow. This impact would be significant.

##### iii. Direct Impacts to Sensitive Plants: Port and City Jurisdiction

The Port does not have any local policies or ordinances protecting biological resources. Compliance with the City's MSCP HLIT Ordinance is discussed below.

Terrestrial and marine biology impacts associated with selection of the Harbor Park Alternative would be similar to those identified for the Proposed Project since the development footprint is generally the same (see *Section 4.8, Terrestrial Biological Resources*, of this report). Mass grading of most of the Harbor and Sweetwater Districts would occur in Phase I. Remaining areas

of the Harbor and Otay Districts would be graded in Phase II. Improvements to the marina and navigation channel would be the same.

**Terrestrial Resources.** The location of the RCC, proposed for Parcel H-23 under this alternative, alters the road configuration through the northern portion of the Harbor District from the layout in the Proposed Project. Under this alternative, the relocation of the RCC would result in a minor reduction in impacts to biological resources (0.01 acre less impact to disturbed seasonal pond, 0.1 acre less impact to southern coastal marsh) as compared to the Proposed Project. Total impacts to sensitive vegetation communities are listed below.

The RCC would be further from the waterfront under this alternative, which could result in fewer bird strikes. However, indirect impacts to the neighboring Sweetwater Marsh NWR could result from development of a conference hotel on S-2 with 250 to 400 rooms, with structures up to 60 feet in height. As this hotel would take the place of the Proposed Project Signature Park, there would be more human activity at this location, resulting in greater noise and lighting impacts over longer periods each day.

As with the Proposed Project, management practices, including (1) BMPs to control the unintentional release of excavated sediments and water into the local environment, and (2) operational procedures to minimize disturbance impacts to birds, would reduce temporary impacts related to development of the Harbor Park Alternative.

Significant impacts would result from grading and construction of the site, which would modify existing habitat that supports sensitive species, including nesting and foraging raptors. A number of birds protected by the MBTA as well as endangered or threatened species could or do occur on site. In addition, construction of a new pier and replacement/relocation of docks would result in an approximate 2-acre reduction to surface water foraging habitat.

Significant impacts within the City's jurisdiction relative to covered species under the City's MSCP, and preserve adjacency management issues that focus on reducing indirect impacts by limiting drainage, overspill of lighting and noise into the Preserve, use of non-invasives, and public access in sensitive preserve areas, would also be the same as for the Proposed Project. In addition to other measures, impacts would be mitigated by implementation of mitigation measures as discussed in *Section 4.8, Terrestrial Biological Resources*, of this report.

Total impacts within the City and Port's jurisdictions to 7.89 acres disturbed Diegan coastal sage scrub, 0.11 acre mulefat, and 9.13 acre disturbed seasonal pond would be mitigated to below a level of significance.

**Jurisdictional Wetlands.** The Harbor Park Alternative would impact a total of 59.44 acres of USACE jurisdictional waters within all three districts and both the Port and City of Chula Vista's

jurisdiction as compared to 64.34 acres for the Proposed Project. Significant impacts to 61.96 acres of USACE jurisdictional waters due to harbor and marina reconfiguration would be identical to the Proposed Project and would be reduced to below a level of significance with implementation of mitigation. As for the Proposed Project, impacts to seasonal ponds would be exempt from USACE jurisdiction.

As for the Proposed Project, impacts to 1.19 acres of CDFG jurisdictional resources would occur in the Port's jurisdictional area only, within the Harbor and Otay Districts. These impacts would occur during Phase II due to permanent and temporary removal of riparian habitat. Significant impacts would be reduced to below a level of significance with implementation of mitigation.

As for the Proposed Project, impacts to CCC wetlands have been avoided to the maximum extent practicable. Some of the waterways mapped have been identified as potential CCC wetlands that may be under the jurisdiction of the Coastal Commission. Identification of these areas as CCC wetlands require documentation of ponding for a minimum of 7 consecutive days, and there is currently no indication that ponding of that duration occurs; therefore, identification of CCC jurisdiction has not been made. In addition, the Otay District contains areas formerly occupied by an industrial facility that may not be subject to CCC jurisdiction. Extension of E Street in the Sweetwater District within the road easement and adjacent Parcel S-1 would result in a permanent direct impact to 0.08 acre of CCC wetland and shading impacts due to bridge construction on E Street over the inlet connecting the bay to the F & G Street Marsh, J Street Channel, and Street B would be significant. Implementation of mitigation measures would reduce impacts to a less than significant level. Removal of riprap and placement of bulkhead for marina improvements would be consistent with the Coastal Act but results in significant biological impacts. As with the Proposed Project, implementation of mitigation measures detailed in *Section 4.8, Terrestrial Biological Resources*, would reduce the impact to less than significant.

The establishment of an ecological buffer on Parcel OP-2A would result in temporary impacts to 0.05 acre of CCC wetlands, 0.04 acre of potential CCC wetlands, and 1.50 acres of former industrial areas in the process of remediation. Impacts to the 0.05 acre of CCC wetlands would be significant. The impacts to the 1.54 acres of former industrial areas in the process of remediation proposed for roads, grading, and drainage improvements would only be significant if the CCC asserts jurisdiction. As for the Proposed Project, implementation of mitigation measures would reduce the impacts to below a level of significance. Impacts for restoration purposes and rechannelization of the Telegraph Creek Channel are allowed under the Coastal Act.

Within the City's jurisdiction, impacts would be identical to the Proposed Project and relate to construction of bridges over the HP-5 drainage ditch in the Harbor District, E Street improvements adjacent to SP-4 in the Sweetwater District, or resources subject to protection

under the City's Wetland Protection Program. Mitigation measures discussed in *Section 4.8, Terrestrial Biological Resources*, identified for the Proposed Project would reduce the impacts to below a level of significance. Impacts under the jurisdiction of the RWQCB would likewise be identical and would be mitigated to below a level of significance. Finally, indirect impacts to preserve lands and refuges from development within the City's jurisdiction would result in a significant indirect impact. Development within the City's jurisdiction would be required to conform to the City's adjacency guidelines through implementation of mitigation measures described in *Section 4.8, Terrestrial Biological Resources*, which would reduce the impact to below a level of significance.

As with the Proposed Project, proposed development on the Bayfront may result in increased bird mortality through bird strikes. Implementation of mitigation measures for the Proposed Project would similarly reduce impacts under the Harbor Park Alternative to below a level of significance by implementing design measures for lighting, glass and reflection, building articulation, and landscaping.

Implementation of the mitigation measures identified in *Section 4.8, Terrestrial Biological Resources*, would reduce the significant impacts to terrestrial biological resources and wetlands to a level below significance.

#### b. Marine Biological Resources

As with the Proposed Project, direct impacts to eelgrass in open bay waters from phased construction of the proposed pier, modifications to the marina, and realignment of the navigation channel as well as indirect impacts from shading due to construction of the pier, would be significant. Similar to the Proposed Project, implementation of mitigation measures detailed in *Section 4.9, Marine Biological Resources*, would provide replacement eelgrass habitat at a 1.2:1 ratio to reduce impacts to less than significant. No permanent impacts to the eelgrass community in the project area would occur. Mitigation would initially increase the area of eelgrass in the South Bay and is expected to fully recover to naturally occurring densities within 5 years of transplantation. No unavoidable adverse impacts to marine biological resources as a result of the Harbor Park Alternative are expected.

Similar to the Proposed Project, impacts to salt marsh and mudflats from Phase III construction of bulkhead in the commercial harbor on Parcel HW-3, temporary impact to water quality from construction of the H Street Pier, direct impacts from Phase III dredging at the South Bay Boatyard, and indirect lighting impacts on marine resources from construction and operation of project elements would be significant. Implementation of mitigation measures identified in *Section 4.9, Marine Biological Resources*, of this report would reduce these impacts to below a level of significance.

### **5.4.7.2 Biological Resources Summary and Mitigation**

In summary, the Harbor Park Alternative would not avoid or substantially reduce the significant biological effects of the Proposed Project. The impacts of the Proposed Project would be similar for the Harbor Park Alternative. Implementation of mitigation measures detailed in *Section 4.9, Marine Biological Resources*, would reduce these impacts to below a level of significance.

### **5.4.8 Cultural Resources**

In order to evaluate the cultural resources impacts of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each cultural resources threshold was conducted. *Section 5.4.8.1* provides an impact analysis and *Section 5.4.8.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The analysis presented below is based on information presented in the cultural resources survey of the Proposed Project site in April and November 2005. The Harbor Park Alternative would result in the same impact area the Proposed Project; therefore, the findings of the technical report are applicable to the Harbor Park Alternative as well as the Proposed Project.

#### **5.4.8.1 Impact Analysis of the Harbor Park Alternative**

Two sensitive resources were identified within the project boundary: 1) Prehistoric archaeological site, CA-SDI-5,512, which was determined by Caltrans not to be significant; and 2) the Coronado Belt Line ROW, which would not be altered in such a way as to change the basic integrity or any defining characteristics or to preclude it from future considerations for listing as a historic resource. Therefore, as with the Proposed Project, impacts would be less than significant.

There are no cemeteries on the project site and no known or expected human remains within the project boundary. The possibility of encountering human remains on the project site is low. As with the Proposed Project, impacts would be less than significant.

#### **5.4.8.2 Cultural Resources Summary and Mitigation**

As with the Proposed Project, the Harbor Park Alternative would not result in impacts to cultural resources as shown on *Table 5.4-21* below. No significant impacts were identified and no mitigation measures are provided.

**TABLE 5.4-21  
Comparison of Cultural Resources Impacts**

	Proposed Project	Harbor Park Alternative
Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5, including resources that are eligible for the CRHR and the National Register of Historic Places; and resources that are locally designated as historically significant; or does the City of Chula Vista find the resource historically significant based on substantial evidence?	No	No
Would the project disturb any human remains, including those interred outside of formal cemeteries?	No	No

### 5.4.9 Paleontological Resources

In order to evaluate impacts to Paleontological Resources as a result of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each paleontological threshold was conducted. *Section 5.4.9.1* provides an impact analysis and *Section 5.4.9.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The analysis presented below is based on information contained in the Paleontological Resource Assessment for the Chula Vista Bayfront Master Plan Technical Report prepared by the Department of Paleoservices at the San Diego Natural History Museum (*Appendix 4.11-1*). The Harbor Park Alternative would result in the same impact area as the Proposed Project; therefore, the findings of the technical report are applicable to the Harbor Park Alternative as well as the Proposed Project.

#### 5.4.9.1 Impact Analysis of the Harbor Park Alternative

Bedrock deposits of the Bay Point Formation occur in the northeastern portion of the Sweetwater District. More precisely, where this formation underlies low coastal mesa adjacent to Bay Boulevard, there would be the potential for significant impacts to sensitive paleontological resources to occur during construction. The material and formation that underlie the Harbor and Otay Districts possess no paleontological resource value. The Harbor Park Alternative differs from the Proposed Project in that both Parcels S-1 and S-2 would be developed. The Harbor Park Alternative would therefore involve a greater grading and excavation area in the Sweetwater District. While no significant impacts to paleontological resources were identified for the Proposed Project, the Harbor Park Alternative could result in impacts to paleontological resources in the Sweetwater District over a greater area than that of the Proposed Project.

### 5.4.9.2 Paleontological Resources Summary and Mitigation

The Harbor Park Alternative would not avoid or substantially lessen the significant effects on paleontological resources of the Proposed Project, as shown on 5.4-22 below. The Harbor Park Alternative would result in significant impacts to paleontological resources during construction and grading activities on parcels underlain by the Bay Point Formation in the Sweetwater District.

**TABLE 5.4-22**  
**Comparison of Paleontological Resources Impacts**

	Proposed Project	Harbor Park Alternative
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	Yes

### 5.4.10 Hazards and Hazardous Materials/Public Safety

In order to assess hazards/public safety impacts as a result of the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each hazards/public safety threshold was conducted. *Section 5.4.10.1* provides an impact analysis and *Section 5.4.10.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative. A complete listing of sources used to formulate the analysis below is presented in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, of the EIR. The sources applicable to the Harbor Park Alternative are identical to the sources used for the Proposed Project.

#### 5.4.10.1 Impact Analysis of the Harbor Park Alternative

Land uses that use, store, and transport hazardous materials currently exist on and adjacent to the project site. Existing and proposed land uses within the project boundary must obtain permits from appropriate regulatory agencies and comply with all federal, state, and local laws that govern the facilities' routine transport, use, and disposal of hazardous materials. Compliance with permits and regulations ensures that potential impacts are less than significant.

The SBPP, the existing South Bay Boatyard, Chula Vista Harbor, and the Goodrich facility (off site) are the major facilities on or adjacent to the project site that use hazardous materials during operation. Toxic and/or caustic substances would be used by the proposed land uses and water related activities during both construction and operation of the project. Conformance to regulatory standards and implementation of Cleanup and Abatement Order programs would ensure less than significant impacts.

As with the Proposed Project, the Harbor Park Alternative would not result in impacts to schools within 0.25 mile of an existing or proposed school. Although schools do exist within 0.25 mile of the project site, compliance with all applicable federal, state, and local laws, regulations, and permitting requirements for the proposed operations would ensure any impacts to nearby schools to be less than significant. In addition, the Harbor Park Alternative is not located within 2 miles of an airport land use plan or where such a plan has been adopted.

As with the Proposed Project, there is the potential that hazardous materials would be encountered within or adjacent to the project boundaries during grading or excavation in the vicinity of several on-site areas of concern and three off-site areas of concern. Although excavation, demolition, and construction activities are short-term, the potential to encounter contamination during such activities is considered a significant impact. Due to the previous uses of the project site, both existing and undocumented underground storage tanks (USTs) are located throughout the site and may require removal during construction activities. The potential to encounter contaminated soils associated with the removal of identified and unidentified USTs is considered a significant impact.

There exists the potential to encounter contamination on lands in the Sweetwater District formerly used for agricultural purposes, several areas of concern within the boundaries of the former Goodrich South Campus facility in the Harbor District, and areas of concern within the boundaries of the SBPP in the Otay District during excavation activities. This impact is considered significant and would require mitigation.

Samples from groundwater monitoring wells, located adjacent to the harbor basin in Marina Parkway and Sandpiper Way, revealed contaminated groundwater beneath parcels proposed for development. Pile driving and dewatering during construction could result in potential hydraulic transfer of contaminants if not conducted in accordance with site-specific engineering recommendations. Dewatering to depths greater than 10 feet could result in the potential for cross-contamination of water zones (between A and UB). This would be a significant impact similar to the Proposed Project.

Implementation of specific design measures will be required to avoid potential impacts from cross-contamination of groundwater during dewatering activities. If contaminants have extended in the subtidal areas of the harbor basin, dredging fill and bay sediment would potentially upset and suspend or release hazardous contaminants into the marine environment. The suspension and/or release of contaminants in the water could create a significant hazard to the marine resources living at this location and in the surrounding area. As with the Proposed Project, this would be a significant impact.

It is possible that other areas of contamination exist within the boundaries of the site that have not been identified to date. Residual soil and/or groundwater contamination has been identified in all districts on and off site and requires further definition. This would be a significant impact.

#### 5.4.10.2 Hazards and Hazardous Materials/Public Safety Summary and Mitigation

Implementation of the Harbor Park Alternative would not avoid or substantially reduce the significant effects from hazardous materials of the Proposed Project. The Harbor Park Alternative would result in impacts similar to the Proposed Project as shown on *Table 5.4-23* below. Implementation of mitigation measures detailed in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, would reduce these impacts to below a level of significance.

**TABLE 5.4-23**  
**Comparison of Hazards and Hazardous Materials/Public Safety Impacts**

	Proposed Project	Harbor Park Alternative
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Yes: <b>Significant Impacts 4.12-1 through 4.12-20</b>	Similar
Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Yes: <b>Significant Impact 4.12-2</b>	Similar
Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	No	No
Is the project on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment would be created?	Yes: <b>Significant Impacts 4.12-1 through 4.12-20</b>	Similar
Is the project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport of public use airport and would result in a safety hazards for people residing or working in the project area?	No	No
Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No	No

#### 5.4.11 Public Services

In order to assess impacts to public services associated with the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each public services threshold was conducted. *Section 5.4.11.1* provides an impact analysis and *Section*

5.4.11.2 provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

Assessment of demand for services is based upon the thresholds established by the City's Gross Management Oversight Commission.

#### **5.4.11.1 Impact Analysis of the Harbor Park Alternative**

##### **a. Fire Services**

Similar to the Proposed Project, the Harbor Park Alternative would increase the demand for fire protection services because of the change in land use from generally underutilized to developed. The City's Fire Department considers the Bayfront area to be a geographic location that is underserved by the fire station network. While the Proposed Project would include construction of a new fire station on H-17, the Harbor Park Alternative does not include a new fire station. This alternative would therefore contribute to an exacerbation of the underserved condition of the area as it relates to fire protection services. The Port is precluded by law from providing municipal facilities (including fire protection facilities) on Port land. Under the Harbor Park Alternative, the City has not agreed to acquire Parcel H-17 from the Port, and no suitable location for a new fire facility has been identified. A significant impact on fire protection services would continue to exist under the Harbor Park Alternative.

This impact to fire services under the Harbor Park Alternative is greater than the Proposed Project and would result in a significant impact.

##### **b. Police Protection**

The Police Department currently maintains 1.07 sworn employees per 1,000 residents. The Harbor Park Alternative has the same number of residential units and the same projected population. As such, the number of officers needed to serve this alternative is the same as the Proposed Project. With both the Proposed Project and this alternative, demand for police services would increase in order to maintain response times. Up to six additional police officers with related equipment may be needed to serve the project area. The additional staffing required will be provided by the City and will be funded by revenues generated by the project. Impacts to police protection services would therefore be less than significant. No additional police facilities are needed to serve the project. Similar to the Proposed Project, the Harbor Park Alternative would not result in a significant impact on police facilities.

##### **c. Parks and Recreation**

Park land requirements are established in the City's Municipal Code Section 17.10.040 for property within the City's jurisdiction. This requires park acreage dedication and improvement

based on development type. Multifamily dwelling units are required to dedicate 341 square feet of parkland for each unit, or approximately 3.0 acres per 1,000 residents. Residential and transient motels/hotels are required to dedicate 196 square feet of parkland for each unit. The Harbor Park Alternative would exceed the minimum parkland requirement by designating approximately 120 acres of parkland, which is greater than the 80.94 acres under the Proposed Project. No parkland is required outside of the Harbor Park Alternative to meet the established standard.

The Harbor Park Alternative would result in the provision of a relatively greater acreage of parkland than the Proposed Project. As with the Proposed Project, development of the Harbor Park Alternative would result in temporary, short-term significant impacts to park and recreation levels of service due to temporary closure of existing area parks during project construction. The introduction of residential units and hotel rooms within the City's jurisdiction in the project area would result in potentially significant impacts due to an increase in demand for developed parkland and recreation facilities.

#### d. Schools

The estimated number of students to be generated by the Harbor Park Alternative is based on the current student generation factors used by each of the school districts. As indicated in *Table 5.4-24* at build-out, the Harbor Park Alternative is expected to generate a net increase of approximately 1,092 students, including approximately 700 elementary students, 196 middle school students, and 196 high school students. This is the same as the Proposed Project.

**TABLE 5.4-24**  
**Student Generation Rates for the Harbor Park Alternative**

Grades	Generation Rate	Multifamily Dwelling Units	Total Students Generated
<b>Phase I</b>			
K thorough 6	0.350	1,300	455.0
7 thorough 8	0.098	1,300	127.4
9 thorough 12	0.098	1,300	127.4
<i>Subtotal</i>			709.8
<b>Phase II</b>			
K thorough 6	0.350	700	245.0
7 thorough 8	0.098	700	68.6
9 thorough 12	0.098	700	68.6
<i>Subtotal</i>			382.2
<b>TOTAL Students Generated</b>			<b>1,092</b>

SOURCE: CVESD; Sweetwater Union High School District 2005.

The residential developments and associated phasing of the residential developments under the Harbor Park Alternative are the same as that under the Proposed Project.

***Phase I***

The Harbor Park Alternative would generate 455 elementary students, 127.4 middle school students, and 127.4 high school students during Phase I. The addition of 455 new elementary students would exceed the capacity of the CVESD, and the additional middle and high school students would exceed the capacity of SUHSD. Both of these school districts would need new facilities during Phase I. As with the Proposed Project, impacts would be significant.

***Phases II, III, and IV***

During Phase II, approximately 245 elementary students, 68.6 middle school students, and 68.6 high school students would be generated. Because CVESD and SUHSD are currently operating at or near capacity, both school districts would need new facilities to serve the students generated by the Harbor Park Alternative. This impact during Phase II would be significant.

There are no impacts during Phases III and IV.

As discussed in threshold No. 1 above, the Harbor Park Alternative would require the construction of new facilities. Because the location of a school's site is currently unknown, the environmental effects of the provision of a school is speculative and beyond the scope of this analysis. As with the Proposed Project, this would be a significant impact.

**e. Library Services**

The residential developments and associated phasing of the residential developments under the Harbor Park Alternative are the same as that under the Proposed Project. Provision of library square footage is conditional on the residential population generation.

***Phase I***

The Harbor Park Alternative would result in a total population generation of approximately 2,807 persons. The project would require approximately 1,404 square feet of library facilities for Phase I development. The need for additional square footage would worsen the present shortfall in library square footage and books per capita. Similar to the Proposed Project, this would be a significant impact.

***Phase II***

Phase II would result in an additional population increase of approximately 1,511 persons and therefore require approximately 756 square feet of library facilities. Similar to the Proposed Project, this impact would be significant.

### *Phases III and IV*

No residential uses are proposed in phases. Therefore, there would be no impacts.

As with the Proposed Project, the Harbor Park Alternative would require 2,160 square feet of library space. Until new library facilities are constructed or existing facilities expanded, significant impacts would result.

#### **5.4.11.2 Public Services Summary and Mitigation**

The Harbor Park Alternative would not avoid or substantially lessen the significant effects of the Proposed Project on public services. As shown in *Table 5.4-25*, the Harbor Park Alternative would result in significant impacts to schools and library services, similar to those identified for the Proposed Project over the long term. As with the Proposed Project, significant impacts to schools ~~and library services~~ would be mitigated to below a level of significance and impacts to library services would remain significant and unmitigated. ~~would reduce impacts to schools and public services to below a level of significance.~~

In addition to those impacts to public services that are similar to the Proposed Project, the Harbor Park Alternative would also result in a significant impact to fire services as a new fire station is not proposed under this alternative. In order to address this impact, the City would have to provide additional equipment and/or facilities as deemed necessary by the City's Fire Department to ensure adequate fire protection services. The changes that may result from the provision of additional equipment or facilities as may be identified in the City's Fire Master Plan would be the responsibility and within the jurisdiction of the City and not the Port.

**TABLE 5.4-25  
Comparison of Public Services Impacts**

	Proposed Project	Harbor Park Alternative
<b>Fire Services</b>		
Would the project reduce the ability to respond to calls throughout the City within the City's threshold standard to response to calls within 7 minutes in 80 percent of the cases?	No	Greater  The Harbor Park Alternative would result in a greater impact to fire services as compared to the Proposed Project
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the fire protection and emergency services?	Yes: <b>Significant Impact 4.13.1-1</b>	Similar

TABLE 5.4-25 (Cont.)

	Proposed Project	Harbor Park Alternative
<b>Police Protection</b>		
Would the project reduce the ability to respond to calls within the City's threshold standard for Priority One emergency calls within 7 minutes in 81 percent of the cases and maintain an average response time to all Priority One calls of 5.5 minutes or less or Priority Two urgent calls, within 7 minutes in 57 percent of cases, and maintain an average response time to all Priority Two calls of 7.5 minutes or less?	No	No
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities and/or the need for new or physically altered facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services?	No	No
<b>Parkland</b>		
Would the project result in the inability for the City to provide an adequate level of service in accordance with the Chula Vista Municipal Code Chapter 17.10.040 Parklands and Public Facilities?	Yes: <b>Significant Impacts 4.13.3-1 and 4.13.3-2</b>	Similar
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental or recreational facilities, need for new, expanded, or physically altered government or recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for park and recreation services?	No	No
Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No	No
<b>Schools</b>		
Would the project result in the CVESD and SUHSD not having the necessary school facilities to meet the needs of the students in new development areas in a timely manner?	Yes: <b>Significant Impact 4.13.4-1</b>	Similar
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for schools?	Yes: <b>Significant Impact 4.13.4-2</b>	Similar
<b>Library Services</b>		
Would the project exceed the population ratio, which requires that 500 square feet (gross) of adequately equipped and staffed libraries be provided per 1,000 populations?	Yes: <b>Significant Impact 4.13.5-1</b>	Similar
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries?	Yes: <b>Significant Impact 4.13.5-2</b>	Similar

### 5.4.12 Public Utilities

In order to assess impacts to public utilities associated with the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each public utilities threshold was conducted. *Section 5.4.12.1* provides an impact analysis and *Section 5.4.12.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

#### 5.4.12.1 Impact Analysis of the Harbor Park Alternative

##### a. Water Supply and Analysis

Impacts to public utilities would be similar to those resulting from the Proposed Project. Ultimate build-out under the Harbor Park Alternative would require upgrades to sewer and water supply facilities to meet increased demand over time.

The projected water demand is presented by district in *Table 5.4-26* below:

**TABLE 5.4-26**  
**Harbor Park Alternative Water Demand Summary (MGD)**

Development Area	Average Demand	Max Day Demand
Sweetwater District	0.216	0.540
Harbor District	1.358	2.648
Otay District	0.335	0.787
<b>TOTAL</b>	<b>1.909</b>	<b>3.975</b>

SOURCE: Kimley-Horn and Associates, Inc. 2006.

The water demand under the Harbor Park Alternative is less than the water demanded by the Proposed Project at build-out. Based on information from the Sweetwater Authority, there would be sufficient water supplies over a 25-year planning horizon, to meet the projected demands of the Proposed Project and the existing and planned development projects within the Sweetwater Authority's service area. Because the alternative would require less water demand than the Proposed Project, there would be sufficient water supplies available for the Harbor Park Alternative.

The City has protective measures in place to ensure that the available water is supplied and distributed throughout the City in accordance with demand. These measures apply to the residential development proposed under the City's jurisdiction and require the project applicant to request and deliver to the City service availability letters from the appropriate water district and submit a water conservation plan at the tentative map level.

Although sufficient water supply exists to serve the Harbor Park Alternative, there is uncertainty created by pending litigation involving imported water supplies. Pending litigation creates

uncertainty and, therefore, sufficient reliable sources of water cannot be guaranteed. Similar to the Proposed Project, the Harbor Park Alternative still has the potential to result in significant unmitigable impacts to water supply because of the absence of long-term supply contracts for water.

- As with the Proposed Project, existing infrastructure cannot accommodate the Harbor Park Alternative. Construction of water system improvements and connections (on and off site) for the entire project would result in noise impacts during site preparation and building activities. These impacts are the same as those associated with the Proposed Project.

As determined by the City of Chula Vista General Plan Update EIR, the updated General Plan is inconsistent with the SDCWA UWMP. Because the Harbor Park Alternative includes additional plan modifications to an already inconsistent General Plan, the Harbor Park Alternative would be inconsistent with the UWMP forecasts as well. This inconsistency would be temporary and significant.

#### b. Sewer Impacts and Analysis

Based on the same generation rates and sewage generation estimates used for the Proposed Project, the Harbor Park Alternative is expected to generate a total average flow of approximately 1.392 MGD and an approximate peak flow of 2.675 MGD. *Table 5.4-27* shows the sewage generation summary by district for the Harbor Park Alternative. The projected sewage generation broken down by parcel for this alternative is contained in *Appendix 4.5-2*.

**TABLE 5.4-27**  
**Harbor Park Alternative Sewage Generation Summary**  
**(MGD)**

Development Area	Average Flow	Peak Flow
Sweetwater District	0.129	0.303
Harbor District	1.065	1.939
Otay District	0.198	0.433
<b>TOTAL</b>	<b>1.392</b>	<b>2.675</b>

SOURCE: Kimley-Horn and Associates, Inc. 2006.

This alternative would generate approximately 0.06 MGD more sewage on average than the Proposed Project. The City currently has a capacity of 20.87 MGD and a current flow of 17.00. The City anticipates a future sewage generation rate of 26.20, which would require an additional needed capacity of 5.33 MGD. The City does not have capacity for future generation and would not have adequate capacity to serve the additional sewer generated from the Harbor Park Alternative.

- The Harbor Park Alternative would require construction of new facilities in addition to replacement of existing sewer facilities. Construction of the proposed sewer system for Phase I and the entire project would result in noise impacts during site preparation and building activities. These impacts are the same as those associated with the Proposed Project and the similar to those identified for the construction of water facilities.

### c. Solid Waste Management

The estimated solid waste generation for this alternative is presented in *Table 5.4-28*. As compared to the Proposed Project, this alternative would generate more solid waste by approximately 3,250 pounds per day, or 1.6 tons per day more than the Proposed Project. The Proposed Project is estimated to generate 10.1 tons per day. The Otay Landfill is permitted to accept 5,830 tons per day and is currently accepting about 4,500 tons per day. The 11.7 tons per day is not significant because landfill capacity would not be exceeded for between 16 and 21 years.

As with the Proposed Project, the Harbor Park Alternative would comply with federal, state, and local statutes and regulations and therefore no significant impacts in regard to solid waste would occur.

**TABLE 5.4-28**  
**Solid Waste Estimates for the Harbor Park Alternative**

Category	Unit	Phases						Total	
		I		II		III		pounds/ day	Total Units
		pounds/ day	Total Units	pounds/ day	Total Units	pounds/ day	Total Units		
Cultural	thousand square feet			2,800	400	350	50	3,150	450
Ferry	thousand square feet			125	25			125	25
Hotel	rooms	4,300	2,150	2,000	1,000			6,300	3,150
Office	thousand square feet	2,400	400			3,240	540	5,640	940
Residential	units	4,680	1,300	2,520	700			7,200	2,000
Retail	thousand square feet	1,320	220	900	150			2,220	370
RV Park	units			472	236			472	2236
<b>TOTAL</b>		<b>12,700</b>	<b>4070</b>	<b>8,817</b>	<b>2,511</b>	<b>3,590</b>	<b>590</b>	<b>25,107</b>	<b>7,171</b>

### 5.4. ~~12~~4.2 Public Utilities Summary and Mitigation

The Harbor Park Alternative would not avoid or substantially reduce the significant effects of the Proposed Project on public utilities. The Harbor Park Alternative would result in significant impacts to water facilities and significant impacts to sewer facilities, similar to the Proposed Project as shown in *Table 5.4-29* below. Implementation of mitigation measures detailed in *Section 4.14, Public Utilities*, would reduce these impacts to below a level of significance.

**TABLE 5.4-29  
Comparison of Public Utilities Impacts**

	Proposed Project	Harbor Park Alternative
<b>Water Impacts</b>		
Are sufficient water supplies not available to serve the project from existing entitlements and resources, or result in the need for new or expanded entitlements?	No	No
Would the project require or result in the construction of new water treatment facilities or expansion of existing facilities and services, the construction of which could cause significant environmental effects?	Yes: <b>Significant Impacts 4.14.1-1 through 4.14.1-4</b>	Similar
Would the project be inconsistent with the assumptions used in the SDCWA UWMP?	No	No
<b>Sewer Impacts</b>		
Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate planned capacity to serve projected demand in addition to the provider's existing commitments?	Yes: <b>Significant Impact 4.14.2-1</b>	Greater Wastewater generated under the Harbor Park Alternative would be slightly more than that under the Proposed Project.
Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Yes: <b>Significant Impacts 4.14.2-2 through 4.14.2-5</b>	Similar
<b>Solid Waste</b>		
Would the project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	No	No
Would the project not comply with federal, state, and local statutes and regulations related to solid waste?	No	No

### 5.4.13 Seismic/Geologic Hazards

In order to assess seismic/geologic hazards associated with the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each seismic/geologic hazards threshold was conducted. *Section 5.4.13.1* provides an impact analysis and *Section 5.4.13.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

The analysis presented below is based on a Preliminary Geotechnical Evaluation for the Proposed Project development area (March 2005) prepared by Ninyo & Moore (see *Appendix 4.15-1*). The project area for the Harbor Park Alternative is identical to the project area for the Harbor Park Alternative; therefore, the report pertains to both development scenarios.

#### 5.4.13.1 Impact Analysis of the Harbor Park Alternative

No active faults have been mapped or were observed within the project site, nor is the project site located within a State of California Earthquake Fault Zone (Alquist-Priolo Special Studies

Zone). As with the Proposed Project, impacts associated with tsunamis are not significant for any phase of the project.

As with the Proposed Project, there is potential for strong ground motions to occur at the project site; therefore, impacts associated with strong motion and surface rupture are significant and apply to all development phases. In addition, loose granular soils (i.e., fill materials and bay deposits/alluvium) underlie portions of the site combined with a relatively shallow groundwater table. These soils have a moderate to high potential for liquefaction and settlement to occur during an earthquake and are not considered suitable for structural support. The project proposes development on some of these sites; therefore, the potential of lateral spreading in the liquefiable soil below the groundwater table is considered an adverse impact on these sites.

#### 5.4.13.2 Seismic/Geologic Hazards Summary and Mitigation

Implementation of the Harbor Park Alternative would not avoid or substantially lessen the significant effects from seismic/geologic hazards associated with the Proposed Project. The Harbor Park Alternative would result in impacts similar to the Proposed Project as shown in *Table 5.4-30* below. Implementation of mitigation measures detailed in *Section 4.15, Seismic/Geologic Hazards*, would reduce any potential significant impacts to below a level of significance.

**TABLE 5.4-30  
Comparison of Seismic/Geologic Hazards Impacts**

	Proposed Project	Harbor Park Alternative
Would the project expose people or structures to adverse effects involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known faults; or strong seismic ground shaking?	Yes: <b>Significant Impact 4.15-1</b>	Similar
Would the project expose people or structures to adverse effects involving seismic-related ground failure, including liquefaction, or it is located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	Yes: <b>Significant Impacts 4.15-2 through 4.15-5</b>	Similar
Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating a substantial risk to life or property?	No	No
Would the project be at located in an area where there is the potential for tsunamis?	No	No

### 5.4.14 Energy

In order to assess energy impacts associated with the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each energy threshold was conducted. *Section 5.4.14.1* provides an impact analysis and provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

#### *5.4.14.1 Impact Analysis of the Harbor Park Alternative*

The area of potential impact and intensity of development over time is generally the same under the Harbor Park Alternative as for the Proposed Project. The increased demand for energy resulting from development of the Proposed Project and the Harbor Park Alternative and the potential to exceed the available water supply would result in a significant impact. Implementation of mitigation detailed in *Section 4.16, Energy*, would reduce this impact to below a level of significance. The Harbor Park Alternative would not avoid or substantially lessen the significant effects of the Proposed Project on energy; **therefore, the cumulative impact to energy as detailed in Section 6.17 would remain significant and unmitigated.**

### 5.4.15 Population and Housing

In order to assess Population and Housing associated with the Harbor Park Alternative in relation to the Proposed Project, an evaluation of the Harbor Park Alternative against each population and housing threshold was conducted. *Section 5.4.15.1* provides an impact analysis and *Section 5.4.15.2* provides a summary of impacts and mitigation pertaining to the Harbor Park Alternative.

Existing conditions for the Proposed Project are identical to that of the Harbor Park Alternative. There are no residential units located within the Harbor Park Alternative project boundaries. A recreational visitor-serving park (RV park) is located north of the Chula Vista Marina on Sandpiper Way, abutting the Bayside Park parking lot.

#### *5.4.15.1 Impact Analysis of the Harbor Park Alternative*

##### a. Direct Impacts

Similar to the Proposed Project, the Harbor Park Alternative would not result in significant population and housing impacts. The number of residential units proposed in the Harbor Park Alternative would be the same as that proposed under the Proposed Project. Both scenarios proposed 1,500 new residential units with approximately 3,800 new residents in areas where no residences currently exist. In addition to residential development, high-tech businesses, visitor service retail, parkland, and open space are proposed.

While the Harbor Park Alternative would create new residential units to house new residents in an area where no residences currently exist, direct impacts would not have a significant adverse environmental effect for the following reasons.

- The Bayfront is an area that has been planned for future residential growth;
- Project design is planned to accommodate population growth;
- The project would provide needed additional housing stock. Chula Vista has a very low vacancy rate for available housing (approximately 3 percent) per the most recent SANDAG update (2005); and
- Growth is not likely to extend beyond the project boundaries due to physical constraints of the project site (Bay on the west, 1-5 on the east, Chula Vista Nature Center on the north and south).

#### b. Indirect Impacts

As with the Proposed Project, increased population growth and intensity of land uses require construction of new infrastructure and facilities including roads, water, and sewer systems. The Harbor Park Alternative would have indirect impacts associated with traffic, air quality, public services, and public utilities as addressed in sections above.

There are currently no residences within the project boundary; therefore, the Harbor Park Alternative would not displace any existing housing or residents.

#### *5.4.15.2 Population and Housing Summary and Mitigation*

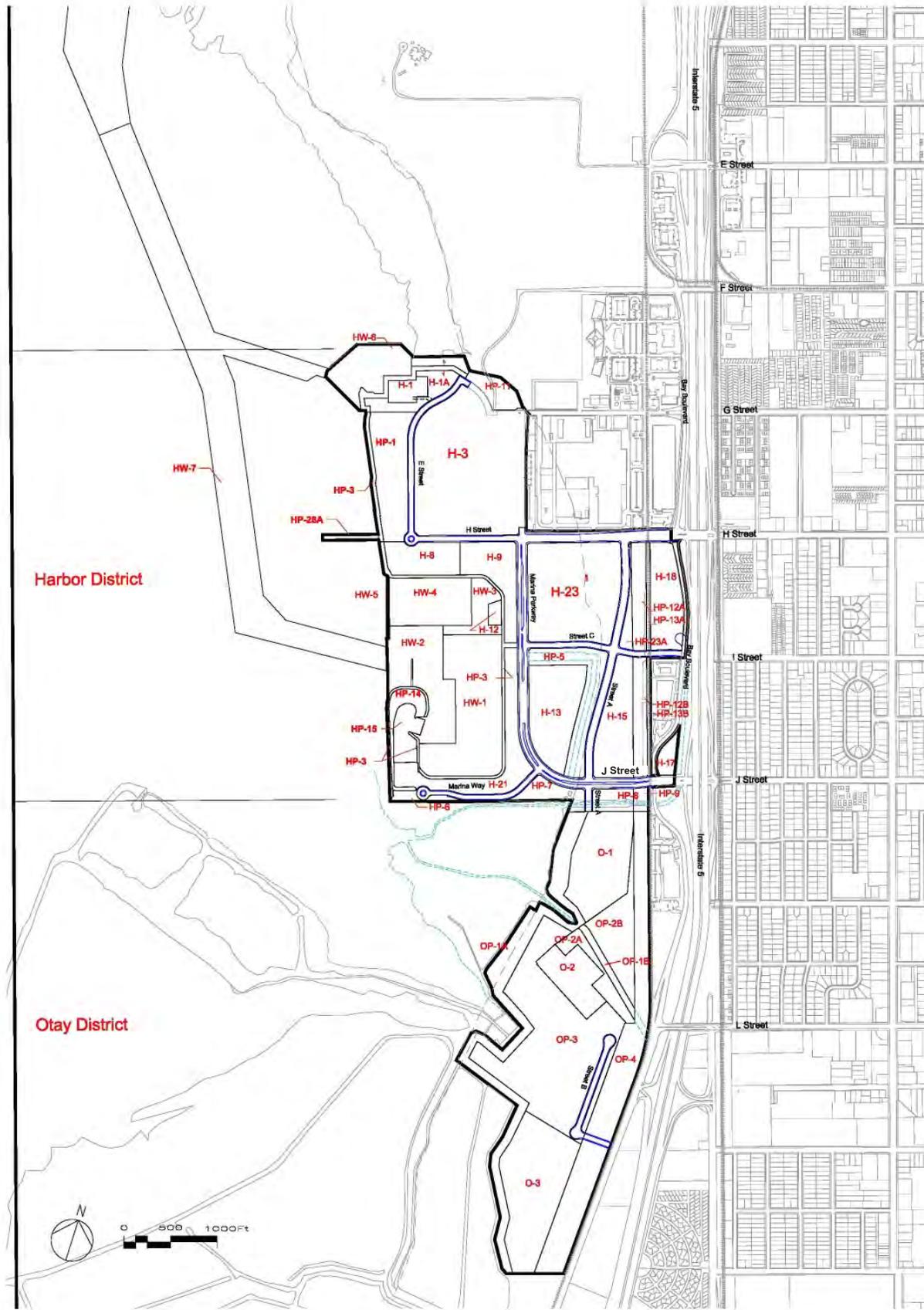
Neither the Harbor Park Alternative nor the Proposed Project would result in Population and Housing Impacts. No mitigation measures are necessary.

## **5.5 No Land Trade Alternative**

The No Land Trade Alternative was selected for consideration to provide a development alternative which would not require an exchange of public trust land under Port jurisdiction in the Harbor District for private land in the Sweetwater District. Under this alternative, the proposed land trade would not take place, which would avoid the need for approval by the State Lands Commission. All tidelands trust properties in the Project Area would remain within the Port's jurisdiction; and all parcels held under option by private developers would remain within the City's jurisdiction.

This alternative would eliminate the proposed land uses within the Sweetwater District. Therefore, this alternative would consist of only the Harbor and Otay Districts, for a project area

totaling 427 acres, and would not include the Sweetwater District. However, current land entitlements as approved under the Midbayfront LCP would allow high-density residential units and a hotel and ancillary retail and commercial uses in the Sweetwater District. Although this alternative is geographically smaller, it takes into account the potential cumulative impacts should the approved Midbayfront LCP be developed. In a worst-case scenario, build-out of the Sweetwater District in accordance with the approved LCP would include ~~1,550~~ **1,000** dwelling units, **1,906,000 square feet of commercial/hotel use (including 2,028 1,860** hotel rooms), ~~150,000 square feet of retail, 140,000~~ **60,000** square feet of office, **75,000 square feet of cultural arts facilities,** and nearly ~~19~~ **34** acres of parks. These uses are considered in the analysis as potential cumulative impacts. *Figure 5.5-1* shows the proposed parcel plan configuration for this alternative, while *Figure 5.5-2* illustrates this plan alternative. *Table 5.5-1* provides a summary of proposed development and height ranges. The required cut-and-fill details are listed in *Table 5.5-2* below. *Appendix 3.4-1* of this report contains the draft PMP Amendment tables and graphics for the No Land Trade Alternative.



SOURCE: Port of San Diego

# Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan No Land Trade Alternative Parcel Plan

**FIGURE**  
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SOURCE: Port of San Diego, 2008

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**No Land Trade Alternative Illustrative Plan**

**FIGURE**  
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**TABLE 5.5-1**  
**No Land Trade Alternative Summary Table**  
**Proposed Uses and Development Program/Height Ranges**

District, Phase, Parcel Number	Proposed Use	Approximate Program Range	Maximum Stories	Maximum Height (feet)
<b>Harbor District</b>				
<b>Phase I</b>				
H-3	Resort Conference Center (RCC)	1,500 to 2,000 rooms	N/A	300
H-3	RCC Conference Space	415,000 square feet (net)	N/A	120
H-3	RCC Restaurant	100,000 square feet	N/A	N/A
H-3	RCC Retail	20,000 square feet	N/A	N/A
H-8, H-23, HP-1	Signature Park/Cultural	41 acres	1 to 3	30 to 65
H-9	Interim Park/Landscaping	2 acres	1	N/A
H-18 (Interim Use)	Interim Surface Parking Lot	1,100 spaces	N/A	N/A
HP-3	Shoreline Promenade (abutting HP-1 and H-8)	3 acres	N/A	N/A
HP-23A	Industrial Business Park Use	1 acre	N/A	N/A
Streets	E Street Extension, H Street Extension, Street A, Street C		N/A	N/A
<b>Phase II</b>				
H-9	Retail/Commercial Recreation and Marina Support	25,000 to 50,000 square feet	1 to 2	15 to 30
H-13	Hotel	500 rooms	14 to 17	170 to 200
H-13	Retail	200,000 square feet	1 to 2	
H-15	Mixed-Use Office/Commercial Recreation Hotel	300,000 to 420,000 square feet	14 to 17	90 to 130
H-15		250 rooms	14 to 17	
H-17	Industrial Business Park Use	2 acres	N/A	N/A
HP-3	Shoreline Promenade (abutting H-9)	1 acre	N/A	N/A
HP-5	Wetlands and Buffer	9 acres	N/A	N/A
HP-28	H Street Pier (first half)	0.4 acre	N/A	N/A
<b>Phase III</b>				
H-21	Retail/Commercial Recreation and Marina Support	75,000 to 150,000 square feet	1 to 2	15 to 30
HP-3	Shoreline Promenade (abutting HP-14, HP-15, and H-21)	3 acres	N/A	N/A
HP-6, HP-7, HP-8, HP-9, HP-12, HP-13, HP-14, HP-15	Parks/Open Space	25 acres	N/A	N/A
<b>Phase IV</b>				
H-1	Community Boating Center	10,000 to 20,000 square feet	1 to 2	15 to 30
H-1A	Signature Park	5 acres	N/A	N/A
H-12	Ferry Terminal/Restaurant	10,000 to 25,000 square feet	2	30 to 40
H-18	Mixed-Use Office/Commercial Recreation	100,000 square feet	6 to 10	85 to 155
H-18	Collector Parking Garage	1,100 to 3,000 spaces	6 to 10	85 to 155
HP-3	Shoreline Promenade (abutting H-1 and H-1A)	2 acres	N/A	N/A

TABLE 5.5-1 (Cont.)

District, Phase, Parcel Number	Proposed Use	Approximate Program Range	Maximum Stories	Maximum Height (feet)
HP-28	H Street Pier (second half)	0.4 acre	N/A	N/A
HW-1, HW-2, HW-4, HW-6	Marinas (see H-1, H-9, and H-21), Boat Navigation/Open Water Area	54 acres, 900 slips	N/A	N/A
HW-3	Commercial Harbor	4 acres	N/A	N/A
HW-7	Navigation Channel	60 acres	N/A	N/A
<b>Otay District</b>				
<b>Phase III</b>				
O-1	RV Park	175 to 236 RV parking spaces	1 to 2	15 to 35
O-3	Industrial Business Park Use	21 acres	N/A	N/A
OP-1A	Ecological Buffer	24 acres	N/A	N/A
OP-3, OP-4	Parks/Open Space	64 acres	N/A	N/A
Streets	Street A, Street B			

## NOTES:

Existing J Street/Marina Parkway alignment between Bay Blvd. and H Street will remain.  
 HP-11 Existing Wetland will remain.  
 HW-5 Existing Fishing Pier will remain.  
 O-1 Existing Switchyard and OP-2A/OP-2B Existing Switchyard Easement will remain.  
 OP-1B Existing Telegraph Creek Channel will remain.

**TABLE 5.5-2  
Grading Quantities (cubic yards)**

District	Cut	Fill	Import/Export
Harbor District	65,000	620,000	<555,000> import
Otay District	55,000	360,000	<305,000> import
<b>TOTAL</b>	<b>300,000</b>	<b>1,150,000</b>	<b>&lt;850,000&gt; import</b>

This alternative is similar to the Proposed Project in the Harbor and Otay Districts, except for the following major differences, if this alternative were adopted:

- There would be no land trade and approval would not be required by the State Lands Commission.
- Instead of residential use on H-13, this parcel would remain within Port jurisdiction and would consist of a 500-room hotel and 200,000 square feet of cultural/retail. The maximum height of buildings on H-13 would be 200 feet instead of 220 feet. This parcel, along with HP-5, would be completed in Phase II instead of in Phase I as with the Proposed Project.
- The signature park would be proposed on H-23 and would include development for cultural uses, with a maximum height of 65 feet instead of 300 feet.
- The uses on H-15 would be the same as for the Proposed Project (420,000 square feet of mixed-use office/commercial recreation and a 250-room hotel); however, since this parcel would remain under Port jurisdiction (unlike the Proposed Project), they would be trust-related mixed-use office/commercial recreation and hotel uses.
- No fire station would be proposed on H-17, as is proposed under the Proposed Project. This parcel would remain in the Port's jurisdiction and would be designated for Industrial Business Park use.
- J Street/Marina Parkway would remain in its existing configuration between Bay Boulevard, and H Street and would not be narrowed and reconfigured as with the Proposed Project. This would slightly decrease the size of the abutting development parcels. No modifications would be needed for HP-6, HP-7, and HP-8.
- The RV Park would be located on the northernmost portion of the Otay District on O-1 instead of towards the middle of the Otay District as with the Proposed Project.
- The switchyard and associated easements, located on O-3A/O-3B, and a portion of O-1 on the Proposed Project parcel plan would remain in place. The switchyard would not be relocated to the southern portion of the Otay District.
- Telegraph Creek Channel would remain as is in size and would not be widened because the switchyard would remain.

- The OP-3 South Park would increase from 24 acres to 36 acres.
- Parcel O-3 would decrease from 28 acres to 21 acres.
- There would be limited new roadways in the Otay District compared to the Proposed Project.
- The required fill to be imported would be approximately 110,000 cubic yards less than for the Proposed Project. All other uses and phasing would be the same as for the Proposed Project.

This alternative would not achieve a major objective of the Proposed Project, which is to improve land use compatibility by relocating residential development away from resources in the Sweetwater Marsh NWR while allowing higher-intensity and compatible uses in the Harbor and Otay Districts.

### 5.5.1 Land/Water Use Compatibility

The proposed land uses for the No Land Trade Alternative are summarized in *Table 5.5-1* above. Unlike the Proposed Project, selection of this alternative would avoid the need for approval by the State Lands Commission. All tidelands trust properties in the project area would remain in the Port's jurisdiction, and all parcels held under option by private developers would remain the City's jurisdiction.

The No Land Trade Alternative would be incompatible with adopted plans for the project area; however, as with the Proposed Project, amendments to the applicable plans and PMP would allow development as proposed for this alternative. The proposed amendment to the PMP would reduce industrial uses from the majority of the planning areas and designate them for commercial/recreational use. In addition, the CCC would have to approve the project because proposed development would not conform to the certified LCP or PMP. Implementation of this alternative would also require an adjustment to the MSCP boundary if the existing Marina Parkway is not realigned to avoid sensitive biological impacts. Consequently, the No Land Trade Alternative's impacts on land/water use compatibility resulting from conflicts with applicable habitat conservation plans would be greater than those identified for the Proposed Project.

This alternative would not incorporate the land uses proposed for the Sweetwater District under the Proposed Project and instead consist of development in only the Harbor and Otay Districts, for a project area totaling 427 acres. This would allow development in the Sweetwater District as approved under the current Midbayfront LCP. Current land entitlements as approved under the LCP would allow high-density residential units and a hotel and ancillary retail and commercial uses in the Sweetwater District. Although the No Land Trade Alternative would result in a reduced development footprint as compared to the Proposed Project, cumulative impacts

resulting from development of the Sweetwater District in accordance with the approved LCP, rather than as proposed under the Proposed Project, would result in a greater impact to land/water use compatibility than the Proposed Project due to conflicts associated with placement of high-intensity uses adjacent to the Sweetwater Marsh NWR.

Significant impacts to open water, as well as the mitigation necessary to reduce those impacts to below a level of significance, would be the same as for the Proposed Project. Implementation of mitigation measures identified for the Proposed Project in *Section 4.1, Land/Water Use Compatibility*, would reduce land/water use impacts associated with proposed park uses on CCC jurisdictional wetlands and conflicts with the MSCP Subarea Plan.

Whereas development is focused away from the Sweetwater District in the Proposed Project, the development of higher-intensity uses in the Sweetwater District under the No Land Trade Alternative would result in adjacency conflicts with nearby sensitive resources in the Sweetwater Marsh NWR and F & G Street Marsh. This would result in potential cumulative impacts should the approved Midbayfront LCP be developed. Although some of the significant land/water compatibility impacts would be reduced through implementation of mitigation measures as detailed in *Section 4.1, Land/Water Use Compatibility*, selection of this alternative would result in a greater impact to land use overall. **Impacts on City of Chula Vista General Plan policies related to view quality and library services which would remain significant and unmitigated as under the Proposed Project.** Moreover, this alternative would directly conflict with a major objective of the Proposed Project, which is to avoid high-intensity development in the Sweetwater District while allowing higher-intensity and more compatible uses in the Harbor and Otay Districts. Implementation of this alternative would not substantially reduce significant impacts from the Proposed Project.

### 5.5.2 Traffic/Circulation and Parking

The following discussion describes the traffic-related impacts for each of the three development phases for the No Land Trade Alternative.

The No Land Trade Alternative only encompasses development in the Harbor and Otay Districts. The project does not include any development in the Sweetwater District; therefore, it is assumed that the Sweetwater District will be developed independently of the Bayfront Master Plan. As the timing of this development is unknown, it is conservatively assumed to occur prior to Phase I of the Bayfront Master Plan development, and it is included in the Phase I Baseline scenario. The land uses for the Sweetwater District are assumed to be the same as what was adopted in the Midbayfront LCP. These uses include 1,550 dwelling units, 2,028 hotel rooms, 150,000 square feet of retail, 140,000 square feet of office, and nearly 19 acres of parks. In total, the Midbayfront LCP uses are forecast to generate 35,269 daily trips, including 2,250 in the A.M. peak hour, and 2,962 in the P.M. peak hour. This amount of development is substantially higher

than what is included in the Sweetwater District for the Proposed Project. In order to serve this development, the Midbayfront LCP street network would need to be completed prior to Phase I. This includes the extension of E Street as a four-lane Major Road from Bay Boulevard to the northern edge of the Harbor District and the extension of F Street to E Street as a four-lane Class I Collector.

#### a. Trip Generation

As shown on *Table 5.5-3*, the No Land Trade Alternative is expected to generate a total of 61,139 daily trips (as compared to 79,317 total daily trips for the Proposed Project). At build-out, this alternative would result in 18,178 fewer trips than generated by the Proposed Project and would include 3,937 (2,703 in, 1,234 out) A.M. peak-hour trips and 5,653 (2,631 in, 3,022 out) P.M. peak-hour trips.

With implementation of the No Land Trade Alternative, Phase I is expected to generate a total of 24,146 daily trips, including 1,535 (894 in, 641 out) A.M. peak-hour trips and 1,974 (1,147 in, 827 out) P.M. peak-hour trips. Phase II is expected to generate a total of 24,761 daily trips, including 238 (149 in, 89 out) A.M. peak-hour trips and 592 (286 in, 306 out) P.M. peak-hour trips. Phase III is expected to generate a total of 9,390 daily trips, including 495 (329 in, 166 out) A.M. peak-hour trips and 923 (406 in, 517 out) P.M. peak-hour trips. Phase IV is expected to generate a total of 2,843 daily trips, including 315 (270 in, 45 out) A.M. peak-hour trips and 330 (97 in, 233 out) P.M. peak-hour trips. Under this alternative and similar to the Proposed Project, the entire project would be built by Phase IV.

#### b. Intersection Analysis

##### *Phase I*

Under Phase I conditions, the following intersections would operate at an unacceptable LOS and would require mitigation:

- E Street and I-5 Southbound Off-Ramps (LOS F, both peak-hours);
- E Street and I-5 Northbound On-Ramp (LOS E, PM peak-hour);
- E Street and Broadway (LOS E, PM peak-hour);
- F Street and Bay Boulevard (LOS E, PM peak-hour);
- L Street and Bay Boulevard (LOS E, AM peak-hour, LOS F, PM peak hour); and
- I-5 Southbound Ramps and Bay Boulevard (LOS E, PM peak-hour).

In assessing the impacts of the project on the existing roadway network, it was determined that another connection to access I-5 is needed to alleviate some of the traffic on E Street. For this reason, H Street would be extended from I-5 to Street A and would be built as a 2-lane Class III

Collector. The extension of H Street would cause a redistribution of traffic in the project area, alleviating traffic at some intersections and worsening conditions at others. As a result of redistribution, the following intersections would continue to experience unacceptable LOS and would require additional mitigation beyond that which is included under the Proposed Project:

- E Street and I-5 Southbound Off-Ramp (LOS E, A.M. peak-hour, LOS F, P.M. peak-hour);
- F Street and Bay Boulevard (LOS E, P.M. peak-hour);
- L Street and Bay Boulevard (LOS E, A.M. peak-hour, LOS F, P.M. peak-hour); and
- I-5 Southbound Ramps and Bay Boulevard (LOS F, P.M. peak-hour).

The mitigation required to improve the operating conditions of these intersections to an acceptable LOS consists of traffic signal installation at three intersections and the addition of through/turn lanes at the E Street and I-5 Southbound Off-Ramp intersections. These mitigation measures will restore the LOS to the minimum performance standard (i.e., LOS D or better).

### *Phase II*

Under Phase II conditions, the following intersections would operate at an unacceptable LOS and would require mitigation:

- F Street and Bay Boulevard (LOS E, P.M. peak-hour);
- H Street and ~~RCCGaylord~~ Driveway (LOS E, P.M. peak-hour); and
- J Street and Bay Boulevard (LOS F, both peak-hours).

The mitigation required to improve the operating conditions of these intersections to an acceptable LOS consists of:

- Adding an exclusive Southbound and Eastbound right-turn lane at the intersection of F Street and Bay Boulevard;
- Adding a second Westbound through lane and an exclusive Eastbound right-turn lane at the intersection of H Street and ~~RCCGaylord~~ Driveway; and
- Construction of a traffic signal at the intersection of J Street and Bay Boulevard.

The above-listed improvements would restore operations at the intersections to an acceptable LOS.

**TABLE 5.5-3  
Total Trip Generation Summary-No Land Trade Alternative**

Phase	Parcel	Land Use	Units <sup>1</sup>		Trip Rate <sup>2</sup>			Daily Trips	A.M. Peak-Hour			P.M. Peak-Hour		
									In	Out	Total	In	Out	Total
<b>Harbor District</b>														
IV	H-1A	Signature Park	4.4	acres	50	/	acre	218	14	14	28	10	10	20
I	H-3	Hotel	2,000	rooms	10	/	room	20,000	720	480	1,200	960	640	1,600
I	HP-8/HP-1	Signature Park	19.0	acres	50	/	acre	950	62	62	124	43	43	86
I	H-9	Retail/Commercial	50	ksf	40	/	ksf	2,000	36	24	60	90	90	180
IV	H-12	Ferry Terminal/Restaurant	25	ksf	25	/	ksf	625	4	2	6	35	15	50
II	H-13	Hotel	500	rooms	10	/	room	5,000	180	120	300	240	160	400
II	H-15	Mixed-Use Office	210	ksf	40	/	ksf	8,000	144	96	240	360	360	720
II	H-15	Visitor Hotel	250	rooms	8	/	room	2,000	60	40	100	56	84	140
II	H-15	Retail	84	ksf	40	/	ksf	3,360	60	41	101	151	151	302
II	H-17	Industrial Business Park	3.0	acres	90	/	acre	270	27	3	30	6	26	32
IV	H-18	Office	100	ksf	20	/	ksf	2,000	252	28	280	52	208	260
III	H-21	Retail	150	ksf	40	/	ksf	6,000	108	72	180	270	270	540
I	H-23	Signature Park	23.0	acres	50	/	acre	1,150	75	75	150	52	52	104
I	HP-03	50-Foot Baywalk	9.1	acres	5	/	acre	46	1	1	2	2	2	4
II	HP-28	H Street Pier	0.8	acre	50	/	acre	41	3	2	5	2	2	4
<b>Subtotal Harbor District</b>								<b>57,749</b>	<b>2,482</b>	<b>1,140</b>	<b>3,622</b>	<b>2,495</b>	<b>2,775</b>	<b>5,270</b>
<b>Otay District</b>														
III	O-1	RV Park	236	DU	5	/	DU	1,180	28	66	94	78	52	130
III	O-3	Industrial Park Use						1,890	187	21	208	45	182	227
III	OP-3	South Park	64.0	acre	5	/	acre	320	6	7	13	13	13	26
<b>Subtotal Otay District</b>								<b>3,390</b>	<b>221</b>	<b>94</b>	<b>315</b>	<b>136</b>	<b>247</b>	<b>383</b>
<b>TOTAL</b>								<b>61,139</b>	<b>2,703</b>	<b>1,234</b>	<b>3,937</b>	<b>2,631</b>	<b>3,022</b>	<b>5,653</b>

***Phase III***

Under Phase III conditions, the following intersections would operate at an unacceptable LOS and would require mitigation:

- J Street and I-5 Northbound Ramps (LOS E, A.M. peak-hour);
- Marina Parkway and Marina Way (LOS F, P.M. peak-hour); and
- J Street and Street A (LOS F, both peak-hours).

The mitigation required to improve the operating conditions of these intersections to an acceptable LOS consists of:

- Adding an exclusive Westbound right-turn lane at the intersection of J Street and I-5 Northbound Ramps;
- Construction of a traffic signal at the intersection of Marina Parkway and Marina Way; and
- Construction of a traffic signal and the addition of an exclusive Eastbound and Westbound left-turn and a Westbound right-turn lane at the intersection of J Street and Street A.

The above-listed improvements would restore operations at the intersections to an acceptable LOS.

***Phase IV***

While the No Land Trade Alternative would not result in any direct impacts to study area roadways, it would result in cumulative impacts to the following 6 intersections:

- E Street and Broadway (LOS E, P.M. peak-hour);
- F Street and Bay Boulevard (LOS E, P.M. peak-hour);
- F Street and Broadway (LOS E, P.M. peak-hour);
- H Street and Woodlawn Avenue (LOS F, both peak-hours);
- H Street and Broadway (LOS E, P.M. peak-hour); and
- J Street and I-5 Northbound Ramps (LOS E, A.M. peak-hour).

The mitigation required to improve the operating conditions of these intersections to an acceptable LOS consists of:

- Adding a dual Eastbound left-turn lane at the intersection of E Street and Broadway;
- Adding an Eastbound through lane and a dual Southbound left-turn lane at the intersection of F Street and Bay Boulevard;
- Adding an exclusive Eastbound right-turn lane at the intersection of F Street and Broadway;
- Adding an Eastbound and Westbound through lane and an Westbound right-turn lane at the intersection of H Street and Woodlawn Avenue;
- Adding a Westbound through lane and a Westbound right-turn lane at the intersection of H Street and Broadway; and
- Adding a dual Eastbound left-turn lane at the intersection of J Street and the I-5 Northbound Ramps.

The above-listed improvements would restore operations at the intersections to an acceptable LOS.

It should be noted that each of the impacted intersections would require mitigation for operations to be restored to an acceptable LOS. *Table 5.5-4* summarizes the proposed mitigation to be implemented throughout the project. With mitigation, each of the impacted intersections listed above would operate at an acceptable LOS.

*Tables 5.5-5* through *5.5-8* compare the intersection operations under the Proposed Project scenario against the No Land Trade Alternative scenario. As shown in the tables, impacts to intersections would be similar under the No Land Trade Alternative scenario to the Proposed Project, although there are several new intersection impacts that exist under the No Land Trade Alternative.

**TABLE 5.5-4  
No Land Trade Alternative Proposed Roadway Segment, Intersection, and Freeway Improvements**

Facility	Description of Improvement	Timing
<b>Roadway Segments</b>		
Street C between Marina Parkway and Street A	Construct as a 2-lane Class III Collector	Phase I
Bay Boulevard between E Street and F Street	Widen to a 4-lane Class I Collector	Phase I
H Street between Marina Parkway and Street A	Construct and widen to a 2-lane Class II Collector	Phase I
H Street between Street A and I-5 Ramps	Construct and widen to a 5-lane Major Street	Phase I
H Street west of Marina Parkway	Construct and widen to a 3-lane Class II Collector	Phase I/Phase II
E Street between H Street and <del>RCC</del> Gaylord Driveway	Construct and widen to a 2-lane Class II Collector	Phase I/Phase III
Street A between H Street and Street C	Construct and widen to a 2-lane Class II Collector	Phase I/Phase III
E Street between F Street and Bay Boulevard	Widen to a 2-lane Class II Collector	Phase II
J Street between Bay Boulevard and I-5 Ramps	Widen to a 6-lane Major Street	Phase II
Street A between Street C and J Street	Construct and widen to a 4-lane Class I Collector	Phase II
J Street between Street A and Bay Boulevard	Widen to a 6-lane Major Street	Phase III
Street A between J Street and Street B	Construct as a 2-lane Class III Collector	Phase III
Street B between Street A and Bay Boulevard	Construct as a 2-lane Class III Collector	Phase III
Bay Boulevard between F Street and H Street	Widen to a 2-lane Class II Collector	Phase III
H Street between I-5 Ramps and Broadway	Widen to a 6-lane Gateway Street	Phase IV
<b>Intersections</b>		
E Street & Bay Boulevard/I-5 Southbound Off-Ramp	Add second westbound through lane, third eastbound through lane, a dual southbound left-turn lane, a dual northbound right-turn lane, and an exclusive southbound right-turn lane	Phase I
E Street & Broadway	Add a dual eastbound left-turn lane	Phase I
F Street & Bay Boulevard	Construct traffic signal and convert eastbound and westbound shared left-through lanes to exclusive left turn lanes with protected phasing. Add exclusive southbound and eastbound right-turn lanes. Add an eastbound through lane and a dual southbound left-turn lane	Phase I/Phase II/ Phase III
F Street & Broadway	Add an exclusive eastbound right-turn lane	Phase II
H Street & <del>RCC</del> Gaylord Driveway	Add a second westbound through lane and an exclusive eastbound right-turn lane	Phase II
H Street & Woodlawn Avenue	Add eastbound and westbound through lane as part of roadway segment mitigation and add westbound right-turn lane	Phase III
H Street & Broadway	Add a westbound through lane and a westbound right-turn lane	Phase III
J Street & Bay Boulevard	Construct a traffic signal	Phase III
J Street & I-5 NB Ramps	Add an exclusive westbound right-turn lane and add a dual eastbound left-turn lane	Phase IV
L Street & Bay Boulevard	Construct a traffic signal	Phase IV
I-5 Southbound Ramps & Bay Boulevard	Construct a traffic signal	Phase IV
Marina Parkway & Marina Way	Construct a traffic signal	Phase IV
J Street & Street A	Construct a traffic signal and add exclusive eastbound and westbound left-turn lane and a westbound right-turn lane	Phase IV

**TABLE 5.5-5**  
**Phase I Intersection Operations**  
**(Proposed Project and No Land Trade Alternative)**

Intersection		Peak Hour	Proposed Project Phase I Baseline	Proposed Project Phase I Plus Project	No Land Trade Phase I Baseline	No Land Trade Phase I Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
1	E Street & I-5 Southbound Off-Ramp	AM	B	B	D	F	No Land Trade
		PM	B	F	F	F	Both
2	E Street & I-5 Northbound On-Ramp	AM	C	C	C	D	No
		PM	B	C	B	E	No Land Trade
3	E Street & Woodlawn Ave	AM	C	C	C	C	No
		PM	B	C	C	C	No
4	E Street & Broadway	AM	B	B	C	C	No
		PM	C	D	D	E	No Land Trade
5	E Street & 5th Ave	AM	A	A	A	A	No
		PM	A	A	A	A	No
6	E Street & 4th Ave	AM	B	B	B	B	No
		PM	C	C	C	C	NO
7	E Street & 3rd Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
8	F Street & Bay Blvd	AM	A	C	B	B	No
		PM	B	F	E	E	Both
9	F Street & Broadway	AM	B	B	B	B	No
		PM	C	C	C	C	No
10	F Street & 5th Ave	AM	A	A	A	A	No
		PM	A	A	B	B	No
11	F Street & 4th Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
12	F Street & 3rd Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
13	H Street & RCC Driveway Gaylord Dwy	AM	DNE	B	DNE	B	No
		PM		B		C	No

TABLE 5.5-5 (Cont.)

	Intersection	Peak Hour	Proposed Project Phase I Baseline	Proposed Project Phase I Plus Project	No Land Trade Phase I Baseline	No Land Trade Phase I Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
14	H Street & Bay Blvd	AM	B	C	B	C	No
		PM	A	B	A	B	No
15	H Street & I-5 Southbound Ramps	AM	C	C	C	C	No
		PM	C	C	C	C	No
16	H Street & I-5 Northbound Ramps	AM	B	B	B	B	No
		PM	B	B	B	B	No
17	H Street & Woodlawn Ave	AM	C	C	C	C	No
		PM	C	C	C	C	No
18	H Street & Broadway	AM	C	C	C	C	No
		PM	C	D	D	D	No
19	H Street & 5th Ave	AM	B	B	B	B	No
		PM	B	B	B	B	No
20	H Street & 4th Ave	AM	C	C	C	C	No
		PM	C	C	C	C	No
21	H Street & 3rd Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
22	J Street & Bay Blvd	AM	B	<b>F</b>	B	C	<b>Proposed Project</b>
		PM	B	<b>F</b>	B	D	<b>Proposed Project</b>
23	J Street & I-5 Southbound Ramps	AM	B	C	B	B	No
		PM	B	C	B	B	No
24	J Street & I-5 Northbound Ramps	AM	B	D	B	B	No
		PM	B	C	D	D	No
25	J Street & Woodlawn Ave	AM	B	B	B	B	No
		PM	B	B	B	B	No
26	J Street & Broadway	AM	B	B	B	B	No
		PM	C	C	C	C	No
27	L Street & Bay Blvd	AM	C	<b>F</b>	C	<b>E</b>	<b>Both</b>
		PM	F	<b>F</b>	F	<b>F</b>	<b>Both</b>
28	L Street & Industrial Blvd	AM	C	C	C	C	No
		PM	C	C	C	C	No

TABLE 5.5-5 (Cont.)

	Intersection	Peak Hour	Proposed Project Phase I Baseline	Proposed Project Phase I Plus Project	No Land Trade Phase I Baseline	No Land Trade Phase I Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
29	L Street & Broadway	AM	B	B	B	B	No
		PM	C	C	C	C	No
30	I-5 Southbound Ramps & Bay Blvd	AM	C	D	C	D	No
		PM	E	F	E	F	Both
31	I-5 Northbound Ramps & Industrial Blvd	AM	B	B	B	B	No
		PM	B	C	B	B	No
32	F Street & E Street	AM	DNE		A	C	No
		PM	DNE		A	D	No
33	H Street & Street A	AM	DNE		DNE		No
		PM	DNE		DNE		No
34	Street C & Marina Pkwy	AM	DNE		DNE	B	No
		PM	DNE		DNE	B	No
35	Street C & Street A	AM	DNE		DNE		No
		PM	DNE		DNE		No
36	Marina Pkwy & Marina Way	AM	DNE	B	A	C	No
		PM	DNE	E	B	C	No
37	J Street & Street A	AM	DNE	B	DNE		No
		PM	DNE	C	DNE		No
38	Street B & Bay Blvd	AM	DNE		DNE		No
		PM	DNE		DNE		No
39	RCC Gaylor Secondary Driveway & E Street	AM	DNE		DNE	B	No
		PM	DNE		DNE	C	No

**TABLE 5.5-6**  
**Phase II Intersection Operations**  
**(Proposed Project and No Land Trade Alternative)**

Intersection		Peak Hour	Proposed Project Phase II Baseline	Proposed Project Phase II Plus Project	No Land Trade Phase II Baseline	No Land Trade Phase II Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
1	E Street & I-5 Southbound Off-Ramp	AM	B	B	C	C	No
		PM	B	B	D	D	No
2	E Street & I-5 Northbound On-Ramp	AM	C	C	C	C	No
		PM	C	C	B	B	No
3	E Street & Woodlawn Ave	AM	C	C	C	C	No
		PM	C	C	C	C	No
4	E Street & Broadway	AM	B	C	C	C	No
		PM	D	D	D	D	No
5	E Street & 5th Ave	AM	A	A	A	A	No
		PM	A	A	A	A	No
6	E Street & 4th Ave	AM	B	B	B	B	No
		PM	C	C	C	C	NO
7	E Street & 3rd Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
8	F Street & Bay Blvd	AM	A	A	C	C	No
		PM	B	B	D	<b>E</b>	<b>No Land Trade</b>
9	F Street & Broadway	AM	B	B	B	B	No
		PM	C	C	C	C	No
10	F Street & 5th Ave	AM	A	A	A	A	No
		PM	A	A	B	B	No
11	F Street & 4th Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
12	F Street & 3rd Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
13	H Street & Gaylord <small>RCC -Dwy</small>	AM	B	C	B	C	No
		PM	D	<b>E</b>	C	<b>E</b>	<b>Both</b>
14	H Street & Bay Blvd	AM	B	A	C	C	No
		PM	C	C	C	C	No

TABLE 5.5-6 (Cont.)

Intersection		Peak Hour	Proposed Project Phase II Baseline	Proposed Project Phase II Plus Project	No Land Trade Phase II Baseline	No Land Trade Phase II Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
15	H Street & I-5 Southbound Ramps	AM	C	C	B	B	No
		PM	C	C	C	C	No
16	H Street & I-5 Northbound Ramps	AM	B	B	B	B	No
		PM	C	C	C	C	No
17	H Street & Woodlawn Ave	AM	C	C	C	C	No
		PM	C	C	C	C	No
18	H Street & Broadway	AM	C	C	C	C	No
		PM	D	D	D	D	No
19	H Street & 5th Ave	AM	B	B	B	B	No
		PM	B	B	B	B	No
20	H Street & 4th Ave	AM	C	C	C	C	No
		PM	C	D	C	C	No
21	H Street & 3rd Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
22	J Street & Bay Blvd	AM	C	C	B	F	No Land Trade
		PM	C	E	B	F	Both
23	J Street & I-5 Southbound Ramps	AM	C	B	B	B	No
		PM	C	C	C	C	No
24	J Street & I-5 Northbound Ramps	AM	C	D	B	D	No
		PM	C	D	B	C	No
25	J Street & Woodlawn Ave	AM	B	B	B	B	No
		PM	B	B	B	B	No
26	J Street & Broadway	AM	B	B	B	B	No
		PM	C	C	C	C	No
27	L Street & Bay Blvd	AM	A	A	B	B	No
		PM	B	B	C	C	No
28	L Street & Industrial Blvd	AM	C	C	C	C	No
		PM	C	C	C	C	No
29	L Street & Broadway	AM	B	B	B	B	No
		PM	C	C	C	D	No

TABLE 5.5-6 (Cont.)

Intersection		Peak Hour	Proposed Project Phase II Baseline	Proposed Project Phase II Plus Project	No Land Trade Phase II Baseline	No Land Trade Phase II Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
30	I-5 Southbound Ramps & Bay Blvd	AM	A	A	B	B	No
		PM	B	B	B	B	No
31	I-5 Northbound Ramps & Industrial Blvd	AM	B	B	B	B	No
		PM	C	C	B	C	No
32	F Street & E Street	AM	A	B	B	B	No
		PM	A	A	C	C	No
33	H Street & Street A	AM		C	A	B	No
		PM	DNE	F	B	B	Proposed Project
34	Street C & Marina Pkwy	AM		B	A	B	No
		PM	DNE	C	A	B	NO
35	Street C & Street A	AM		A		A	No
		PM	DNE	A	DNE	A	No
36	Marina Pkwy & Marina Way	AM	B	C	B	B	No
		PM	B	F	B	B	Proposed Project
37	J Street & Street A	AM	B	F		D	Proposed Project
		PM	B	F	DNE	D	Proposed Project
38	Street B & Bay Blvd	AM					No
		PM		DNE		DNE	No
39	RCCGaylor Secondary Driveway & E Street	AM			B	C	No
		PM		DNE	C	C	No

**TABLE 5.5-7**  
**Phase III Intersection Operations**  
**(Proposed Project and No Land Trade Alternative)**

Intersection	Peak Hour	Proposed Project Phase III Baseline	Proposed Project Phase III Plus Project	No Land Trade Phase III Baseline	No Land Trade Phase III Plus Project	DIRECT IMPACT?
		LOS	LOS	LOS	LOS	
1 E Street & I-5 Southbound Off-Ramp	AM	A	A	C	C	No
	PM	B	B	D	D	No
2 E Street & I-5 Northbound On-Ramp	AM	C	C	C	C	No
	PM	C	C	B	B	No
3 E Street & Woodlawn Ave	AM	C	C	C	C	No
	PM	C	C	C	C	No
4 E Street & Broadway	AM	C	C	C	C	No
	PM	D	D	D	D	No
5 E Street & 5th Ave	AM	A	A	A	A	No
	PM	A	A	A	A	No
6 E Street & 4th Ave	AM	B	B	B	B	No
	PM	C	C	C	C	No
7 E Street & 3rd Ave	AM	B	B	B	B	No
	PM	C	C	C	C	No
8 F Street & Bay Blvd	AM	A	A	C	C	No
	PM	B	C	D	D	No
9 F Street & Broadway	AM	B	B	B	B	No
	PM	C	C	C	C	No
10 F Street & 5th Ave	AM	A	A	A	A	No
	PM	A	A	B	B	No
11 F Street & 4th Ave	AM	B	B	B	B	No
	PM	C	C	C	C	No
12 F Street & 3rd Ave	AM	B	B	B	B	No
	PM	C	C	C	C	No
13 H Street & <del>RCC</del> Gaylord Driveway	AM	C	C	B	B	No
	PM	C	C	B	B	No
14 H Street & Bay Blvd	AM	A	A	C	C	No
	PM	C	C	C	C	No

TABLE 5.5-7 (Cont.)

	Intersection	Peak Hour	Proposed Project Phase III Baseline	Proposed Project Phase III Plus Project	No Land Trade Phase III Baseline	No Land Trade Phase III Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
15	H Street & I-5 Southbound Ramps	AM	C	C	B	B	No
		PM	E	E	C	C	No
16	H Street & I-5 Northbound Ramps	AM	B	B	B	C	No
		PM	D	D	C	C	No
17	H Street & Woodlawn Ave	AM	D	D	C	D	No
		PM	D	D	C	C	No
18	H Street & Broadway	AM	C	D	C	C	No
		PM	D	D	D	D	No
19	H Street & 5th Ave	AM	B	B	B	B	No
		PM	C	C	C	C	No
20	H Street & 4th Ave	AM	C	C	C	C	No
		PM	D	D	D	D	No
21	H Street & 3rd Ave	AM	C	C	C	C	No
		PM	C	C	C	C	No
22	J Street & Bay Blvd	AM	C	C	B	B	No
		PM	D	<b>E</b>	B	C	<b>Proposed Project</b>
23	J Street & I-5 Southbound Ramps	AM	B	B	B	B	No
		PM	C	C	C	C	No
24	J Street & I-5 Northbound Ramps	AM	E	E	E	E	No
		PM	D	<b>E</b>	C	C	<b>Proposed Project</b>
25	J Street & Woodlawn Ave	AM	B	B	B	B	No
		PM	B	B	B	B	No
26	J Street & Broadway	AM	B	B	B	B	No
		PM	C	C	C	D	No
27	L Street & Bay Blvd	AM	A	A	B	B	No
		PM	B	C	C	D	No
28	L Street & Industrial Blvd	AM	C	C	C	C	No
		PM	C	C	C	C	No
29	L Street & Broadway	AM	B	B	B	B	No
		PM	C	C	D	D	No

TABLE 5.5-7 (Cont.)

	Intersection	Peak Hour	Proposed Project Phase III Baseline	Proposed Project Phase III Plus Project	No Land Trade Phase III Baseline	No Land Trade Phase III Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
30	I-5 Southbound Ramps & Bay Blvd	AM	A	A	B	B	No
		PM	B	B	B	B	No
31	I-5 Northbound Ramps & Industrial Blvd	AM	C	C	B	B	No
		PM	C	D	C	C	No
32	F Street & E Street	AM	B	B	B	C	No
		PM	A	A	C	C	No
33	H Street & Street A	AM	B	B	B	B	No
		PM	B	B	B	B	No
34	Street C & Marina Pkwy	AM	B	B	B	B	No
		PM	C	C	B	B	No
35	Street C & Street A	AM	A	A	B	B	No
		PM	A	A	B	B	No
36	Marina Pkwy & Marina Way	AM	A	A	B	C	No
		PM	B	B	B	<b>F</b>	<b>No Land Trade</b>
37	J Street & Street A	AM	A	B	D	<b>F</b>	<b>No Land Trade</b>
		PM	B	D	D	<b>F</b>	<b>No Land Trade</b>
38	Street B & Bay Blvd	AM		A		A	No
		PM	DNE	A	DNE	A	No
39	RCC Gaylor Secondary Dwy & E Street	AM			C	C	No
		PM	DNE		C	C	No

**TABLE 5.5-8**  
**Phase IV Intersection Operations**  
**(Proposed Project and No Land Trade Alternative)**

Intersection	Peak Hour	Proposed Project Phase IV Baseline	Proposed Project Phase IV Plus Project	No Land Trade Phase IV Baseline	No Land Trade Phase IV Plus Project	DIRECT IMPACT?
		LOS	LOS	LOS	LOS	
1 E Street & I-5 SB Off-Ramp	AM	C	C	C	C	No
	PM	C	F	D	D	<b>Proposed Project</b>
2 E Street & I-5 NB On-Ramp	AM	C	D	C	C	No
	PM	C	C	C	C	No
3 E Street & Woodlawn Ave	AM	D	C	C	C	No
	PM	C	C	D	D	No
4 E Street & Broadway	AM	C	C	C	D	No
	PM	D	D	E	E	No
5 E Street & 5th Ave	AM	A	A	A	A	No
	PM	A	A	A	A	No
6 E Street & 4th Ave	AM	B	B	B	B	No
	PM	D	D	D	D	No
7 E Street & 3rd Ave	AM	B	B	B	B	No
	PM	C	C	D	D	No
8 F Street & Bay Blvd	AM	B	B	C	C	No
	PM	C	D	E	E	No
9 F Street & Broadway	AM	B	B	B	B	No
	PM	D	D	E	E	No
10 F Street & 5th Ave	AM	A	A	A	A	No
	PM	A	A	B	B	No
11 F Street & 4th Ave	AM	B	B	B	B	No
	PM	C	C	C	C	No
12 F Street & 3rd Ave	AM	B	B	B	B	No
	PM	C	C	D	D	No
13 H Street & <del>RCC</del> Gaylord Dwy	AM	B	C	B	B	No
	PM	C	C	B	C	No
14 H Street & Bay Blvd	AM	A	A	C	C	No
	PM	C	C	C	C	No

TABLE 5.5-8 (Cont.)

	Intersection	Peak Hour	Proposed Project Phase IV Baseline	Proposed Project Phase IV Plus Project	No Land Trade Phase IV Baseline	No Land Trade Phase IV Plus Project	DIRECT IMPACT?
			LOS	LOS	LOS	LOS	
15	H Street & I-5 SB Ramps	AM	B	B	C	C	No
		PM	D	D	D	D	No
16	H Street & I-5 NB Ramps	AM	D	D	C	C	No
		PM	C	C	D	D	No
17	H Street & Woodlawn Ave	AM	F	F	F	F	No
		PM	F	F	F	F	No
18	H Street & Broadway	AM	D	D	D	D	No
		PM	E	F	E	E	No
19	H Street & 5th Ave	AM	B	B	B	B	No
		PM	D	D	D	D	No
20	H Street & 4th Ave	AM	D	D	D	D	No
		PM	D	D	D	D	No
21	H Street & 3rd Ave	AM	C	C	C	C	No
		PM	C	C	C	C	No
22	J Street & Bay Blvd	AM	C	D	B	B	No
		PM	D	<b>E</b>	C	C	<b>Proposed Project</b>
23	J Street & I-5 SB Ramps	AM	B	B	B	B	No
		PM	C	C	C	C	No
24	J Street & I-5 NB Ramps	AM	E	E	E	E	No
		PM	C	C	C	C	No
25	J Street & Woodlawn Ave	AM	B	B	B	B	No
		PM	B	B	B	B	No
26	J Street & Broadway	AM	B	B	B	B	No
		PM	C	C	D	D	No
27	L Street & Bay Blvd	AM	A	B	B	B	No
		PM	C	C	D	D	No
28	L Street & Industrial Blvd	AM	C	C	C	C	No
		PM	C	C	C	C	No
29	L Street & Broadway	AM	B	B	B	B	No
		PM	D	D	D	D	No

TABLE 5.5-8 (Cont.)

Intersection	Peak Hour	Proposed Project Phase IV Baseline	Proposed Project Phase IV Plus Project	No Land Trade Phase IV Baseline	No Land Trade Phase IV Plus Project	DIRECT IMPACT?
		LOS	LOS	LOS	LOS	
30 I-5 SB Ramps & Bay Blvd	AM	A	A	B	B	No
	PM	B	B	B	B	No
31 I-5 NB Ramps & Industrial Blvd	AM	C	C	C	C	No
	PM	D	D	C	C	No
32 F Street & E Street	AM	B	B	C	C	No
	PM	B	C	C	C	No
33 H Street & Street A	AM	B	B	B	B	No
	PM	B	B	B	C	No
34 Street C & Marina Pkwy	AM	B	B	B	B	No
	PM	C	C	B	C	No
35 Street C & Street A	AM	A	A	B	B	No
	PM	B	B	B	B	No
36 Marina Pkwy & Marina Way	AM	A	A	B	B	No
	PM	B	D	B	B	No
37 J Street & Street A	AM	C	C	A	A	No
	PM	E	F	A	A	Proposed Project
38 Street B & Bay Blvd	AM	A	A	A	A	No
	PM	A	A	A	A	No
39 <del>RCCGaylor</del> Secondary Dwy & E Street	AM	B	B	C	C	No
	PM	B	C	C	D	No

c. Roadway Segment Analysis

i. Phase I

Under Phase I conditions, the following roadway segments would operate at an unacceptable LOS and would require mitigation:

- E Street (F Street to Bay Boulevard) (LOS D)
- E Street (Bay Boulevard to I-5 Ramps) (LOS F)
- Bay Boulevard (H Street to J Street).

In assessing the impacts of the No Land Trade Alternative on the existing roadway network, it was determined another connection to access I-5 is needed to alleviate some of the traffic on E Street. For that reason, H Street would be extended from I-5 to Street A and would be built as a 2-lane Class III Collector. The extension of H Street would cause a redistribution of traffic in the project area. Under such conditions, the following roadway segments would be impacted and would require additional mitigation:

- H Street (west of Marina Parkway) (LOS F)
- H Street (Marina Parkway to Street A) (LOS F)
- H Street (Street A to I-5 Ramps) (LOS F)
- Bay Boulevard (E Street to F Street ) (LOS E).

As discussed in the Traffic Impact Analysis, with implementation of mitigation, the above listed roadway segments would operate at an acceptable LOS.

ii. Phase II

Under Phase II conditions, the following roadway segments would operate at an unacceptable LOS and would require mitigation:

- E Street (F Street to Bay Boulevard) (LOS D)
- H Street (west of Marina Parkway) (LOS D)
- J Street (Bay Boulevard to I-5 Ramps) (LOS D)
- Street A (Street C to J Street) (LOS F).

The mitigation required to improve the operating conditions of these roadway segments to an acceptable LOS consists of:

- Widening E Street between F Street and Bay Boulevard to a 6-lane Major Street
- Widening H Street west of Marina Parkway to a 3-lane Class II Collector
- Widening J Street between Bay Boulevard and the I-5 Ramps to a 6-lane Major Street
- Widening Street A between Street C and J Street to a 4-lane Class I Collector.

These improvements would restore the LOS to the roadway segments to an acceptable level.

iii. Phase III

Under Phase III conditions, the following roadway segments would operate at an unacceptable LOS and would require mitigation:

- E Street (H Street to ~~RCC~~Gaylord Driveway) (LOS E)
- J Street (Street A to Bay Boulevard) (LOS D)
- Bay Boulevard (F Street to H Street) (LOS D)
- Street A (H Street to Street C) (LOS D).

The mitigation required to improve the operating conditions of these roadway segments to an acceptable LOS consists of:

- Widening E Street between H Street and ~~RCC~~Gaylord Driveway to a 2-lane Class II Collector
- Widening J Street between Street A and Bay Boulevard to a 6-lane Major Street
- Widening Bay Boulevard to a 6-lane Major Street
- Widening Bay Boulevard between F Street and H Street to a 2-lane Class II Collector
- Widening Street A between H Street and Street C to a 2-lane Class II Collector.

These improvements would restore the LOS on the roadway segments to an acceptable level.

iv. Phase IV

Under Phase IV conditions, the following roadway segments would operate at an unacceptable LOS and would require mitigation:

- H Street (I-5 Ramps to Broadway) (LOS E).

The mitigation required to improve the operating condition of the above-listed roadway segment to an acceptable LOS consists of widening H Street between the I-5 Ramps and Broadway to a 6-lane Gateway Street. This improvement would restore the LOS to an acceptable level.

*Table 5.5-4* summarizes the proposed mitigations to be implemented throughout the project. With mitigation, each of the impacted roadway segments listed above would operate at an acceptable LOS.

*Tables 5.5-9 through 5.5-12* compare the roadway segment operations under the Proposed Project scenario against the No Land Trade Alternative scenario. As shown in the tables, impacts to roadway segments under the No Land Trade Alternative scenario would be slightly greater than impacts encountered under Proposed Project conditions.

**TABLE 5.5-9**  
**Phase I Roadway Segment Operations**  
**(Proposed Project and No Land Trade Alternative)**

Roadway Segment	Proposed Project Phase I Baseline		Proposed Project Phase I Plus Project		No Land Trade Phase I Baseline		No Land Trade Phase I Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
<b>E Street</b>									
H Street to RCC Gaylord Dwy (c)	DNE		4,085	A	DNE		5,999	B	No
RCC Gaylord Dwy to F Street	DNE				DNE		10,160	A	No
F Street to Bay Boulevard	DNE				25,541	B	33,247	D	<b>No Land Trade</b>
Bay Blvd to I-5 Ramps	14,520	A	20,064	A	36,740	E	40,523	F	<b>No Land Trade</b>
I-5 Ramps to Woodlawn Ave	26,800	A	27,995	A	39,145	D	39,974	D	No
Woodlawn Ave to Broadway	26,560	A	27,988	A	38,199	C	38,888	D	No
Broadway to 3rd Ave	18,410	A	19,468	A	28,286	B	28,745	B	No
<b>Lagoon Drive/F Street</b>									
Marina Pkwy to Bay Blvd	3,600	A	11,562	F	-	-	-	-	<b>Proposed Project</b>
E Street to Bay Blvd	DNE				7,407	A	9,861	A	No
Bay Blvd to Broadway	4,350	A	5,746	A	10,699	A	12,123	A	No
Broadway to 4th Ave	10,310	B	11,202	C	11,369	C	12,253	C	No
4th Ave to 3rd Ave	10,440	A	10,755	A	11,146	A	11,376	A	No
<b>H Street</b>									
West of Marina Parkway (c)	-	-	10,077	F	DNE		7,188	C	<b>Proposed Project</b>
Marina Parkway to Street A	DNE				DNE		115	A	No
Street A to I-5 Ramps	DNE				DNE				-
I-5 Ramps to Broadway	31,760	B	34,270	C	32,819	B	35,081	C	No
Broadway to 3rd Avenue	27,430	B	28,755	B	28,489	B	29,040	B	No
<b>J Street</b>									
Marina Parkway to Street A <sup>2</sup>	8,620	A	19,745	A	8,620	A	17,903	A	No
Street A to Bay Blvd <sup>2</sup>	8,620	A	24,335	B	8,620	A	17,903	A	No
Bay Blvd to I-5 Ramps	17,200	A	28,653	C	17,200	A	22,445	A	No
I-5 Ramps to Broadway	17,280	A	20,329	A	17,280	A	18,503	A	No
<b>L Street</b>									

TABLE 5.5-9 (Cont.)

Roadway Segment	Proposed Project Phase I Baseline		Proposed Project Phase I Plus Project		No Land Trade Phase I Baseline		No Land Trade Phase I Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
Bay Blvd to Industrial Way	15,100	A	17,329	A	15,100	A	16,937	A	No
Industrial Way to Broadway	20,400	A	21,874	A	20,400	A	21,365	A	No
<b>Marina Parkway</b>									
Lagoon Dr to G Street	3,950	A	10,050	F	DNE		DNE		<b>Proposed Project</b>
Sandpiper Way to J Street	290	A	DNE		DNE		DNE		No
H Street to Street C	Different classification		13,587	B	3,272	A	12,786	A	No
Street C to J Street	Different classification		13,587	B	1,509	A	11,138	A	No
<b>Bay Boulevard</b>									
E Street to F Street	9,700	B	16,004	F	13,933	E	13,933	E	<b>Proposed Project</b>
F Street to H Street	2,810	A	3,421	A	3,769	A	7,938	D	<b>No Land Trade</b>
H Street to J Street	2,710	A	6,810	C	3,769	A	7,938	D	<b>No Land Trade</b>
J Street to L Street	3,040	A	6,696	A	3,040	A	5,534	A	No
L Street to I-5 Ramps	3,520	A	4,403	A	3,520	A	4,209	A	No
South of I-5 Ramps	3,520	A	4,403	A	3,520	A	4,209	A	No
<b>Broadway</b>									
C Street to E Street	26,010	B	26,304	C	28,127	C	28,345	C	No
E Street to H Street	25,670	B	26,312	C	27,434	C	27,893	C	No
H Street to K Street	29,570	C	30,316	D	29,570	C	30,247	D	No
K Street to L Street	26,600	C	26,878	C	26,660	C	26,830	C	No
South of L Street	27,060	C	27,512	C	27,060	C	27,313	C	No
<b>Street A</b>									
H Street to Street C	DNE		DNE		DNE		230	A	No
Street C to J Street	DNE		4,590	A	DNE		DNE		No
J Street to B Street	DNE		DNE		DNE		DNE		No
<b>Street C</b>									
Marina Parkway to Street A					DNE		115	A	No

**TABLE 5.5-10**  
**Phase II Roadway Segment Operations**  
**(Proposed Project and No Land Trade Alternative)**

Roadway Segment	Proposed Project Phase II Baseline		Proposed Project Phase II Plus Project		No Land Trade Phase II Baseline		No Land Trade Phase II Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
<b>E Street</b>									
H Street to <del>RCC</del> Gaylor Dwy	6,034	B	6,041	B	4,505	A	5,750	B	No
<del>RCC</del> Gaylor Dwy to F Street	DNE				DNE		10,160	A	No
F Street to Bay Boulevard	2,294	A	2,612	A	29,943	C	30,694	D	<b>No Land Trade</b>
Bay Blvd to I-5 Ramps	15,834	A	17,567	A	38,865	C	39,531	C	No
I-5 Ramps to Woodlawn Ave	28,355	A	29,818	B	39,929	D	40,672	D	No
Woodlawn Ave to Broadway	27,988	A	28,744	A	38,888	D	39,631	D	No
Broadway to 3rd Ave	19,468	A	19,972	A	28,746	B	29,242	B	No
<b>Lagoon Dr/F Street</b>									
Marina Pkwy to Bay Blvd	DNE				DNE				No
E Street to Bay Blvd	DNE				9,690	A	10,436	A	No
Bay Blvd to Broadway	5,746	A	6,099	A	12,077	A	12,327	A	No
Broadway to 4th Ave	11,202	C	11,202	C	12,254	C	12,503	C	No
4th Ave to 3rd Ave	10,755	A	11,007	A	11,376	A	11,624	A	No
<b>H Street</b>									
West of Marina Parkway (c)	15,028	C	15,672	C	9,657	B	12,148	D	<b>No Land Trade</b>
Marina Parkway to Street A	14,263	A	18,106	A	9,576	B	10,075	B	No
Street A to I-5 Ramps	29,621	C	40,005	F	26,742	A	33,066	B	<b>Proposed Project</b>
I-5 Ramps to Broadway	35,402	C	40,325	D	35,231	C	37,685	C	No
Broadway to 3rd Avenue	28,755	B	31,113	C	29,041	B	31,514	C	No
<b>J Street</b>									
Marina Parkway to Street A <sup>2</sup>	15,784	A	19,540	A	10,969	A	13,486	A	No
Street A to Bay Blvd <sup>2</sup>	18,998	A	31,404	D	10,969	A	26,760	C	No
Bay Blvd to I-5 Ramps	24,675	B	33,657	D	19,536	A	32,360	D	<b>No Land Trade</b>
I-5 Ramps to Broadway	19,198	A	21,881	A	18,446	A	21,380	A	No
<b>L Street</b>									

TABLE 5.5-10 (Cont.)

Roadway Segment	Proposed Project Phase II Baseline		Proposed Project Phase II Plus Project		No Land Trade Phase II Baseline		No Land Trade Phase II Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
Bay Blvd to Industrial Way	17,329	A	19,345	A	18,919	A	19,671	A	No
Industrial Way to Broadway	21,874	A	21,874	A	23,345	A	23,861	A	No
<b>Marina Parkway</b>									
Lagoon Dr to G Street	DNE				DNE				No
Sandpiper Way to J Street	DNE				DNE				No
H Street to Street C	7,991	A	9,088	A	6,355	A	8,832	A	No
Street C to J Street	7,991	A	12,039	A	3,904	A	7,942	A	No
<b>Bay Boulevard</b>									
E Street to F Street	9,984	B	10,104	B	14,059	A	15,295	A	No
F Street to H Street	4,318	A	4,608	A	4,121	A	6,841	C	No
H Street to J Street	5,451	A	5,479	A	6,351	B	6,356	B	No
J Street to L Street	6,696	A	10,918	C	5,535	A	8,506	A	No
L Street to I-5 Ramps	4,403	A	5,159	A	4,209	A	4,952	A	No
South of I-5 Ramps	4,403	A	5,159	A	4,209	A	4,952	A	No
<b>Broadway</b>									
C Street to E Street+	26,304	C	26,325	C	28,346	C	28,347	C	No
E Street to H Street	26,312	C	26,816	C	27,894	C	28,390	C	No
H Street to K Street	30,316	D	30,840	D	30,248	D	30,744	D	No
K Street to L Street	26,878	C	27,130	C	26,830	C	27,078	C	No
South of L Street					27,313	C	28,056	C	No
<b>Street A</b>									
H Street to Street C	DNE		7,297	C	736	A	7,141	C	No
Street C to J Street	5,246	A	12,630	F	DNE		13,332	F	Both
J Street to B Street	DNE				DNE				No
<b>Street C</b>									
Marina Parkway to Street A	DNE		2,085	A	58	A	3,519	A	No

**TABLE 5.5-11**  
**Phase III Roadway Segment Operations**  
**(Proposed Project and No Land Trade Alternative)**

Roadway Segment	Proposed Project Phase III Baseline		Proposed Project Phase III Plus Project		No Land Trade Phase III Baseline		No Land Trade Phase III Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
<b>E Street</b>									
H Street to <u>RCC</u> Gaylord Dwy	6,041	B	6,040	B	5,750	B	8,760	E	No
<u>RCC</u> Gaylord Dwy to F Street	DNE						10,760	A	No
F Street to Bay Boulevard	2,612	A	2,972	A	30,694	D	31,040	B	No
Bay Blvd to I-5 Ramps	17,567	A	17,926	A	39,531	C	39,710	C	No
I-5 Ramps to Woodlawn Ave	29,818	B	30,081	B	40,672	D	40,952	D	No
Woodlawn Ave to Broadway	28,744	A	29,011	B	39,631	D	39,912	D	No
Broadway to 3rd Ave	19,972	A	20,154	A	29,242	B	29,428	C	No
<b>Lagoon Drive/F Street</b>									
Marina Pkwy to Bay Blvd	DNE				DNE				No
E Street to Bay Blvd	DNE				10,436	A	10,440	A	No
Bay Blvd to Broadway	6,099	A	6,487	A	12,077	A	12,724	A	No
Broadway to 4th Ave	11,202	12,503	C	C	12,254	C	12,774	C	No
4th Ave to 3rd Ave	11,007	11,624	A	A	11,376	A	12,184	A	No
<b>H Street</b>									
West of Marina Parkway	15,672	C	16,578	C	12,148	D	15,923	C	No
Marina Parkway to Street A	18,106	A	18,046	A	10,075	B	10,513	C	No
Street A to I-5 Ramps	40,005	D	39,986	D	33,066	B	33,150	B	No
I-5 Ramps to Broadway	40,325	D	42,844	D	37,685	C	40,307	D	No
Broadway to 3rd Avenue					31,514	B	31,969	C	No
<b>J Street</b>									
Marina Parkway to Street A	19,540	A	25,592	B	13,486	A	19,600	A	No
Street A to Bay Blvd	31,404	D	35,303	C	26,760	C	30,751	<b>D</b>	<b>No Land Trade</b>
Bay Blvd to I-5 Ramps	33,657	D	37,608	C	32,360	D	34,812	B	No
I-5 Ramps to Broadway						A	22,181	A	No
<b>L Street</b>									
Bay Blvd to Industrial Way	19,345	A	20,045	A	18,919	A	19,671	A	No

TABLE 5.5-11 (Cont.)

Roadway Segment	Proposed Project Phase III Baseline		Proposed Project Phase III Plus Project		No Land Trade Phase III Baseline		No Land Trade Phase III Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
Industrial Way to Broadway	21,874	A	24,265	A	23,345	A	23,861	A	No
<b>Marina Parkway</b>									
Lagoon Dr to G Street	DNE				DNE				No
Sandpiper Way to J Street	DNE				DNE				No
H Street to Street C	9,088	A	10,079	A	8,832	A	9,513	A	No
Street C to J Street	12,039	A	13,403	B	7,942	A	8,923	A	No
<b>Bay Boulevard</b>									
E Street to F Street	10,104	B	11,436	C	15,295	A	16,800	B	No
F Street to H Street	4,608	A	5,127	A	6,841	C	7,672	D	No Land Trade
H Street to J Street	5,479	A	6,369	B	6,356	B	6,962	A	No
J Street to L Street	10,918	C	11,356	C	8,506	A	9,637	B	No
L Street to I-5 Ramps	5,159	A	5,834	A	4,952	A	5,721	A	No
South of I-5 Ramps	5,159	A	5,571	A	4,952	A	5,382	A	No
<b>Broadway</b>									
C Street to E Street	26,325	C	26,390	C	28,347	C	28,410	C	No
E Street to H Street	26,816	C	26,994	C	28,390	C	28,578	C	No
H Street to K Street	30,840	D	31,324	D	30,744	D	31,238	D	No
K Street to L Street	27,130	C	27,217	C	27,078	C	27,174	C	No
South of L Street	28,228	C	28,371	C	28,056	C	28,212	C	No
<b>Street A</b>									
H Street to Street C	7,297	C	8,238	D	7,141	C	8,214	D	Both
Street C to J Street	12,630	A	14,220	A	13,332	A	15,208	A	No
J Street to B Street	DNE		3,461	A	DNE		5,081	A	No
<b>Street B</b>									
Street A to Bay Boulevard	DNE		1,746	A	DNE		2,078	A	No
<b>Street C</b>									
Marina Parkway to Street A	2,085	A	1,993	A	3,519	A	3,520	A	No

**TABLE 5.5-12**  
**Phase IV Roadway Segment Operations**  
**(Proposed Project and No Land Trade Alternative)**

Roadway Segment	Proposed Project Phase IV Baseline		Proposed Project Phase IV Plus Project		No Land Trade Phase IV Baseline		No Land Trade Phase IV Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
<b>E Street</b>									
H Street to <u>RCC</u> Gaylord Dwy	4,800	A	5,809	B	8,760	A	9,084	B	No
<u>RCC</u> Gaylord Dwy to F Street	7,872	A	9,089	B	10,760	A	11,108	A	No
F Street to Bay Boulevard	7,872	A	16,279	<b>F</b>	31,040	B	32,146	B	<b>Proposed Project</b>
Bay Blvd to I-5 Ramps	19,230	A	26,289	B	39,710	C	39,791	C	No
I-5 Ramps to Woodlawn Ave	29,433	B	33,608	C	40,952	D	41,106	D	No
Woodlawn Ave to Broadway	29,011	B	32,472	B	39,912	D	40,006	D	No
Broadway to 3rd Ave	20,154	A	23,063	A	29,428	C	29,487	C	No
<b>Lagoon Drive/F Street</b>									
Marina Pkwy to Bay Blvd	DNE			DNE					No
E Street to Bay Blvd	DNE		2,630	A	10,440	A	10,602	A	No
Bay Blvd to Broadway	6,577	A	8,325	A	12,724	A	12,891	A	No
Broadway to 4th Ave	11,787	C	12,275	C	12,774	C	12,824	D	No
4th Ave to 3rd Ave	11,557	A	12,997	A	12,184	A	13,399	A	No
<b>H Street</b>									
West of Marina Parkway (c)	11,373	A	12,520	A	15,923	C			No
Marina Parkway to Street A	14,269	A	15,961	A	10,513	C	11,496	C	No
Street A to I-5 Ramps	33,116	B	34,588	C	33,150	B	34,507	C	No
I-5 Ramps to Broadway	42,844	D	49,203	<b>F</b>	40,307	D	46,283	<b>E</b>	<b>Both</b>
Broadway to 3rd Avenue	31,509	C	32,063	C	31,969	C	32,187	C	No
<b>J Street</b>									
Marina Parkway to Street A <sup>2</sup>	24,460	B	26,949	C	19,600	A	20,183	A	No
Street A to Bay Blvd <sup>2</sup>	36,346	C	38,567	C	30,751	B	31,447	B	No
Bay Blvd to I-5 Ramps	37,653	C	38,913	C	34,812	B	35,330	C	No
I-5 Ramps to Broadway	22,635	B	23,131	B	22,181	A	22,619	B	No
<b>L Street</b>									
Bay Blvd to Industrial Way	20,045	A	20,402	A	19,671	A	19,898	A	No
Industrial Way to Broadway	24,265	A	24,531	A	23,861	A	24,054	A	No

TABLE 5.5-12 (Cont.)

Roadway Segment	Proposed Project Phase IV Baseline		Proposed Project Phase IV Plus Project		No Land Trade Phase IV Baseline		No Land Trade Phase IV Plus Project		DIRECT IMPACT?
	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	
<b>Marina Parkway</b>									
Lagoon Dr to G Street	DNE				DNE				No
Sandpiper Way to J Street	DNE				DNE				No
H Street to Street C	9,468	A	10,856	A	9,513	A	9,872	A	No
Street C to J Street	13,098	B	14,050	B	8,923	A	9,113	A	No
<b>Bay Boulevard</b>									
E Street to F Street	11,472	C	12,676	D	16,800	B	16,880	B	<b>Proposed Project</b>
F Street to H Street	5,720	B	7,116	C	7,672	D	8,828	A	No
H Street to J Street	7,016	C	7,787	D	6,962	A	7,410	A	No
J Street to L Street	11,302	C	12,173	D	9,637	B	9,942	B	No
L Street to I-5 Ramps	5,780	A	6,347	A	5,721	A	6,196	A	No
South of I-5 Ramps	5,517	A	6,087	B	5,382	A	5,856	B	No
<b>Broadway</b>									
C Street to E Street	26,390	C	27,020	C	28,410	C	28,419	C	No
E Street to H Street	26,994	C	27,585	C	28,578	C	28,627	C	No
H Street to K Street	31,324	D	32,076	D	31,238	D	31,936	D	No
K Street to L Street	27,217	C	27,266	C	27,174	C	27,209	C	No
South of L Street	28,371	C	28,456	C	28,212	C	28,279	C	No
<b>Street A</b>									
H Street to Street C	10,504	A	11,388	A	8,214	A	9,494	B	No
Street C to J Street	16,468	A	17,741	B	15,208	A	15,707	A	No
J Street to B Street	3,838	A	4,091	A	5,081	A	5,157	A	No
<b>Street B</b>									
Street A to Bay Blvd	1,746	A	18,76	A	2,078	A	2,112	A	No
<b>Street C</b>									
Marina Parkway to Street A	2,065	A	1,993	A	3,520	A	3,620	A	No

#### d. Freeway Segment Analysis

As with the Proposed Project (see *Chapter 6, Cumulative Impacts*), all freeway segments would function at LOS F or worse for all phases and all freeway segments would result in cumulative impacts under the No Land Trade Alternative. This alternative would result in similar impacts to freeway segments as those identified for the Proposed Project.

#### e. Parking

Under the No Land Trade Alternative, a total of approximately 10,453 parking spaces would be provided at build-out, which is an excess of approximately 2,321 parking spaces required (*Table 5.5-13*). Within the Harbor District, Parcel H-18 will provide excess parking that is intended to be shared with other parcels. With the development of Parcel H-18 as office use in the No Land Trade Alternative, a parking garage on the parcel could provide up to 3,000 parking spaces. Parcels H-12, H-21, and H-23 would use the parking in Parcel H-18 as off-site or remote parking. In addition, the proposed conference hotel on H-3, while providing enough parking to meet parking requirements on site, has requested that 500 spaces be made available on H-18 for use during special events. On-street parking may occur on many of the streets within the project. This parking may provide convenient access to uses near the harbor, where remote parking is used for a portion of their off-street parking (on-street parking has not been assumed in *Table 5.5-13*). As with the Proposed Project, because more parking spaces would be provided than are required by the project, no significant impact would occur.

**TABLE 5.5-13  
No Land Trade Alternative Parking Summary**

Phase	Parcel	Land Use	Intensity <sup>a</sup>		Rate <sup>b</sup>			Parking Required	Parking Provided	Provided - Required
<b>Harbor District</b>										
II	H-1/HW-06	Yacht Club/Relocated Berths (c)	200	berths	0.7	:	berth	180	180	
IV	H-1A	Signature Park (d)	4.4	acres	12	:	acre	53	53	
I	H-3	Hotel	2000	rooms	1	:	room	2,000	2,000	
I	H-3	Hotel Restaurant	1,600	seats	0.11	:	seat	176	200	24
I	H-3	Conference Center	400	kSF	1.6	:	kSF	640	700	60
I	HP-8/HP-1	Signature Park	19.0	acres	12	:	acre	228	228	
I	H-9	Retail/Commercial	50	Ksf	4	:	kSF	200	200	
III	H-9	Reconfigured Marina	200	berths	0.7	:	berth	140	200	60
IV	H-12	Ferry Terminal/Restaurant	25	kSF	9.3	:	kSF	233		-233
II	H-13	Hotel	500	rooms	1	:	room	500	500	
II	H-13	Retail	200	kSF	4	:	kSF	800	800	
II	H-15	Mixed-Use Office	210	kSF	20	:	site	20	20	
II	H-15	Visitor Hotel	250	rooms	1.04	:	room	260	260	
II	H-15	Retail	84	kSF	4	:	kSF	336	336	
II	H-15	General Office	126	kSF	3	:	kSF	378	378	
II	H-17	Industrial Business Park	3.0	acres	0.11	:	acre	1	1	
IV	H-18	Office	100	kSF	3	:	kSF	300	3,000	2,700
III	H-21	Retail	150	kSF	4	:	kSF	600	250	-350
III	H-21	Reconfigured Marina	500	berths	0.7	:	berth	350	350	
I	H-23	Signature Park	23.0	acres	12	:	acre	276	323	47
I	HP-03	50-foot Baywalk	9.1	acres	4	:	acre	37		-37
	HP-07	Existing Marina View Park	7	acres	12	:	acre	82	82	
	HP-15	Existing Bayfront Park (e)	7	acres	12	:	acre	160	160	
II	HP-28	H Street Pier	0.8	acres	12	:	acre	10		-10
<b>Subtotal</b>								<b>7,700</b>	<b>9,961</b>	<b>2,321</b>

TABLE 5.5-13 (Cont.)

Phase	Parcel	Land Use	Intensity <sup>a</sup>		Rate <sup>b</sup>			Parking Required	Parking Provided	Provided – Required	
<b>Otay District</b>											
III	O-1	RV Park	236	DU	1	:	DU	236	236		
III	OP-3	South Park	64.0	acres	4	:	acre	256	256		
III	O-3	Industrial Park Use (f)						492	492		
<b>Subtotal</b>											
								<b>Total</b>	<b>8,192</b>	<b>10,453</b>	<b>2,321</b>
<b>TOTAL</b>											

SOURCE: Kimley-Horn and Associates, Inc. 2006.

ksf = thousand square feet; DU = dwelling units

<sup>a</sup>The Intensity of each land use was provided by the Port of San Diego.

<sup>b</sup>The parking rate was provided by the Port of San Diego.

<sup>c</sup>H-1 includes a 10 ksf Community Boating Center to support the slips that generates a parking demand of 40 spaces.

<sup>d</sup>The Signature Park includes a 5,000 seat amphitheater, and the parking requirement rate for the amphitheater is equal to 0.34 spaces per seat; therefore, 1,700 spaces will be required to serve the amphitheater during special events.

<sup>e</sup>Parking includes 100 boat trailer spaces and 80 vehicle spaces.

<sup>f</sup>The size of the industrial business park is to be determined, but all required parking for the parcel will be provided on site.

### 5.5.3 Aesthetics/Visual Quality

The following discussion summarizes the visual impact assessment prepared by KTU+A (June 2006) for the Proposed Project and two alternatives, including the No Land Trade Alternative. The study is included as *Appendix 4.4-1* to this report.

The project site includes undeveloped and developed areas. Developed areas include industrial uses in the Harbor and Otay Districts, as well as a small number of retail uses (restaurants) near the harbor. The Sweetwater District is undeveloped. Consequently, vistas of the waterfront from current viewing locations outside the property are already affected by the presence of large industrial buildings and other structures in the Harbor and Otay Districts. These contribute to the somewhat disorganized urban landscape that characterizes large areas of the project. Additional discussion of existing site conditions and criteria for determining significant impacts are discussed in *Section 4.4, Aesthetics/Visual Quality*.

The No Land Trade Alternative would substantially change views of the project site, primarily from across San Diego Bay, Sweetwater Marsh NWR/Chula Vista Nature Center, and from viewing locations along I-5 and E, F, and H Streets. Impacts to visual quality, view quality, and visual character from implementation of this alternative would be greater than those for either the Proposed Project or the Harbor Park Alternative, primarily due the increased development intensity proposed for the Sweetwater District. Although a 400-foot “no development” buffer (with 200 feet of “no touch” zone) is proposed as shown on *Figure 5.5-1*, future development of residential and hotel uses in the Sweetwater District would increase the edge effects on the natural open space in the NWR, block views and spread large-scale development throughout the site. Other large-scale components of this alternative would also contribute to significant impacts by blocking views from important view corridors and by placing large buildings near natural areas. This impact would not be offset by reduced development intensities and increased open space in the Otay District.

As with the Proposed Project, phased implementation of the various project components would redevelop large areas that currently contribute to the low-quality, disorganized visual landscape of this area. The new uses would adhere to a more coherent development plan. New commercial, retail, cultural, office, hotel, residential, and open space uses would transform the landscape, as compared to the generally low-scale existing commercial/industrial and open undeveloped areas within the project boundary.

Compared to the Proposed Project, significant cumulative impacts to the E Street view corridor would be greater under the No Land Trade Alternative, due to the cumulative Midbayfront development in the Sweetwater District that would block views along this segment. Significant impacts to views from I-5 at the J Street overpass looking south would be reduced as compared to the Proposed Project because the intervening parcels in the Otay District between the freeway

and Bay would be developed with open space/RV Park; however, development of 14- to 17-story (170 to 200 feet tall) hotel, retail, mixed-use office and commercial recreation uses on H-13 and H-14 would still result in a significant view corridor impact from this location. In addition, these impacts are contrary to the goals and policies set forth in the PMP and City planning documents. Impacts to views and inconsistency with planning goals and policies would be significant.

Similar to the Proposed Project, implementation of mitigation measures detailed in *Section 4.4, Aesthetics/Visual Quality*, would reduce the significant impacts, but not to below a level of significance. The No Land Trade Alternative's impacts on Aesthetics/Visual Quality remain significant and unmitigable and would be greater than impacts which may result from the Proposed Project, primarily due to the higher-intensity development proposed in the Sweetwater District. As a result, the No Land Trade Alternative would not avoid or substantially reduce the significant visual quality impacts of the Proposed Project.

#### 5.5.4 Hydrology/Water Quality

The No Land Trade Alternative would require approximately 850,000 cubic yards of imported fill, which is approximately 110,000 cubic yards more than is required for the Proposed Project. Consequently, the potential for construction-related sediment impacts would be somewhat higher with this alternative. Nevertheless, as with the Proposed Project, construction and new development under the No Land Trade Alternative would require compliance with existing water quality regulations intended to avoid or reduce impacts to water quality. Development in accordance with approved plans as permitted by the responsible agency would not be significant. However, it should be noted that comprehensive planning of the entire site may not occur. Grading could proceed as development plans are submitted if projects are proposed and reviewed individually. Drainage facilities would not be planned to address the entire site as an integrated network and could result in a greater number of drainage facilities to the Bay or, inversely, upgrades to some facilities may be delayed as parcels remain undeveloped.

Similar to the Proposed Project, the No Land Trade Alternative would result in impacts to water quality. These impacts include the increase of pollutants carried in runoff, wind-blown litter, the project's potential to disturb contaminated soils and groundwater during construction and dredge and fill operations, and worst case scenario accidents and unintentional discharges during construction activities. Implementation of mitigation measures detailed in *Section 4.5, Hydrology/Water Quality*, of this report would reduce significant impacts to hydrology and water quality under this alternative to below a level of significance. The No Land Trade Alternative's impacts on water quality would therefore be similar to the Proposed Project and would not avoid or substantially lessen the significant effects of the Proposed Project on water quality.

### 5.5.5 Air Quality

Under the No Land Trade Alternative, the Sweetwater District would not be developed. Construction emissions would be the same or lower for the No Land Trade Alternative as for the Proposed Project. Under the No Land Trade Alternative, the Pacifica Residential and Retail development would not be constructed on Parcel H-13; instead, a 500-room hotel and 200,000 square foot retail development would be constructed in Phase II of the project development. As construction emissions are evaluated on a maximum daily basis, a conservative evaluation would indicate that emissions would be the same as for the Proposed Project.

Operational emissions under the No Land Trade Alternative may be less than the operational emissions for Harbor District under the Proposed Project because there would be less development at the Chula Vista Bayfront. Although the overall development footprint would be smaller under this alternative than the Proposed Project, cumulative air quality impacts for the Midbayfront under this alternative would be similar or greater than the Proposed Project considering the increased development of the Sweetwater District under the approved LCP.

Tables 5.5-14, 5.5-15, 5.5-16, and 5.5-17 show the projected quarterly emission levels for each pollutant resulting from each phase of construction. As seen in these tables, with the exception of sulfur dioxide, all pollutant emissions are projected to exceed applicable thresholds.

**TABLE 5.5-14**  
**Projected Construction Emissions by Year Phase I (tons/quarter)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions- <del>Gaylord</del> RCC	3.95	16.02	15.04	0.00	0.03	0.03
Area Source Emissions – Parks and Retail	0.26	0.04	3.21	0.00	0.01	0.01
Operation – <del>Gaylord</del> RCC	135.25	244.99	1,512.80	1.29	125.32	27.69
Operation – Parks and Retail	36.56	51.62	377.73	0.00	39.31	7.73
<b>TOTAL</b>	<b>176.02</b>	<b>312.67</b>	<b>1,926.57</b>	<b>1.29</b>	<b>164.67</b>	<b>35.46</b>
Significance Threshold	55	55	550	150	55	150
Above Threshold?	Yes	Yes	Yes	No	Yes	No

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

**TABLE 5.5-15**  
**Projected Construction Emissions by Year Phase II (tons/quarter)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions	10.79	11.38	23.85	0.00	0.06	0.06
Operation	285.05	424.21	2,962.70	1.79	352.52	69.14
<b>TOTAL</b>	<b>295.84</b>	<b>432.59</b>	<b>2,986.55</b>	<b>1.79</b>	<b>352.58</b>	<b>69.20</b>
Significance Threshold	55	55	550	150	55	150
Above Threshold?	Yes	Yes	Yes	No	Yes	Yes

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

**TABLE 5.5-16**  
**Projected Construction Emissions by Year Phase III (tons/quarter)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions	6.21	4.21	9.89	0.00	0.03	0.03
Operation	43.12	61.14	423.98	0.40	78.67	15.26
<b>TOTAL</b>	<b>49.33</b>	<b>65.35</b>	<b>433.87</b>	<b>0.40</b>	<b>78.70</b>	<b>15.29</b>
Significance Threshold	55	55	550	150	55	150
Above Threshold?	No	Yes	No	No	No	No

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

**TABLE 5.5-17**  
**Projected Daily Area and Operations Emissions –No Land Trade**  
**Alternative Phase IV**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions	1.19	0.97	5.57	0.00	0.01	0.01
Operation	16.18	21.87	160.68	0.22	43.86	8.43
<b>TOTAL</b>	<b>17.37</b>	<b>22.84</b>	<b>166.25</b>	<b>0.22</b>	<b>43.87</b>	<b>8.44</b>
Significance Threshold	55	55	550	150	55	150
Above Threshold?	No	Yes	No	No	No	No

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

Table 5.5-18 provides the projected daily area and operation emissions for all phases of the project under the No Land Trade Alternative. Emissions projected for all development phases are anticipated to exceed the standard for each criteria pollutant except SO<sub>2</sub>.

**TABLE 5.5-18**  
**Projected Daily Area and Operations Emissions All Phases**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Area Source Emissions	25.74	31.41	42.25	0.00	0.11	0.11
Operation	229.37	320.69	2311.44	3.26	650.25	124.94
<b>TOTAL</b>	<b>255.11</b>	<b>352.10</b>	<b>2353.69</b>	<b>3.26</b>	<b>650.36</b>	<b>125.05</b>
Significance Threshold	55	55	550	150	55	150
Above Threshold?	Yes	Yes	Yes	No	Yes	Yes

ROG = Reactive Organic Gas; NO<sub>x</sub> = nitrogen oxide; CO = carbon oxide; SO<sub>2</sub> = sulfur dioxide;  
PM<sub>10</sub> = suspended particulates of 10 microns or less in diameter

As can be seen from *Tables 5.5-14 through 5.5-18*, construction activities would result in significant air quality impacts for each criteria pollutant except sulfur dioxide for each phase of the project and PM<sub>10</sub> after the first year of construction, during which rough grading occurs. Construction emissions are projected to exceed the standards for NO<sub>x</sub>, CO, and ROG for during each year of construction.

The No Land Trade Alternative's significant impacts to air quality, including impacts from construction and operation of the existing and future power plant, as well as other industrial uses in and near the site, would be only partially mitigated by implementation of mitigation measures detailed in *Section 4.6, Air Quality*. Impacts would remain significant and unmitigable. Therefore, the No Land Trade Alternative's impacts on the applicable air quality plan would be similar to the impacts which may result from the Proposed Project. As a result, this alternative would not avoid or substantially lessen the significant effects of the Proposed Project for this issue.

Implementation of mitigation measures detailed in *Section 4.6, Air Quality*, of this report, reduces the significant impacts due to construction emissions but not to a less than significant level. Because the extent of grading required is greater than for the Proposed Project, construction emissions would still exceed the criteria and remain significant after mitigation. The No Land Trade Alternative's construction impacts on the applicable air quality plan would be greater than the impacts which may result from the Proposed Project. As a result, this alternative would not avoid or substantially reduce the significant construction effects of the Proposed Project.

As with the Proposed Project, implementation of mitigation measures detailed in *Section 4.6, Air Quality*, of this report would reduce the significant impacts related to exposure of sensitive receptors to substantial pollutant concentrations. The No Land Trade Alternative's impacts would be similar to the impacts which may result from the Proposed Project. As a result, this alternative would not avoid or substantially lessen the significant effects of the Proposed Project for this issue.

### 5.5.6 Noise

The area of potential impact is generally the same for this alternative as for the Proposed Project and Harbor Park Alternative. As new development occurs under the No Land Trade Alternative, increased traffic and associated noise would be expected. Any new uses would be reviewed to ensure they conform to adopted noise ordinances prior to approval.

Traffic noise impacts would result from future traffic on project site roadways and off-site roadways similar to the impacts associated with the Proposed Project and the Harbor Park Alternative. Impacts and mitigation are discussed in *Section 4.7, Noise*, of this report.

*Table 5.5-19* summarizes the traffic and noise increases to off-site roadways as a result of the No Land Trade Alternative. The greatest increase in noise at the completion of Phase I is located on F Street between Woodlawn Avenue and Broadway. The noise level increase is 2.1 dB(A). The greatest increase in noise at project build-out, located on F Street between Woodlawn Avenue and Broadway, is 3.2 dB(A) as compared to the noise level increase is 2.2 dB(A) associated with the Proposed Project. This noise increase is greater than 3 dB(A) and is, therefore, significant. All other increases in noise are less than 3 dB(A) and are not significant.

**TABLE 5.5-19**  
**No Land Trade Alternative Traffic and Noise Increase to Off-Site Roadways**

Roadway Segment	ADT	Medium Trucks	Heavy Trucks (mph)	Speed	CNEL at 50 Feet from Centerline	60	65	70	75
E Street	9084	1%	0%	35	64	110	35	-	-
H Street to Gaylord Driveway									
RCC Driveway to F St	11108	1%	0%	35	64	135	45	-	-
F St to Bay Blvd	32146	1%	0%	35	69	295	125	40	-
Bay Blvd to I-5 Ramps	39791	1%	1%	35	71	375	170	55	-
I-5 Ramps to Woodlawn Ave	41106	1%	1%	35	71	380	175	60	-
Woodlawn Ave to Broadway	40006	1%	1%	35	71	375	170	55	-
Broadway to 3rd Ave	29487	1%	1%	35	69	605	130	40	-
<b>F Street</b>									
E St to Bay Blvd	10602	1%	0%	35	64	130	40	-	-
Bay Blvd to Broadway	12891	1%	0%	35	65	155	50	-	-
Broadway to 4th Ave	12824	1%	0%	35	65	155	50	-	-
4th Ave to 3rd Ave	13399	1%	0%	35	63	105	35	-	-
<b>H Street</b>									
West of Marina Pkwy	16332	1%	0%	25	62	80	25	-	-
Marina Pkwy to Street A	11496	2%	1%	35	65	165	55	-	-
Street A to I-5 Ramps	34507	2%	1%	35	70	355	155	50	-
I-5 Ramps to Broadway	46283	1%	1%	35	71	410	190	65	-
Broadway to 3rd Ave	32187	1%	1%	35	70	325	140	45	-

TABLE 5.5-19

Roadway Segment	ADT	Medium Trucks	Heavy Trucks (mph)	Speed	CNEL at 50 Feet from Centerline	60	65	70	75
<b>J Street</b>									
Marina Pkwy to Street A	20183	1%	0%	35	67	215	80	25	-
Street A to Bay Blvd	31447	1%	0%	35	69	290	120	35	-
Bay Blvd to I-5 Ramps	35330	1%	1%	35	70	345	150	50	-
I-5 Ramps to Broadway	22619	1%	1%	35	68	255	100	35	-
<b>L Street</b>									
Bay Blvd to Industrial Way	19898	2%	1%	35	68	245	95	30	-
Industrial Way to Broadway	24054	2%	1%	35	69	280	115	35	-
<b>Marina Pkwy</b>									
H St to Street C	9872	1%	0%	35	64	120	40	-	-
Street C to J St	9113	1%	0%	35	674	110	35	-	-
<b>Bay Boulevard</b>									
E St to F St	16880	1%	1%	35	67	210	75	25	-
F St to H St	8828	1%	1%	35	64	120	40	-	-
H St. to J St	7410	1%	1%	35	63	105	35	-	-
J St to L St	9942	1%	1%	35	65	135	45	-	-
L St to I-5 Ramps	6196	1%	1%	35	62	85	30	-	-
South of I-5 Ramps	5856	1%	1%	35	62	85	25	-	-
<b>Broadway</b>									
C St to E St	28419	1%	1%	35	69	295	125	40	-
E St to H St	28627	1%	1%	35	69	300	125	40	-
H St to K St	31936	1%	1%	35	70	325	140	45	-
K St to L St	27209	1%	1%	35	69	290	120	40	-
South of L St	28279	1%	1%	35	69	295	125	40	-
<b>Street A</b>									
H St to Street C	9494	1%	1%	35	64	130	45	-	-
Street C to J St	15707	1%	1%	35	67	200	70	25	-
J St to Street B	5157	1%	1%	35	62	75	25	-	-
<b>Street B</b>									
Street A to Bay Blvd	2112	2%	1%	35	58	30	-	-	-
<b>Street C</b>									
Marina Pkwy to Street A	3620	1%	0%	35	60	45	-	-	-

Table 5.5-20 shows a comparison of the existing and future noise levels at 50 feet from the centerlines of Project roadways. The delta is the future noise level minus the existing noise level.

**TABLE 5.5-20**  
**Comparison Table of Existing and Future Noise Levels**

Roadway	Segment	Existing Noise Level at 50 Feet	Future Noise Level at 50 Feet	Delta
E Street	• H St to RCC Gaylord Driveway	-	64	N/A
	• RCC Gaylord Driveway to F St	-	64	N/A
	• F St to Bay Blvd	-	69	N/A
	• Bay Blvd to I-5 Ramps	-	71	N/A
	• I-5 Ramps to Woodlawn Ave	69	71	+2
	• Woodlawn Ave to Broadway	69	71	+2
	• Broadway to 3rd Ave	67	69	+2
F Street	• <b>E St (Marina Pkwy) to Bay Blvd</b>	<b>60</b>	<b>64</b>	<b>+4</b>
	• <b>Bay Blvd to Broadway</b>	<b>60</b>	<b>65</b>	<b>+5</b>
	• Broadway to 4th Ave	64	65	+1
	• 4th Ave to 3rd Ave	62	63	+1
H Street	• West of Marina Pkwy	-	62	N/A
	• Marina Pkwy to Street A	-	65	N/A
	• <b>Street A (Bay Blvd) to I-5 Ramps</b>	<b>67</b>	<b>70</b>	<b>+3</b>
	• I-5 Ramps to Broadway	69	71	+2
	• Broadway to 3rd Ave	69	70	+1
J Street	• <b>Marina Pkwy to Street A</b>	<b>63</b>	<b>67</b>	<b>+4</b>
	• <b>Street A to Bay Blvd</b>	<b>63</b>	<b>69</b>	<b>+6</b>
	• <b>Bay Blvd to I-5 Ramps</b>	<b>67</b>	<b>70</b>	<b>+3</b>
	• I-5 Ramps to Broadway	67	68	+1
L Street	• Bay Blvd to Industrial Way	67	68	+1
	• Industrial Way to Broadway	68	69	+1
Marina Pkwy	• <b>H St (G St) to Street C (Sandpiper Way)</b>	<b>53</b>	<b>64</b>	<b>+11</b>
	• <b>Street C (Sandpiper Way) to J St</b>	<b>53</b>	<b>64</b>	<b>+11</b>
Bay Blvd	• E St to F St	65	67	+2
	• <b>F St to H St</b>	<b>58</b>	<b>64</b>	<b>+6</b>
	• <b>Street C (H St) to J St</b>	<b>58</b>	<b>63</b>	<b>+5</b>
	• <b>J St to L St</b>	<b>59</b>	<b>65</b>	<b>+6</b>
	• L St to I-5 Ramps	60	62	+2
	• South of I-5 Ramps	60	62	+2
Broadway	• C St to E St	69	69	0
	• E St to H St	69	69	0
	• H St to K St	69	70	+1
	• K St to L St	69	69	0
	• South of L St	69	69	0
Street A	• H St to Street C	-	64	N/A
	• Street C to J St	-	67	N/A
	• J St to Street B	-	62	N/A
Street B	• Street A to Bay Blvd	-	58	N/A
Street C	• Marina Pkwy to Street A	-	60	N/A

The segment of E Street between ~~RCC~~Gaylord Driveway and F Street would experience a future noise level of 64 dB(A) at 50 feet. The closest point of the habitat to the roadway is approximately 90 feet from the centerline of E Street. The highest noise level at the habitat would be approximately 62 dB(A). This noise level exceeds the wildlife noise threshold of 60 dB(A) during breeding season at habitat in the F & G Street Marsh. The segment of Marina Parkway between Street C and J Street would experience an increase of approximately 11 dB(A). The Pacifica development site is adjacent to Marina Parkway between Street C and J Street. This impact is being analyzed and mitigated by a cumulative assessment of traffic noise for that component of the project. Therefore, the noise level increase along this segment is considered to be not significant.

There are no noise-sensitive land uses adjacent to the remainder of the roadway segments that would experience an increase of 3 dB(A) or more. Therefore, the noise level increases along these segments are considered to be not significant.

As with the Proposed Project, mitigation measures discussed in *Section 4.7, Noise*, would reduce noise impacts to below a level of significance. After implementation of these measures, the No Land Trade Alternative's impacts would be similar to the impacts which may result from the Proposed Project. As a result, the No Land Trade Alternative would not avoid or substantially reduce the significant effects of noise resulting from the Proposed Project.

### 5.5.7 Biological Resources (Terrestrial and Marine)

Terrestrial and marine biology impacts associated with selection of the No Land Trade Alternative would be similar to those identified for the Proposed Project, as the development area is generally the same (see *Section 4.8, Terrestrial Biological Resources*, of this report). Mass grading of most of the Harbor District would occur in Phase I. Remaining areas of the Harbor and Otay Districts would be graded in Phases II and III. Improvements to the marina and navigation channel would be the same as for the Proposed Project in Phase III. The major difference between this alternative and the Proposed Project is that, under this alternative, higher-intensity development would be expected in the Sweetwater District in accordance with the approved Midbayfront LCP. This could result in greater indirect impacts to the adjacent wildlife refuge and shoreline habitats. Significant impacts to marine resources would be the same as identified for the Proposed Project.

#### a. Terrestrial Biological Resources

Under this alternative, total impacts to vegetation communities from development would be the less than those identified in *Table 4.8-3* for the Proposed Project. *Table 5.5-21* summarizes the No Land Trade Alternative impacts to sensitive vegetation communities and provides a comparison of impacts with the Proposed Project. Impacts to sensitive vegetation communities

would be less than the impacts which may result from the Proposed Project. However, it should be noted that impacts on sensitive vegetation communities within the Sweetwater District that are avoided under the No Land Trade Alternative would be impacted by cumulative development of the approved LCP within the City's jurisdiction in the Sweetwater District. Therefore, in consideration of cumulative impacts, the No Land Trade Alternative would result in similar or greater direct impacts on biological resources. In addition, the No Land Trade Alternative would place high-intensity development in close proximity to sensitive biological resources within the Sweetwater Marsh NWR, which would result in increased indirect impacts on these resources, when compared to the Proposed Project.

**TABLE 5.5-21**  
**Comparison Table for Impacts to Sensitive Vegetation Communities**

Vegetation Type	No Land Trade	Proposed Project
Disturbed Diegan coastal sage scrub	0 acres	7.89 acres
Disturbed riparian	0 acres	3.09 acres
Disturbed seasonal pond	9.13 acres	9.13 acres
Mulefat scrub	0 acres	0.11 acre
Non-native grassland	63.73 acres	63.73 acres
Southern coastal salt marsh	1.48 acres	1.59 acres

As with the Proposed Project, management practices, including (1) BMPs to control the unintentional release of excavated sediments and water into the local environment, and (2) operational procedures to minimize disturbance impacts to birds, will reduce temporary impacts related to development of the No Land Trade Alternative, but, as noted above, the placement of high-intensity uses in close proximity to the Sweetwater Marsh would result in a higher likelihood of adverse indirect impacts.

Significant impacts would result from grading and construction of the site which would modify existing habitat that supports sensitive species, including nesting and foraging raptors. As discussed in *Section 4.8, Terrestrial Biological Resources*, a number of birds protected by the MBTA as well as endangered or threatened species could or do occur on site. In addition, construction of a new pier and replacement/relocation of docks would result in an approximate 2-acre reduction to surface water foraging habitat. Significant impacts to the above would be reduced to below a level of significance after implementation of mitigation measures detailed in *Section 4.8, Terrestrial Biological Resources*.

Impacts to biological resources will be reduced by limiting drainage and overspill of lighting and noise into preserve areas as well as prohibiting use of non-invasives and restricting public access in sensitive preserve areas. In addition, significant impacts would be mitigated through the implementation of measures that require issuance of an HLIT Permit and preserve lands protection, as detailed in *Section 4.8, Terrestrial Biological Resources*.

**USACE Jurisdictional Wetlands.** The No Land Trade Alternative would impact a total of 64.22 acres of USACE jurisdictional waters within the Harbor and Otay Districts of the Port's jurisdiction, as compared to 64.34 acres for the Proposed Project. This is due to the elimination of the Sweetwater District from the No Land Trade Alternative. Significant impacts to USACE jurisdictional waters due to harbor and marina reconfiguration would be similar to the Proposed Project and would be reduced to below a level of significance.

**CDFG Jurisdictional Wetlands.** Impacts to 1.1 acres of CDFG jurisdictional resources would occur in the Port's jurisdictional area only, within the Harbor and Otay Districts. These impacts would occur during Phase II when grading and preparation of the site for future development would result in permanent and temporary removal of riparian habitat. This impact would be similar with the Proposed Project.

**CCC Jurisdictional Wetlands.** Under the Proposed Project, impacts to CCC wetlands have been avoided to the maximum extent practicable. Some of the mapped waterways have been identified as potential wetlands for the Coastal Commission. Identification of these areas as CCC wetlands requires documentation of ponding for a minimum of 7 consecutive days. There is currently no indication that ponding of that duration has occurred; therefore, identification of CCC jurisdiction has not been made. In addition, the Otay District contains areas formerly occupied by an industrial facility that may not be subject to CCC jurisdiction.

Impacts at the J Street Channel would be similar to the Proposed Project. Removal of riprap and placement of bulkhead for marina improvements would be consistent with the Coastal Act but would result in significant biological impacts similar to the Proposed Project. Implementation of mitigation measures detailed in *Section 4.8, Terrestrial Biological Resources*, would reduce the impact to below a level of significance.

There would be no impact to the Telegraph Creek Channel under this alternative, as the bridge crossing would not be needed and no improvements to the channel would be made. In addition, the bridge proposed in the Harbor District over the HP-5 drainage ditch would not be required under this alternative; therefore, related impacts would not exist.

Similar to the Proposed Project, the establishment of an ecological buffer on Parcel OP-1A would result in temporary impacts to 0.05 acre of CCC wetlands, 0.04 acre of potential CCC wetlands, and 1.50 acres of former industrial areas that are in the process of remediation. Impacts to the 0.05 acre of CCC wetlands would be the same as the Proposed Project and would be significant. The impacts to the 1.50 acres of former industrial areas proposed for roads, grading, drainage improvements, development would only be significant if the CCC asserts jurisdiction. Implementation of mitigation measures identified for the Proposed Project would reduce the impacts to below a level of significance.

Because the Port would retain jurisdiction over existing lands in the Harbor and Otay Districts, the City's Wetland Protection Program would not apply to resources in these areas. The development of the Sweetwater District, which would remain in the City's jurisdiction, is discussed at a program level, and development impacts to biological resources would be refined during subsequent environmental review. Impacts under the jurisdiction of the RWQCB would also be similar to the Proposed Project and would require mitigation. Finally, indirect impacts to preserve lands and refuges from development within the City's jurisdiction would result in a significant indirect impact. Development within the City's jurisdiction would be required to conform to the City's adjacency guidelines. Mitigation for impacts to wetlands would be required in accordance with the ratios identified in mitigation measures for the Proposed Project detailed in *Section 4.8, Terrestrial Biological Resources*.

Similar to the Proposed Project, proposed development on the Bayfront under the No Land Trade Alternative, along with cumulative development of the approved LCP land uses within the Sweetwater District, may result in increased bird mortality through bird strikes. Mitigation measures for the Proposed Project would similarly reduce impacts under the No Land Trade Alternative to below a level of significance by implementing design measures for lighting, glass and reflection, building articulation, and landscaping.

#### b. Marine Resources

As for the Proposed Project, direct impacts to eelgrass in open bay waters from phased construction of the proposed pier, modifications to the marina, and realignment of the navigation channel as well as indirect impacts from shading due to construction of the pier, would be significant. Implementation of mitigation measures detailed in *Section 4.9, Marine Biological Resources*, would provide replacement eelgrass habitat at a 1.2:1 ratio to reduce impacts to less than significant. No permanent impacts to the eelgrass community in the project area would occur. Mitigation would initially increase the area of eelgrass in the South Bay and is expected to fully recover to naturally occurring densities within 5 years of transplantation. No unavoidable adverse impacts to marine biological resources as a result of the No Land Trade Alternative are expected.

Similar to the Proposed Project, impacts to salt marsh and mudflats from Phase III removal of riprap and construction of bulkhead in the commercial harbor on Parcel HW-3, temporary impact to water quality from construction of the H Street Pier, direct impacts from Phase III dredging at the South Bay Boatyard, and indirect lighting impacts on marine resources from construction and operation of project elements would be significant. Implementation of mitigation measures identified in *Section 4.9, Marine Biological Resources*, of this report, which require preparation and implementation of a restoration plan, and approval by USACE of a sediment plan, work plan, plan for dredging and storage of dredge material to protect water quality, and a lighting

plan. Approval and implementation of these plans as described in *Section 4.9, Marine Biological Resources*, would reduce impacts to below a level of significance.

Implementation of the No Land Trade Alternative would not avoid or substantially reduce the significant biological effects of the Proposed Project.

### **5.5.8 Cultural Resources**

Impacts to cultural resources under the No Land Trade Alternative are the same as for the Proposed Project. No significant impacts have been identified.

### **5.5.9 Paleontological Resources**

The area of potential impact is generally the same as for the Proposed Project and Harbor Park Alternative. Impacts would be the same as those identified for the Proposed Project. Implementation of procedures and techniques described in *Section 4.11, Paleontological Resources*, to be performed under the supervision of a qualified paleontologist or geologist, would reduce impacts to below a level of significance. The No Land Trade Alternative's impacts on paleontological resources would be similar to the impacts which may result from the Proposed Project. As a result, the No Land Trade Alternative would not avoid or substantially reduce the significant effects of the Proposed Project on paleontological resources.

### **5.5.10 Hazards and Hazardous Materials/Public Safety**

Hazardous materials are present on the project site as discussed in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, of this report. Portions of the site are currently under a Cleanup and Abatement Order (CAO No. 98-08, revised April 2, 1998), and measures are being implemented to address past contamination within the Harbor and Otay Districts. Similar to the Proposed Project, implementation of Cleanup and Abatement Order programs and other remediation will clean up existing contamination prior to development of any affected site.

Development of potentially contaminated sites and dewatering activities in areas of contaminated groundwater, as well as other potential encounters of contamination during excavation, demolition, or construction may result in significant impacts similar to the Proposed Project. Implementation of mitigation measures outlined in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, would reduce effects to below a level of significance.

While the No Land Trade Alternative eliminates residential development in the Harbor District, thereby reducing the potential for exposure of sensitive receptors to contaminants in these areas, cumulative development in the Midbayfront in accordance with the approved LCP would result in additional residential development and sensitive receptors in the Sweetwater District as

compared to the Proposed Project. As a result, the No Land Trade Alternative would not avoid or substantially reduce the significant impacts of hazards on the Proposed Project.

### 5.5.11 Public Services

In order to assess impacts to public services associated with the No Land Trade Alternative in relation to the Proposed Project, an evaluation of the No Land Trade Alternative against each public services threshold was conducted. *Section 5.5.11.1* provides an impact analysis and *Section 5.5.11.2* provides a summary of impacts and mitigation pertaining to the No Land Trade Alternative.

#### 5.5.11.1 *Impact Analysis of the No Land Trade Alternative*

##### a. Fire Services

Fire protection and emergency medical services would be provided by the City of Chula Fire Department within the plan area. Development of mixed-use commercial/office space and hotels would strain the existing fire services and/or facilities expected to serve the project site. Without assurance that existing facilities would be adequately staffed and equipped, the Fire Department cannot guarantee that response times of less than 7 minutes can be maintained City-wide in 80 percent of the cases. As a result, the project would create a significant impact. The City's Fire Department considers the Bayfront area to be a geographic location that is underserved by the fire station network. While the Proposed Project would include construction of a new fire station on H-17, the No Land Trade Alternative does not include a new fire station. The Port is precluded by law from providing municipal facilities (including fire protection facilities) on Port land. Under the No Land Trade Alternative, the City would not acquire Parcel H-17 from the Port, and no suitable location for a new fire facility has been identified. A significant impact on fire protection services would continue to exist under the No Land Trade Alternative. This impact on fire protection facilities is greater than the Proposed Project and would result in a significant impact.

##### b. Police Protection

While no residential units are proposed in the Harbor and Otay Districts, development under the No Land Trade Alternative would assume development in the Sweetwater District in accordance with the approved Midbayfront LCP. Current land entitlements as approved under the LCP would allow high-density residential units, a hotel and ancillary retail, and commercial uses in the Sweetwater District. These uses include 1,550 dwelling units, 2,028 hotel rooms, 150,000 square feet of retail, 140,000 square feet of office, and nearly 19 acres of parks. Impacts to police services would therefore be similar to the Proposed Project.

### c. Parks and Recreation

Park land requirements are established in the City's Municipal Code Section 17.10.040 for properties within the City's jurisdiction. The Municipal Code requires park acreage dedication and improvement based on development type. Residential and transient motels/hotels are required to dedicate 196 square feet of parkland for each unit. The No Land Trade Alternative proposes no residential units in the Harbor District, but more hotel rooms than the Proposed Project. The land uses for the Sweetwater District are assumed to be the same as what was adopted in the Midbayfront LCP, which includes residential and hotels. As with the Proposed Project, development of the No Land Trade Alternative would result in temporary, short-term significant impacts to park and recreation levels of service due to temporary closure of existing area parks during project construction. The introduction of residential units and hotel rooms within the City's jurisdiction in the project area would result in potentially significant impacts due to an increase in demand for developed parkland and recreation facilities.

### d. Schools and Library Services

Although no residential units are proposed in the Harbor and Otay Districts under the No Land Trade Alternative, land uses for the Sweetwater District are assumed to be the same as what was adopted in the Midbayfront LCP, which includes high-density residential. Similar to the Proposed Project, a new student population will result in a need for additional school services and additional library square footage.

#### 5.5.11.2 Public Services Summary and Mitigation

As with the Proposed Project, significant impacts to parks and recreation, schools, and library services would be mitigated to below a level of significance with implementation of mitigation measures detailed in *Section 4.13, Public Services*, **with the exception of impacts to library services which will remain significant due to existing library deficiencies and an inability to demonstrate that fees would fully mitigate the impact**. Impacts to police protection would be similar to the Proposed Project.

A significant impact on fire protection services would continue to exist under the No Land Trade Alternative. This impact on fire protection facilities is greater than the Proposed Project and would result in a significant impact. In order to address this impact to fire services, the City would have to provide additional equipment and/or facilities as deemed necessary by the City's Fire Department to ensure adequate fire protection services. The changes that may result from the provision of additional equipment or facilities as may be identified in the City's Fire Master Plan would be the responsibility and within the jurisdiction of the City and not the Port.

### 5.5.12 Public Utilities

Impacts to public utilities would be similar to those resulting from the Proposed Project. Ultimate build-out under the No Land Trade Alternative would require upgrades to sewer and water facilities to meet increased demand over time.

The projected water demand for the No Land Trade Alternative is presented by district in *Table 5.5-22* below:

**TABLE 5.5-22**  
**No Land Trade Alternative Water Demand Summary (MGD)**

Development Area	Average Demand	Max Day Demand
Harbor District	0.975	1.949
Otay District	0.068	0.184
<b>TOTAL</b>	<b>1.514</b>	<b>3.216</b>

SOURCE: Kimley-Horn and Associates, Inc. 2006.

This alternative would result in an average daily potable water demand of approximately 1.514 MGD and a maximum daily demand of 3.216 MGD at build-out, compared to an average day potable water demand of approximately 2.006 MGD and a maximum daily demand of 4.154 MGD at build-out for the Proposed Project. Consequently, average and maximum daily demand for potable water would be less than the Proposed Project (a daily average of approximately 0.49 MGD less) for development under the No Land Trade Alternative. This impact is expected to be less than significant, similar to the Proposed Project. The lower average and maximum daily water demand for the No Land Trade Alternative does not, however, take into account the increased average and maximum daily water demand for the Sweetwater District that will result from land uses under the approved Midbayfront LCP that are not included in the Proposed Project. The No Land Trade Alternative will therefore result in an indirect impact on water demand for the Bayfront area.

Based on the same generation rates and sewage generation estimates used for the Proposed Project, the No Land Trade Alternative is expected to generate a total average flow of approximately 1.118 MGD and an approximate peak flow of 2.180 MGD. *Table 5.5-23* shows the sewage generation summary by district for the No Land Trade Alternative. The projected sewage generation broken down by parcel for this alternative is contained in *Appendix 4.5-2*.

**TABLE 5.5-23**  
**No Land Trade Alternative Sewage Generation Summary**  
**(MGD)**

Development Area	Average Flow	Peak Flow
Harbor District	0.762	1.425
Otay District	0.042	0.105
<b>TOTAL</b>	<b>1.118</b>	<b>2.180</b>

This alternative would generate a smaller daily average flow compared to the Proposed Project by approximately 0.21 MGD (1.118 MGD as compared to 1.328 MGD for the Proposed Project). The emergency storage requirements would remain the same as projected for the Proposed Project, however, because the analysis considered all of the alternatives and used the highest calculated peak flow for each district in order to present a worst case analysis. With implementation of the mitigation measures detailed in *Section 4.14, Public Utilities*, required by the Proposed Project, impacts to sewer services would be less than significant. As with water demand, the smaller average sewer flow for the No Land Trade Alternative does not take into account the higher average and maximum sewer flow for the Sweetwater District that will result from land uses under the approved Midbayfront LCP that do not exist under the Proposed Project. These additional uses would result in an indirect impact on sewer services resulting from the No Land Trade Alternative.

The estimated solid waste generation for this alternative is presented in *Table 5.5-24*. As compared to the Proposed Project, this alternative would generate less solid waste by approximately 3,688 pounds or 1.8 tons per day. The Otay Landfill is permitted to accept 5,830 tons per day and is currently accepting about 4,500 tons per day. The 8.3 tons per day are not significant because landfill capacity would not be exceeded for between 16 and 21 years.

**TABLE 5.5-24**  
**Solid Waste Estimates for the No Land Trade Alternative**

Category	Unit	Phases				Total	
		I		II		pounds/ day	Total Units
		pounds/ day	Total Units	pounds/ day	Total Units		
Cultural	thousand square feet	700	100			700	100
Ferry	thousand square feet			125	25	125	25
Hotel	rooms	5,500	2,750	1,916	958	7,416	3,708
Office	thousand square feet	2,616	436	720	120	3,336	556
Retail	thousand square feet	1,404	234	900	150	2,304	384
RV Park	units			472	236	472	236
<b>TOTAL</b>		<b>10,220</b>		<b>7,949</b>		<b>18,169</b>	

The required sewer and water pipelines may not be as comprehensively planned and installed to meet all future requirements at build-out. Nevertheless, the required mitigation measures and the guidelines for the provision of public utility services in Chula Vista identified for the Proposed Project would also be applicable to this alternative.

The No Land Trade Alternative's overall impacts on potable water, sewer, and solid waste resources would be similar to the impacts which may result from the Proposed Project. Implementation of mitigation measures detailed in *Section 4.14, Public Utilities*, to address water availability, sewer, and solid waste management would reduce these impacts to below a level of significance. The No Land Trade Alternative would not avoid or substantially reduce the significant effects of the Proposed Project on public utilities.

### 5.5.13 Seismic/Geologic Hazards

The area of potential impact is generally the same as for the Proposed Project and Harbor Park Alternative. The No Land Trade Alternative's impacts on the issue of Seismic/Geologic Hazards would be the same or similar to those resulting from the Proposed Project. Mitigation measures detailed in *Section 4.15, Seismic/Geologic Hazards*, of this report would reduce the significant impacts associated with exposure of structures to strong ground motion and surface rupture, liquefaction and seismically induced settlement, and expansive soils to below a level of significance. As a result, the No Land Trade Alternative would not avoid or substantially reduce the significant effects of the Proposed Project on seismic and geologic hazards.

### 5.5.14 Energy

The area of potential impact and intensity of development over time is generally the same as for the Proposed Project. Under both development scenarios, site development and resulting growth would increase energy demand due to increased population and intensity of uses.

Electricity consumption resulting from implementation of this alternative represents a substantial increase in use over the existing use on the project site. Similar to the Proposed Project, the increased demand for energy resulting from development under this alternative and the potential to exceed the available supply would result in a significant impact. In consideration of SDG&E's Long Term Resource Plan, this demand would not result in a direct need for new or expanded facilities, however. SDG&E assumes an annual average growth rate of 2 percent with respect to system peak load (Katsapis 2004), with the actual timing and quantity of resources to be procured based on near-term circumstances (McClenahan 2004). SDG&E has indicated that, without an increased import capacity of at least 500 MW, there would be a long-term grid reliability deficiency (Brown 2004). This is discussed in *Chapter 6, Cumulative Impacts*.

To address long-term energy needs, SDG&E has filed a resource plan with CPUC, which proposes a mix of conservation, demand response, generation, and transmission to provide reliable energy for the next 20 years ([http://www.sdenergy.org/uploads/7-9-04SDG&E\\_LTRP.pdf](http://www.sdenergy.org/uploads/7-9-04SDG&E_LTRP.pdf)).

Because there are more hotel rooms in the No Land Trade Alternative and more square feet of office use in the Harbor and Otay Districts, this alternative uses slightly more energy than the Proposed Project. It does represent a reduction in energy use associated with residential uses and commercial uses in the Harbor District, although cumulative impacts would result from increased residential and commercial development in the Sweetwater District in accordance with the Midbayfront LCP. This alternative therefore does not represent a substantial reduction in energy use compared to the Proposed Project.

Mitigation measures detailed in *Section 4.16, Energy*, include design measures that reduce energy consumption in building design along with the SDG&E efforts for long-term energy supply as outlined in their filing with the CPUC. These mitigation measures would reduce the significant impacts on energy to below a level of significance. Selection of this alternative would not avoid or substantially reduce the significant effect of the Proposed Project on energy; **therefore, the cumulative impact to energy as detailed in Section 6.17 would remain significant and unmitigated.**

#### 5.5.15 Population and Housing

The No Land Trade Alternative's direct impacts on housing and population would be less than the Proposed Project because no residences would be constructed in the Harbor District. However, in consideration of the approved Midbayfront LCP, which would allow for residential and commercial uses, cumulative impacts to population and housing would be significant. As with the Proposed Project, this alternative would not displace any existing residences and no housing would need to be constructed elsewhere. This alternative would result in similar impacts to population and housing as the Proposed Project and therefore does not avoid or substantially reduce the significant effect of the Proposed Project in this area.

### 5.6 Reduced Overall Density Alternative

The Reduced Overall Density Alternative (30 percent reduction) was selected for consideration to provide a development alternative that would reduce overall building mass and height and intensity of uses in order to reduce overall impacts. Because this alternative would develop 400 fewer residential units and reduce the square footage of all other proposed uses by one-third, this alternative would reduce the following significant impacts of the Proposed Project: traffic/circulation, parking, aesthetics/visual quality, hydrology/water quality, air quality, noise, public services, public utilities, energy, and population/housing.

The Reduced Overall Density Alternative retains all uses proposed for the project but provides for a 30 percent overall reduction of floor area/residential units throughout all development areas. *Table 5.6-1* summarizes the proposed land uses under this alternative.

### 5.6.1 Land/Water Use Compatibility

A 30 percent reduction in overall density would result in similar impacts as described for the Proposed Project. An amendment to plans and policies of the City's LCP/LUP and General Plan and to the PMP would still be required as would CCC approval. **Similar to the Proposed Project, impacts from this alternative would be reduced to less than significant, provided that proposed amendments to the City of Chula Vista General Plan, LCP Land Use Plan, and Bayfront Specific Plan are approved, with the exception of impacts on City of Chula Vista General Plan policies related to view quality and library services which would remain significant and unmitigated as under the Proposed Project.**

### 5.6.2 Traffic/Circulation and Parking

The Reduced Overall Density Alternative includes a 30 percent overall reduction of floor area/residential units throughout all development areas of the Proposed Project. The alternative would generate less traffic and a decrease in the demand for parking throughout the Bayfront area relative to the Proposed Project. The alternative does not cause any roadways operating at LOS C or better to operate at LOS D or worse. Therefore, direct impacts to roadway segments identified for the Proposed Project would be partially eliminated. Selection of this alternative would improve LOS F operations identified for the Proposed Project on Marina Parkway segments to an acceptable level. Cumulative impacts along Bay Boulevard would remain.

Finally, reductions in overall development would reduce parking requirements. With less developed area, sufficient parking space would be available to serve the proposed uses. Parking impacts would be less than significant.

**TABLE 5.6-1**  
**Reduced Overall Density Alternative Summary of Land Uses**

District, Phase, Parcel Number	Proposed Use	Approximate Program Range	Maximum Stories	Maximum Height (feet)
<b>Sweetwater District</b>				
<b>Phase IV</b>				
S-1	Resort Hotel	19 acres	1 to 6	30 to 70
S-3	Mixed-Use Office/Commercial Recreation	6 acres	1 to 2	15 to 30
S-4	Office	6 acres	6	90
<b>Harbor District</b>				
<b>Phase I</b>				
H-3	Resort Conference Center RCC Hotel RCC Conference Space RCC Restaurant RCC Retail	1050 to 1,400 rooms 280,000 square feet 70,000 square feet 14,000 square feet	Up to 21 N/A Incl in RCC Incl in RCC	175 to 210 90 Incl in RCC Incl in RCC
H-13/H-14	Residential and Ancillary Retail	1,100 units 10,500 square feet	3 to 14	50 to 155
H-17	Fire Station	9,500 square feet	1	27
H-18	Interim Surface Parking Lot	1,100 spaces	N/A	N/A
<b>Phase II</b>				
H-9	Retail/Commercial Recreation and Marina Support	18,000 to 35,000 square feet	1 to 2	15 to 30
H-15	Mixed-Use Office/Commercial Recreation and Hotel	210,000 to 295,000 square feet		65 to 95
H-23	Resort Hotel and Cultural/Retail	350 rooms 140,000 square feet	7 to 18 1 to 2	140 to 210 20 to 45
<b>Phase III</b>				
H-21	Retail/Commercial Recreation and Marina Support	52,500 to 105,000	1 to 2	15 to 30
<b>Phase IV</b>				
H-1	Community Boating Center	9,000 to 14,000 square feet	1 to 2	15 to 30
H-12	Ferry Terminal and Restaurant	7,000 to 17,500 square feet	1 to 2	15 to 30
H-18	Mixed-Use Office/Commercial Recreation and Collector Parking Garage	70,000 office; 770 to 2,100 parking	4 to 7	60 to 110
<b>Otay District</b>				
<b>Phase III</b>				
O-3A, O-3B	RV Park	175 to 236 spaces	1 to 2	11 to 25

### 5.6.3 Aesthetics/Visual Quality

As with the Proposed Project, implementation of the Reduced Overall Density Alternative would result in substantial changes to landforms and visual quality throughout the Bayfront area. This alternative would reduce the density within the Bayfront area below that of the Proposed Project. A 30 percent overall reduction would result in an equivalent reduction in the mass and scale of the buildings, either through reduced heights and/or reduced lot coverage. If building heights were maintained, there would be greater corridors between the buildings. This potential for reduction in overall scale and mass of major elements of the project would result in an overall reduction in significant impacts to visual quality, view quality, and visual character. Selection of this alternative would require evaluation of more specific design plans showing heights and scale of buildings.

Because the existing condition is open and because the significance of impacts to view quality stems, in part, from the conversion of a primarily open area to a more urbanized development, this alternative would still result in impacts to the public views. Views of the project would be visible from such locations as National City to the north, Imperial Beach to the south, and the eastern shoreline of the Silver Strand. This would be a significant impact.

### 5.6.4 Hydrology/Water Quality

The impacts to water quality resulting from surface runoff and potential contamination from polluted runoff would be reduced with the Reduced Overall Density Alternative, due to an increase of open space and park uses and less impermeable surface area. Other impacts to hydrology and water quality would be similar to the Proposed Project. As with the Proposed Project, new development would be required to comply with existing water quality regulations intended to avoid or reduce impacts to water quality. Development in accordance with approved plans as permitted by the responsible agency would not be significant.

### 5.6.5 Air Quality

The Reduced Overall Density Alternative would generate less traffic and reduce pollutant emissions resulting from construction. Air quality impacts would be incrementally less from the Proposed Project under this alternative. As with the Proposed Project, this alternative would not be consistent with the growth assumptions used to generate the RAQS, because it proposed land use changes that require an amendment to the General Plan upon which the current RAQS is based. It, therefore, is in conflict with an applicable air quality plan which would be a significant impact.

*Table 5.6-2* illustrates the projected reduction of 30 percent in the emissions for the operation of the project. While the alternative represents a substantial reduction in emissions, it would still

result in air quality impacts in excess of the standard. Because the footprint of the project would not change under this alternative, construction emissions during rough grading would be the same as the Proposed Project. Impacts would remain significant and unmitigable.

**TABLE 5.6-2**  
**Standard Comparison Projected Daily Area/Operations Emissions All Phases**  
**(pounds/day)**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Total Proposed Project	808.06	841.16	7448.08	6.42	131.6	625.93
Reduced Project	565.64	588.81	5213.65	4.49	92.12	438.15
Standard	55.0	55.0	550.0	150.0	55.0	150.

ROG-Reactive Organic Gas; NO<sub>x</sub> – nitrogen oxide; CO – carbon oxide; SO<sub>x</sub> – sulfur dioxide; PM<sub>10</sub> – suspended particulates of 10 microns or less in diameter.

### 5.6.6 Noise

The Reduced Overall Density Alternative includes a 30 percent reduction of floor area/residential units throughout all development areas over that of the Proposed Project. This would generate less traffic; therefore, noise impacts associated with traffic would also be reduced under this alternative. While noise levels on these roads would increase as a result of this alternative, the increased noise levels would be less than the noise levels under the Proposed Project.

Under this alternative, noise impacts associated with construction would be similar to those identified for the Proposed Project. The entire site would need to be graded and roads and infrastructure constructed. These impacts would be regulated in accordance with the existing noise ordinance to avoid significant impacts. Implementation of noise mitigation measures detailed in *Section 4.7, Noise*, of this report would reduce impacts to future residential use areas and sensitive habitat to below a level of significance.

### 5.6.7 Biological Resources (Terrestrial and Marine)

Impacts to biological resources as a result of the Reduced Overall Density Alternative would be the same as those identified for the Proposed Project because mass grading and development of the site would impact the same general footprint. Development intensity would be incrementally less, which would allow for larger setbacks from sensitive resources such as wetlands. A reduction in density would not avoid impacts to biological resources, however. The proposed reduction in overall development and resulting increased space between building mass, especially if development results in larger undeveloped areas adjacent to the NWR and sensitive habitat areas, would reduce the potential for impacts due to the location of uses adjacent to these

resources. Other direct and indirect impacts to sensitive birds and other wildlife, sensitive habitats (including riparian habitats and wetlands), and plant species identified for the Proposed Project would remain significant. Implementation of mitigation measures detailed in *Section 4.8, Terrestrial Biological Resources*, and *Section 4.9, Marine Biological Resources*, would be required to reduce significant impacts to below a level of significance.

### 5.6.8 Cultural Resources

As with the Proposed Project, the Reduced Overall Density Alternative would not impact cultural resources. The area of potential impact is the same as for the Proposed Project, and impacts would be less than significant.

### 5.6.9 Paleontological Resources

The area of potential impact is generally the same as for the Proposed Project. Impacts would be similar to those identified for the Proposed Project.

### 5.6.10 Hazards and Hazardous Materials/Public Safety

The site is currently under a Cleanup and Abatement Order for cleanup of contamination associated with past uses on the former BF Goodrich South Campus. Cleanup activities and site remediation to appropriate standards are being performed under separate approvals. As with the Proposed Project, implementation of Cleanup and Abatement Order programs and other remediation, combined with implementation of mitigation measures detailed in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, would ensure that impacts are avoided or reduced to a level of less than significant prior to development of any given site.

### 5.6.11 Public Services

Impacts to fire and police services, parks and recreation, schools, and library services would be reduced under this alternative. Incremental impacts to services would be expected to occur over time. As for the Proposed Project, impacts would be mitigated to below a level of significance through payment of mandatory impact fees, **with the exception of impacts to library services which will remain significant due to existing library deficiencies and an inability to demonstrate that fees would fully mitigate the impact.**

The Police Department currently maintains 1.07 sworn employees per 1,000 residents. If this ratio of employees to residents were maintained, a reduction of 30 percent of the residents could result in the need for one less employee than what would be required under the Proposed Project. With both the Reduced Overall Density Alternative and the Proposed Project, demand for police services would increase and additional police officers, along with related equipment, would be required to serve the project area. Similar to the Proposed Project, the additional staffing required will be provided by the City and will be funded by revenues generated by the project under the

Reduced Overall Density Alternative. Impacts to police protection services would therefore be less than significant.

Parkland requirements are established in the City's Municipal Code Section 17.10.040. This requires park acreage dedication and improvement based on development type. Multifamily dwelling units are required to dedicate 341 square feet of parkland for each unit, or approximately 3 acres per 1,000 residents. Residential and transient motels/hotels are required to dedicate 196 square feet of parkland for each unit. A 30 percent across the board reduction in the project would result in a corresponding 30 percent requirement for park acreage. The Reduced Overall Density Alternative would require 18.16 acres of parkland. As for the Proposed Project, the proposed park acreage exceeds requirements. As with the Proposed Project, development of the Reduced Overall Density Alternative would result in temporary, short-term significant impacts to park and recreation levels of service due to temporary closure of existing area parks during project construction. The introduction of residential units and hotel rooms within the City's jurisdiction in the project area would result in potentially significant impacts due to an increase in demand for developed parkland and recreation facilities.

The Proposed Project is expected to generate a net increase of approximately 1,092 students while the Reduced Overall Density Alternative would generate 764 students. As with the Proposed Project, impacts to schools from the Reduced Overall Density Alternative would be reduced to below a level of significance through the payment of school mitigation fees.

Based on a population rate of 2.159 persons per multifamily unit, the 1,100 dwelling units that would be built under the Reduced Overall Density Alternative would result in a total population of approximately 2,374 people. This population increase would require approximately 1,187 feet of library facilities. This demand is 433 square feet less than would be required for the Proposed Project, but would remain a significant impact because the City is currently below the required square footage for library space. As with the Proposed Project, mitigation measures detailed in *Section 4.13, Public Services*, would reduce the impact, but not to below a level of significance.

Fire protection and emergency medical services would be provided by the City of Chula Vista Fire Department within the plan area. Development of up to 1,100 residential units and mixed-use commercial/office space and hotels would strain the existing fire services and/or facilities expected to serve the project site. Similar to the Proposed Project, the Reduced Overall Density Alternative would increase the demand for fire protection services because of the change in land use from generally underutilized to developed land.

The City's Fire Department considers the Bayfront area to be a geographic location that is underserved by the fire station network. While the Proposed Project would include construction of a new fire station on H-17, the Reduced Overall Density Alternative does not include a new fire station. This alternative would therefore contribute to an exacerbation of the underserved

condition of the area as it relates to fire protection services. The Port is precluded by law from providing municipal facilities (including fire protection facilities) on Port land. Under the Reduced Overall Density Alternative, the City has not agreed to acquire Parcel H-17 from the Port, and no suitable location for a new fire facility has been identified. A significant impact on fire protection services would continue to exist under the Reduced Overall Density Alternative. This impact is greater than the Proposed Project and would result in a significant impact. In order to address this impact to fire services, the City would have to provide additional equipment and/or facilities as deemed necessary by the City's Fire Department to ensure adequate fire protection services. The changes that may result from the provision of additional equipment or facilities as may be identified in the City's Fire Master Plan would be the responsibility and within the jurisdiction of the City and not the Port.

#### **5.6.12 Public Utilities**

Impacts to public utilities would be less than those resulting from implementation of the Proposed Project. Ultimate build-out under the Reduced Overall Density Alternative would require upgrades to sewer and water supply facilities to meet increased demand over time. Water demand based on an across-the-board 30 percent reduction in the project.

While this alternative would use substantially less water, development has the potential to result in significant impacts to water supply because of the absence of long-term supply contracts for water. It is anticipated that the same off-site connections would be required. The required mitigation measures and the guidelines for the provision of public services and utilities in Chula Vista identified for the Proposed Project would also be applicable to the this alternative.

Because the City does not have capacity for future sewage generation, the City would not have adequate capacity to serve the additional sewage generated by the Reduced Overall Density Alternative. Although additional capacity is being negotiated in the MWWWD sewer interceptor, the capacity is currently not available. However, as with the Proposed Project, mitigation would reduce impacts to below a level of significance.

#### **5.6.13 Seismic/Geologic Hazards**

Because the footprint of the Reduced Overall Density Alternative is assumed to be the same as the Proposed Project, impacts from seismic and geological hazards would also be the same or similar to those resulting from the Proposed Project.

#### **5.6.14 Energy**

Because the intensity of development would be 30 percent less than for the Proposed Project, energy consumption would be substantially less. As with the Proposed Project, implementation

of measures in accordance with the policies of the City's General Plan along with the SDG&E efforts for long-term energy supply as outlined in their filing with the CPUC that proposed a mix of conservation, demand response, generation, and transmission ([http://sdenergy.org/uploads/7-9-04SDG&E\\_LTRP.pdf](http://sdenergy.org/uploads/7-9-04SDG&E_LTRP.pdf)) avoids a significant energy impact. **The cumulative impact to energy described in Section 6.17 would remain significant and unmitigated as with the Proposed Project.**

### 5.6.15 Population and Housing

Selection of this alternative provides for development of fewer residential units than for the Proposed Project and ultimately fewer new residents in the Chula Vista Bayfront. As with the Proposed Project, this alternative would not displace any existing residences and no housing would need to be constructed elsewhere. Impacts, therefore, would be less than significant.

## 5.7 Alternate L-Ditch Remediation Alternative

The L-Ditch is an approximately 4.43-acre, 50-foot-wide L-shaped feature on Parcel HP-5. The feature extends adjacent to Street C from Marina Parkway to Street A, and adjacent to Street A from Street C to Marina Parkway. The L-Ditch is a drainage feature with approximately 1.15 acres of wetland habitat. Contaminant removal from the L-Ditch is a requirement under the Clean-up and Abatement Order (CAO No. 98-08, revised April 2, 1998) issued by the RWQCB for the Goodrich South Campus remediation. A Remedial Action Plan (RAP) is being prepared to determine the most appropriate and effective manner by which remediation of the L-Ditch can be achieved to the satisfaction of the RWQCB.

The Alternate L-Ditch Remediation Alternative would involve changes to development plans proposed for Harbor District Parcels HP-5, H-13, and H-14. All other aspects of the Proposed Project would remain the same under this alternative. This alternative assumes that Parcel HP-5 (a contaminated site) would be remediated pursuant to the Cleanup and Abatement Order (CAO), which would be a separate project subject to a separate environmental review process (see *Chapter 6, Cumulative Impacts*). Under this alternative, Parcel HP-5 is assumed to have been remediated and filled pursuant to the CAO. As a result, Parcel HP-5 would no longer contain wetlands and could be developed rather than left as undeveloped as identified with the Proposed Project. Remediation and fill of approximately 8.0 acres of Parcel HP-5 would distribute the residential development for the Pacifica project over 23 acres, in lieu of the 14 acres allocated within Parcels H-13 and H-14 (see *Figure 5.7-1*). This increase in land area will allow for a reduction in height, bulk, and development density while simultaneously affording an increase in useable public open space as compared to the proposed Pacifica project. Because the wetlands would have been removed as a result of the remediation and fill required by the CAO, the 50-foot wetland buffer surrounding HP-5 would no longer be necessary. *Figures 5.7-2 and 5.7-3* illustrate conceptual plans for the residential development under the Alternate L-Ditch Remediation Alternative.

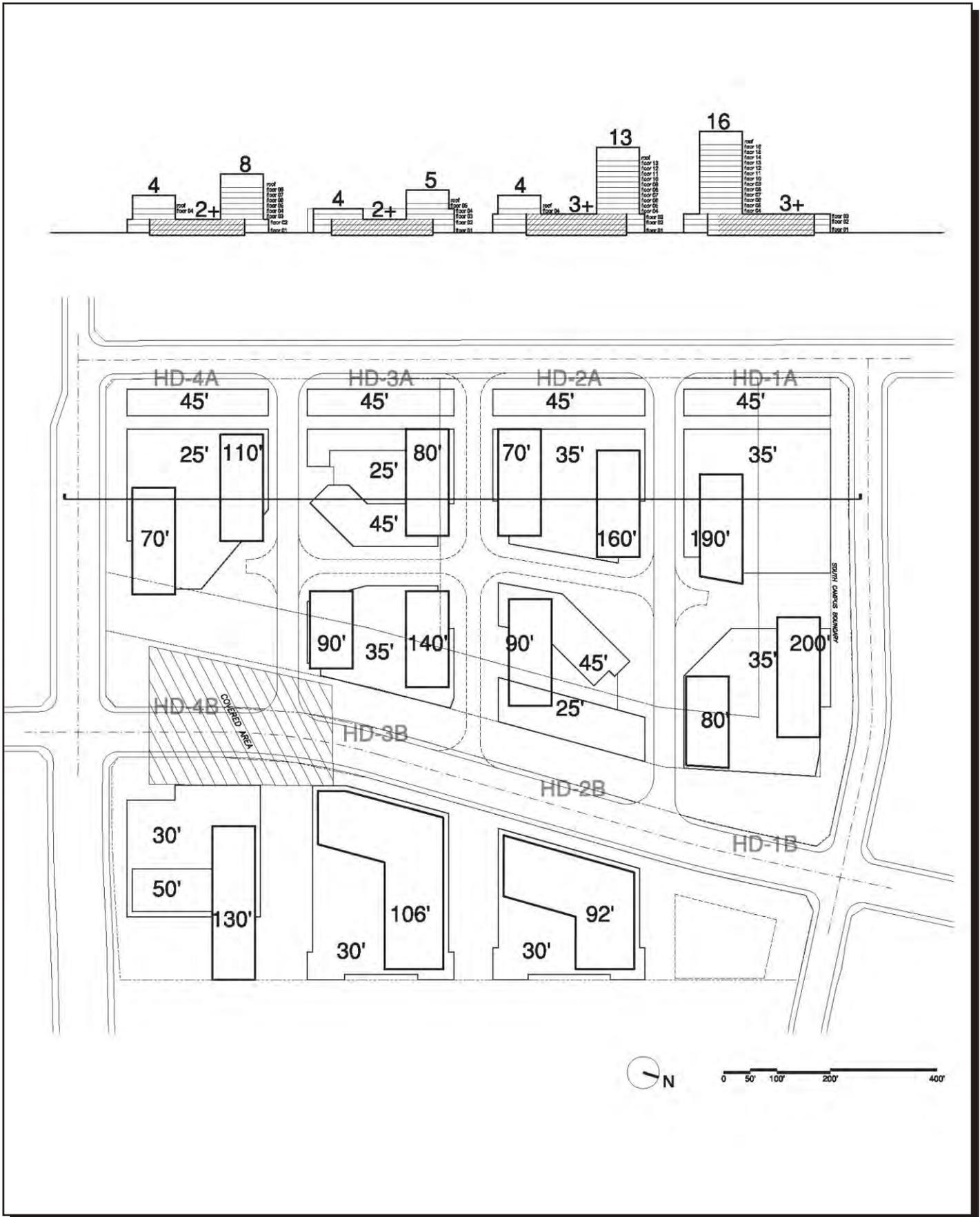


Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Alternate L-Ditch Remediation Alternative Site Plan**

**FIGURE**  
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SOURCE: Carrier Johnson

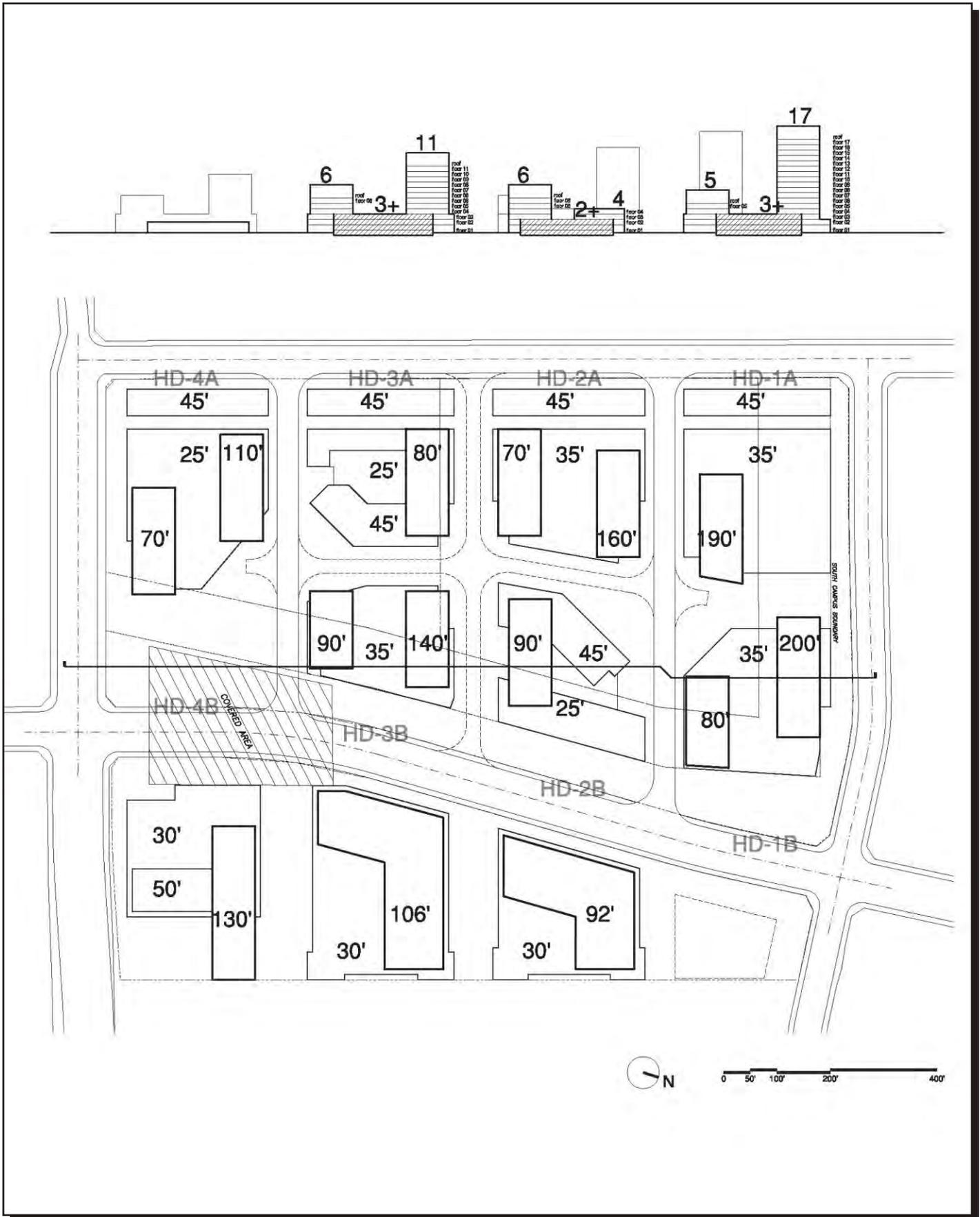
Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Conceptual Plan for Pacifica Project, Remediated L-Ditch (Section 1)**

**FIGURE**  
**5.7-2**

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SOURCE: Carrier Johnson

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
Conceptual Plan for Pacifica Project, Remediated L-Ditch (Section 2)

FIGURE  
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The Alternate L-Ditch Remediation Alternative proposes an alternative development approach to the proposed Pacifica development, which is a project-level component of the Proposed Project. Accordingly, this section provides a project-level comparative alternatives analysis of the Alternate L-Ditch Remediation Alternative to the Proposed Pacifica Residential and Retail Project. The Alternate L-Ditch Remediation Alternative does not propose changes to the program-level components ~~or project-level Gaylord component~~; therefore this analysis does not address those components. As such, all impacts regarding those components are the same as the Proposed Project. For each technical area, impacts are compared to impacts of the proposed Pacifica development on Parcels H-13 and H-14. The analysis acknowledges where impacts would be the same as for the Proposed Project and thus, no further analysis is required.

The overall land use of Parcels H-13 and H-14 under the Alternate L-Ditch Remediation would be the same as for the proposed Pacifica project, including residential uses with various mid-rise and high-rise components, a maximum of 1,500 units, and retail as described in the Specific Plan. Although the number of residential units and area of ancillary uses would remain the same, the development would be extended into the developable area of HP-5, resulting in an increased building footprint of approximately 30 percent over the proposed Pacifica project. This increase in ground coverage will allow for an overall reduction in height and bulk of the proposed towers, as well as a reduction in development density as compared to the proposed Pacifica project. For the Alternate L-Ditch Remediation Alternative, the same number of towers would be constructed but would be spread over a larger area. Building heights under this alternative would range from 4 to 17 stories, with a maximum building height of 200 feet as opposed to 220 feet under the proposed Pacifica project.

A site plan for the development proposed under the Alternate L-Ditch Remediation Alternative on Parcels H-13, H-14, and HP-5 is shown in *Figure 5.7-1*. The differences between the Alternate L-Ditch Remediation Alternative and the proposed Pacifica project are summarized in *Table 5.7-1*. The Alternate L-Ditch Remediation Alternative is similar to the proposed Pacifica development except for the differences shown in the below table.

**TABLE 5.7-1**  
**Development Plan Comparison between the Alternate L-Ditch Remediation Alternative and Proposed Project**

Component	Max Number of Units	Bldg Footprint (sq. feet)	Number of Blocks	Number of Towers	Range of Stories	Max Bldg Height	Land Use of Parcel HP-5	Wetland Buffer
Pacifica	1,500	<del>497,900</del> <u>381,990</u>	6	11	4 to 19	220	Undeveloped	Yes
Alternate L-Ditch Remediation	1,500	<del>381,990</del> <u>497,900</u>	7	11	4 to 17	200	Developed	N/A

As with the proposed Pacifica development, the Alternate L-Ditch Remediation Alternative would include a Port Master Plan Amendment (PMPA), GPA, and LCP Amendment to address areas located entirely within the coastal zone. The amendments to the PMPA, GPA, and LCPA would be required to address the necessary modifications to policies that would result from the proposed Alternate L-Ditch Remediation Alternative.

The L-Ditch meets the technical definition of a CCC wetland under the jurisdictional determination of the California Coastal Commission (*Figures 4.8-14 through 4.8-17*). The CCC therefore has jurisdictional determination for this land during the permitting process.

### 5.7.1 Land/Water Use Compatibility

Land Use impacts for this alternative would be similar to those identified for the Proposed Project. This alternative would maintain the same residential development intensity of approximately 1,500 units and the same level of retail uses and parking. Under this alternative, the remediation and fill of the L-Ditch pursuant to the CAO would allow for distribution of the residential development for the Pacifica project over 23.3 acres in lieu of the 14.6 acres under the proposed Pacifica project. This increase in land area would result in a reduction in height and bulk and development density, while also providing an increase in usable public open space. The type of uses proposed for the individual parcels remains unchanged under this alternative. Land use impacts identified for the Proposed Project would therefore be the same. While this alternative would create a larger building footprint, it would also result in a reduced overall building height, bulk, and development density for the residential buildings. The residential buildings under the Alternate L-Ditch Remediation Alternative would range from 45 to 200 feet high as opposed to 70 to 220 feet high under the Proposed Project.

To evaluate the land/water use compatibility impacts of the Alternate L-Ditch Remediation Alternative in relation to the proposed Pacifica development, an evaluation of the Alternate L-Ditch Remediation Alternative against each Land/Water Use compatibility threshold was conducted.

The Alternate L-Ditch Remediation Alternative would not result in conflicts with any policies other than those identified for the proposed Pacifica Development. Similar to the Proposed Project, impacts from this alternative would be reduced to less than significant, provided that proposed amendments to the City of Chula Vista General Plan, LCP Land Use Plan, and Bayfront Specific Plan are approved, **with the exception of impacts on City of Chula Vista General Plan policies related to view quality and library services which would remain significant and unmitigated as under the Proposed Project.** The Alternate L-Ditch Remediation Alternative would not require any additional policy amendments to the City General Plan other than those required for the proposed Pacifica development. Because HP-5 would be remediated and filled as a separate project, it is assumed that development of HP-5 would be permitted as part of this alternative.

Similar to the Proposed Project, the Alternate L-Ditch Remediation Alternative would be included in an amendment to the LCP.

As with the proposed Pacifica development, the Alternate L-Ditch Remediation Alternative is consistent with the policies of the California Coastal Act. Although this alternative has a slightly larger building footprint than the Proposed Project due to the development of HP-5, that parcel would no longer be considered a wetland following remediation. The impacts are similar and therefore do not change the findings identified for the Proposed Project for conformance with the California Coastal Act.

The Alternate L-Ditch Remediation Alternative would not result in conflicts with the City's MSCP, other than those identified for the Proposed Project. No additional features are proposed as part of this alternative that would conflict with the policies of the MSCP. Although Parcel HP-5 would be developed as part of this alternative, remediation pursuant to the CAO would eliminate the wetlands; thus the 50-foot wetland buffer would not be required.

The Alternate L-Ditch Remediation Alternative would not involve additional and uses or increase the number of residential units from those proposed for the Pacifica project. Therefore, the land/water use compatibility for the Alternate L-Ditch Remediation Alternative would be similar to the Proposed Project. No additional impacts would occur and no additional mitigation is required. In addition, no additional conflicts with the adopted PMP water use designation resulting in an indirect or secondary environmental impact would occur.

### **5.7.2 Traffic/Circulation and Parking**

The traffic generated by the Alternate L-Ditch Remediation Alternative would be similar to the Proposed Project. The significant traffic impacts at project area intersections, roadway segments, and freeway segments associated with the Proposed Project would still exist under this alternative. Depending on additional access alternatives made available by remediation and fill of the L-Ditch pursuant to the CAO, the distribution of traffic and circulation on the project site may be affected.

The Alternate L-Ditch Remediation Alternative would not change the number of residential units or types of ancillary uses proposed. Therefore, no additional traffic would be generated by this alternative. Impacts would be similar. Based on the traffic analysis, the LOS for roadways affected by traffic generated by the Alternate L-Ditch Remediation Alternative would be the same as the Proposed Project.

The Alternate L-Ditch Remediation Alternative will not involve components that could affect air traffic patterns. Additionally, this alternative does not propose any design features that would result in a traffic hazard.

The Alternate L-Ditch Remediation Alternative does not involve an increase in residential units or square footage of ancillary uses. Thus, anticipated parking demands for the Alternate L-Ditch Remediation Alternative could be fully accommodated within the parking allotments defined for the Proposed Project. Parking for parcels developed under this alternative will continue to be provided based on requirements for land use types as defined in the LCP Land Use Plan, City of Chula Vista Zoning Ordinance, and Port Master Plan. Therefore, impacts are similar to the Proposed Project.

Implementation of mitigation measures detailed in *Section 4.2, Traffic/Circulation*, would reduce traffic related impacts; however, implementation of these measures would not likely reduce all of these impacts to below a level of significance. As with the Proposed Project, therefore, impacts to traffic and circulation would remain significant and unmitigated.

### 5.7.3 Aesthetics/Visual Quality

The Alternate L-Ditch Remediation Alternative would result in an increase in the overall square footage of the buildings within Parcels H-13 and H-14 as well as development of HP-5. Seven blocks would be constructed as compared to six for the Proposed Project. The overall mass of each block would be reduced because the same number of units would be distributed over seven blocks rather than six. Eleven towers would still be constructed; however, the maximum building heights proposed under the Alternate L-Ditch Remediation Alternative would be 200 feet, rather than 220 feet under the Proposed Project.

Perceptually, there are very few differences between this alternative and the Proposed Project. The remediation of the L-Ditch would cause some level of disturbance to a visual resource; however, removal of this resource would not be considered significant as the resource is not intact. Changes to the visual quality of the site would be noticeable, but lessened by the addition of more vivid visual experiences. Structure visibility under this alternative is roughly equal to the Proposed Project. Changes in the overall visibility are increased slightly to the east and moderately to the north.

The increase in developable land area under this alternative would result in a reduction in building height, bulk, and development density. This increased land area will allow for increased distance between proposed towers, which would enhance the opportunity for east/west view corridors. East/west roadway segments will remain unchanged under this alternative; however, the existing view corridor afforded by the L-Ditch 50-foot buffer under the Proposed Project, parallel to I Street, would be eliminated under the Alternate L-Ditch Remediation Alternative. For views from the northwest and northeast of the Pacifica project site, illustrating the redistribution of residential development and reduction in height and bulk under this alternative, see *Figures 5.7-4 and 5.7-5*.

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SOURCE: Port Of San Diego

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Pacifica Residential and Retail Project (Remediated L-Ditch), View to the Northwest**

**FIGURE**  
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SOURCE: Port Of San Diego

Final Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan  
**Pacifica Residential and Retail Project (Remediated L-Ditch), View to the Northeast**

**FIGURE**  
**5.7-5**  
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Reducing heights while maintaining floor area ratios would result in building placement closer to the edge of the parcels, limiting potential for step backs and other architectural features on the three parcels. While this affect may impact visual corridors surrounding the Pacifica development, it should only directly impact the design features of the three Pacifica parcels. Moreover, views of the project from the outside would be enhanced by the reduction in scale. This is particularly true of views from a greater distance, such as the Silver Strand, where the scale of the buildings plays a greater role than the space between them.

As under the Proposed Project, building set-backs on J Street, between the I-5 Corridor and A Street (Parcel H-15) will be 65 feet, measured from the north curb of J Street. Uses such as a hotel pool will be permitted in the set-back as long as the view of the Bay is not impeded. A minimum building setback of 50 feet from J Street will be established on Parcels H-13 and H-14, which will accommodate viewing opportunities from I-5. On all Pacifica parcels, building set-backs and step-backs will provide a 70-foot-wide minimum street section at the podium level and a 95-foot-wide minimum street section at tower level on J Street. Proposed towers will gradually step downward in height from north to south, reflecting the more intensive proposed land uses to the north and the environmental preserve to the south.

The Alternate L-Ditch Remediation Alternative would involve similar features and design elements as the Proposed Project and is not expected to have any additional significant impacts to aesthetics/visual quality, therefore, no additional mitigation is required.

#### **5.7.4 Hydrology/Water Quality**

Under the Alternate L-Ditch Remediation Alternative, impacts to hydrology and water quality would be similar to those identified for the Proposed Project. As with the Proposed Project, new development under this alternative would be required to comply with existing water quality regulations intended to avoid or reduce impacts to water quality. Development in accordance with approved plans as permitted by the responsible agency would not be significant. Implementation of mitigation measures detailed in *Section 4.5, Hydrology/Water Quality*, of this report would reduce significant impacts to hydrology and water quality under this alternative to a level less than significant.

The development plan for the Alternate L-Ditch Remediation Alternative involves a different configuration of buildings than the Proposed Project, which could result in different drainage patterns at the site. Similar to the proposed Pacifica project, runoff generated from the site would be discharged to a conveyance system, preventing substantial erosion and siltation. No additional impacts to drainage would occur.

As with the Proposed Project, flows from the Alternate L-Ditch Remediation Alternative would be treated prior to discharge into the conveyance system. Protective measures, such as

compliance with the General Construction Permit, City SUSMP, and Clean Water Act provisions, will be required as a condition of project approval as defined for the Proposed Project; therefore, no significant impacts would result. Mitigation measures identified to address the impacts to water quality for the Proposed Project would also adequately mitigate impacts associated with the Alternate L-Ditch Remediation Alternative.

The Alternate L-Ditch Remediation Alternative involves development on HP-5, which would increase the overall building footprint as compared to the Proposed Project. Although slightly more runoff could be generated from this alternative, the conveyance system would be designed to accommodate flows from the development. Long-term impacts associated with erosion and sediment flows would be similar to the Proposed Project.

The Proposed Project identified a significant water quality impact. Because the developed footprint of the Alternate L-Ditch Remediation Alternative would be the similar as the Proposed Project, water quality impacts would be the same. Because there would be no additional significant impacts to hydrology/water quality from this alternative, no additional mitigation is required.

### **5.7.5 Air Quality**

Impacts to air quality would be similar to those identified for the Proposed Project. The overall intensity and location of uses would be the same as for the project. Impacts to air quality from project development, including increased traffic, construction, and operational impacts associated with the existing industrial uses in and near the site would be partially mitigated, but remain significant. Construction and operation of the Alternate L-Ditch Remediation Alternative would involve similar components to the proposed Pacifica development. Although an additional building block would be constructed, the number of residential units and types of ancillary uses would be the same. No adverse impacts beyond those identified in the Proposed Project are expected.

Because the region is not in conformance with the standards for ozone and particulate matter, and since both the Proposed Project and the Alternate L-Ditch Remediation Alternative would contribute to  $\text{NO}_x$ , and  $\text{PM}_{10}$ , and  $\text{PM}_{2.5}$  in excess of the standard, both have a significant and unmitigable air quality impact.

### **5.7.6 Noise**

Under this alternative, noise impacts associated with construction would be similar to those identified for the Proposed Project. Due to the increased developable footprint of the Pacifica development under this alternative, however, site preparation and infrastructure could affect the construction-related noise impact slightly. As with the Proposed Project, noise impacts

associated with construction of this alternative would be regulated in accordance with existing noise ordinance thresholds. No additional traffic would be generated from this alternative; therefore, impacts resulting from traffic noise would be the same as for the Proposed Project.

The Alternate L-Ditch Remediation Alternative would not involve additional features that would result in noise levels beyond what would be generated for the Project. Therefore, permanent and temporary increases in ambient noise levels would be the same for the Proposed Project. As the land uses and development intensity proposed under the Alternate L-Ditch Remediation Alternative are the same as under the Proposed Project, noise levels should be similar to those identified for the Proposed Project. Any new uses would be reviewed to ensure they conform to adopted noise ordinances prior to approval.

Implementation of mitigation measures detailed in *Section 4.7, Noise*, of this report would reduce impacts to future residential use areas to below a level of significance.

#### **5.7.7 Biological Resources (Terrestrial and Marine)**

The Proposed Project determined a significant impact to biological resources. Impacts to biological resources under the Alternate L-Ditch Remediation Alternative would be similar to those identified under the Proposed Project.

Parcel HP-5, which currently includes wetland habitat, would be remediated and filled as part of a separate project required to be implemented by the CAO. Therefore, development of the parcel would not result in impacts to sensitive species.

The Proposed Project currently seeks to avoid sensitive biological resources through the establishment of ecological buffers along the perimeter of the Sweetwater and Otay Districts. These buffers are adjacent to other protected areas, including the J Street Marsh located across the street from the L-Ditch on Parcel HP-5.

Implementation of mitigation measures detailed in *Section 4.8, Terrestrial Biological Resources*, and *4.9, Marine Biological Resources*, are required to reduce impacts to sensitive vegetation communities, species, wetlands, and marine life identified for the Proposed Project to below a level of significance.

Reduced building heights under this alternative would lessen the potential for bird strikes; however, the location and scale of the development still represents a significant impact. As with the Proposed Project, mitigation measures discussed in *Section 4.8, Terrestrial Biological Resources*, would lessen the potential for bird strikes to below a level of significance.

### 5.7.8 Cultural Resources

As with the Proposed Project, the Alternate L-Ditch Remediation Alternative would not impact cultural resources. The entire project area has been disturbed extensively by historical and recent land use activities and is therefore not considered a culturally significant site. The Harbor District, where the L-Ditch is located, has been completely developed, and much of the district is built on fill, imported previously to expand the Bayfront. The area of potential impact is the same as for the Proposed Project, and impacts would remain less than significant.

Because there would be no additional significant impacts to cultural resources from the Alternate L-Ditch Remediation Alternative, no additional mitigation is required.

### 5.7.9 Paleontological Resources

The area of impact on Parcels H-13 and H-14 is generally the same for the Alternate L-Ditch Remediation Alternative as for the Proposed Project. Parcel HP-5 would be remediated and filled as part of a separate project required to be implemented pursuant to the CAO, so no impacts to paleontological resources would occur from development of HP-5 as part of this alternative.

### 5.7.10 Hazards and Hazardous Materials/Public Safety

The Alternate L-Ditch Remediation Alternative would generally have similar impacts related to disposal of existing contaminated soil and groundwater as the Proposed Project. Parcel HP-5 would be remediated and filled as part of a separate project required to be implemented by the CAO and would be subject to separate environmental review. Similar to the Proposed Project, implementation of mitigation measures, including cleanup and abatement programs and other remediation, would reduce impacts to a less than significant level prior to development of any given site.

As with the Proposed Project, implementation of the Cleanup and Abatement Order programs and other remediation, combined with implementation mitigation measures detailed in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, which require the project to coordinate with responsible agencies to show that remediation has been completed to a standard acceptable for proposed uses, would ensure that impacts are avoided or reduced to below a level of significance prior to development of any given site.

### 5.7.11 Public Services

The Alternate L-Ditch Remediation Alternative proposes the same number of residential units and types of land uses as the Proposed Project. The fire service and police protection requirements would be similar to the Proposed Project. Similar to the Proposed Project, a fire station would be constructed in Phase I on Parcel H-17. Long-term construction of the new fire

station could result in potentially significant impacts to water quality, hazards, and geology and soils unless mitigated as set forth in the Proposed Project. An interim facility may be utilized until final construction is completed.

Because the land uses and projected population are the same under this alternative as with the Proposed Project, impacts to fire and police services, parks and recreation, schools, and library services would be the same as with the Proposed Project. Mitigation measures identified to address the impacts to public services would be similar to the Proposed Project as detailed in *Section 4.13, Public Services*. Impacts to public services would be mitigated to below a level of significance for either the Proposed Project or the Alternate L-Ditch Remediation Alternative, **with the exception of impacts to library services which will remain significant due to existing library deficiencies and an inability to demonstrate that fees would fully mitigate the impact.**

### 5.7.12 Public Utilities

Because the land uses are the same and the projected population is the same, impacts to public utilities would be the same as those resulting from implementation of Proposed Project. Ultimate build-out under the Alternate L-Ditch Remediation Alternative would require upgrades to sewer and water supply facilities to meet increased demand, similar to the Proposed Project.

As described above, no additional land uses or residential units would be associated with the Alternate L-Ditch Remediation Alternative, so no additional waste would be generated for disposal at a landfill. The Alternate L-Ditch Remediation Alternative would comply with the same federal, state, and local regulations related to solid waste as the Proposed Project. No additional impacts would occur and impacts would remain less than significant.

Except for long-term water supply, no other impacts to Public Utilities are determined to be significant. As with the Proposed Project, development of this alternative has the potential to result in significant impacts to water supply because of the absence of long-term supply contracts for water. The required mitigation measures and the guidelines for the provision of public services and utilities in Chula Vista identified for the Proposed Project would also be applicable to this alternative; however, because of the absence of long-term supply contracts for water, the impact remains significant and unmitigable.

### 5.7.13 Seismic/Geologic Hazards

Impacts would be the same or similar to those resulting from the Proposed Project. No active faults have been mapped or observed within the Alternate L-Ditch Remediation Alternative site, nor is the site located within a State of California Earthquake Fault Zone. As with the Proposed Project, there is the potential for lurching or cracking of ground surface as a result of nearby

seismic activity. Impacts would be mitigated through implementation of site-specific engineering/geotechnical mitigation measures as identified for the Proposed Project.

Implementation of mitigation measures detailed in *Section 4.15, Seismic/Geologic Hazards*, would be expected to reduce any impacts to below a level of significance.

#### 5.7.14 Energy

The Alternate L-Ditch Remediation Alternative proposes the same types of land uses and number of residential units as the Proposed Project, therefore the energy requirements would be similar to the Proposed Project. The general area of potential impact and intensity of development under the Alternate L-Ditch Remediation Alternative is the same as for the Proposed Project. Implementation of mitigation measures detailed in *Section 4.16, Energy*, would reduce impacts to below a level of significance. **Selection of this alternative would not avoid or substantially reduce the significant effect of the Proposed Project on energy; therefore, the cumulative impact to energy as detailed in Section 6.17 would remain significant and unmitigated.**

#### 5.7.15 Population and Housing

The Alternate L-Ditch Remediation Alternative does not change the location or the number of homes to be constructed or the projected population of the area compared to the Proposed Project. The Alternate L-Ditch Remediation Alternative would provide a range of housing opportunities to meet the growing demand as projected for the City, similar to the Proposed Project. There are no residences within the project boundary; therefore, the Alternate L-Ditch Remediation Alternative would not displace any existing housing or residents, similar to the Proposed Project.

Impacts would remain less than significant, as identified in *Section 4.17, Population and Housing*, for the Proposed Project.

### 5.8 Environmentally Superior Alternative

As required under Section 15126.6 (e)(2) of the CEQA Guidelines, this report must identify the environmentally superior alternative. Pursuant to the CEQA Guidelines, if the No Project Alternative is determined to be the most environmentally superior project, then another alternative among the alternatives evaluated must be identified as the environmentally superior project.

The Reduced Density Alternative would be considered the environmentally superior project because it would reduce impacts associated with land use, traffic, aesthetics/visual quality, water quality, noise, air quality, hazards/hazardous materials, utilities, and seismic/geology, while implementing the project objectives which are enumerated in *Chapter 2, Introduction*, of this EIR.

## CHAPTER 6 CUMULATIVE IMPACTS

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### 6.1 Introduction

Section 15130(a) of the State CEQA Guidelines defines a cumulative impact as “an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.” The Guidelines further state that “an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.”

Section 15130(a) of the State CEQA Guidelines requires a discussion of cumulative impacts of a project when the project’s incremental effect is cumulatively considerable. Section 15130(a) of the Guidelines states that:

An EIR shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable, as defined in Section 15065(a)(3). Where a lead agency is examining a project with an incremental effect that is not “cumulatively considerable,” a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

Section 15065(a)(3) indicates that:

The project has possible environmental effects that are individually limited but cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. A significant cumulative impact refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

Section 15130(b)(1) of the State CEQA Guidelines requires that a cumulative impact assessment be based on either (a) “a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those impacts outside the control of the agency,” or (b) “a summary of projections contained in an adopted plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.” This report uses both

the list of projects and the summary of projection approaches to analyze the potential cumulative impacts of the Proposed Project.

## 6.2 Summary of Projections

Pursuant to Section 15130(d) of the State CEQA Guidelines, cumulative impact discussions may rely on previously approved land use documents, such as general plans, specific plans, and local coastal plans, and may be incorporated by reference. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impact analysis is required when a project is consistent with such plans, where the lead agency determines that the regional or area-wide cumulative impacts of the Proposed Project have already been adequately addressed in a certified EIR for that plan.

In addition, Section 15130(e) states that “if a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze a cumulative impact.”

The cumulative impact assessments in this section primarily rely on the cumulative impact determinations made in the Chula Vista General Plan Update EIR (Chula Vista, City of 2005a). Other development plans and projects occurring within the City of Chula Vista, including the Urban Core Specific Plan, are subsumed in the City’s General Plan Update EIR data and analysis. Therefore, these other projects are accounted for in this analysis.

The General Plan Update EIR assumed the Bayfront land uses that were in effect at the time the General Plan was amended. The analysis in the General Plan Update EIR was for build-out of the City as established by the proposed changes in the plan.

The cumulative analysis presented here uses the General Plan Update for those portions of the City outside of the Bayfront. The effects of the Proposed Project were then added to the General Plan Update effects to determine whether that addition was cumulatively considerable.

The following issues were identified as cumulatively significant in the General Plan Update EIR: landform alteration/aesthetics, cultural resources, paleontological resources, transportation, noise, potable water, energy, and population and housing. Where the Proposed Project would add incremental effects to these issues, the effects associated with the Proposed Project are also considered cumulatively significant.

In addition to the General Plan Update, other regional plans used to assess cumulative impacts in this section include: the SANDAG (2004) Regional Comprehensive Plan; the Chula Vista

(2003a) Multiple Species Conservation Program (MSCP); the Water Quality Control Plan for the San Diego Basin (RWQCB 1994); the San Diego Air Pollution Control District (APCD) Regional Air Quality Strategy (RAQS) (San Diego, County of 1992); and the Regional Water Facilities Master Plan (SDCWA 2004). These plans are discussed in *Chapter 4, Environmental Analysis*, of this report and are incorporated by reference in the cumulative analysis below. These documents are on file at the Port and are available for review.

On July 23, 2004, the SANDAG Board of Directors adopted the Regional Comprehensive Plan for the San Diego region. The Regional Comprehensive Plan serves as the long-term planning framework for the San Diego region. It provides a broad context in which local and regional decisions can be made that move the region toward a sustainable future—a future with more choices and opportunities for all residents of the region. The Regional Comprehensive Plan integrates local land use and transportation decisions and focuses attention on future growth. The Regional Comprehensive Plan contains an incentive-based approach to encourage and channel growth into existing and future urban areas and smart growth communities.

The goal of the Regional Comprehensive Plan is to ensure a high quality of life for current and future generations and to work toward a society that has resolved its housing shortage, transportation problems, and energy issues and provides healthy, desirable environments for people and nature. The General Plan Update EIR (Chula Vista, City of 2005a) used the Regional Comprehensive Plan for the areas outside of the City's boundaries for its cumulative impact assessment.

The basis for determining the direct impacts of the Proposed Project assumes the General Plan growth projections for the area outside of the Chula Vista Bayfront Master Plan (CVBMP) area. The General Plan provides the basis for the cumulative analysis presented in this section. The growth projections used in the General Plan are consistent for each of the issues evaluated. Since the General Plan uses worst-case environmental assumptions, the General Plan assumptions were used for the cumulative analysis. The cumulative discussion evaluates the Proposed Project for conformance to the General Plan and identifies those areas where the Proposed Project may differ from that plan and/or may add to impacts identified in the EIR for the plan.

A broad examination of cumulative impacts involves considering the project together with growth of the City of Chula Vista. Development pursuant to the General Plan would occur in accordance with the land use designations and development intensities identified in the Land Use and Transportation Element of the General Plan. These designations promote the redevelopment of underused land to higher uses, compact development, mixed-use development to promote a pedestrian-friendly environment, an improved balance between employment and housing, and protection of Chula Vista's natural resources.

The land uses and the associated potential development designated in the General Plan correlates to regional growth estimates made by SANDAG. SANDAG estimates anticipated growth for the 18 cities and the unincorporated areas within San Diego County for the purpose of allocating growth to specific areas and identifying regional transportation infrastructure needed to support regional growth.

The population growth projected to occur by 2030 would necessitate augmentation of the City's current housing stock, infrastructure, and public services. Cumulative impacts would occur as a result of multiple projects developed by 2030. The City's General Plan's strategy is to anticipate the cumulative effects of growth and to plan for it in a manner that is balanced in its approach. The focused growth strategy addresses future growth as a whole and proposes policies to avoid impacts on a cumulative basis.

The City has recently adopted the Urban Core Specific Plan. This plan addresses future land uses in an area of the City immediately east of the subject project. The Chula Vista Urban Core is located in the northwest portion of the City. The project proposes land use and zoning changes in a 690-acre area. The area extends generally from I-5 on the west, Del Mar Avenue on the east, Street C on the north, and L Street on the South.

The Urban Core Specific Plan has been prepared as the neighborhood-level planning document that provides updated zoning regulations, development standards, and design guidelines to implement the planned land uses, through the year 2030, as envisioned in the City's General Plan Update. In addition to being a land use regulatory document, the Urban Core Specific Plan also outlines the framework for the provision of urban amenities and other public improvements associated with new development. The plan is consistent with the City's General Plan and, as such, is included in the baseline assumptions used to evaluate the cumulative effects of the current Proposed Project.

### 6.3 Cumulative Projects

In addition to the General Plan and the Regional Comprehensive Plan, the Port has several projects in the Proposed Project area that were not considered in those plans. These projects within the Port's jurisdiction were evaluated in addition to the cumulative analysis based on the General Plan and the Regional Comprehensive Plan.

#### Port Master Plan (PMP)

There are several past, present, and reasonably foreseeable projects that are being considered within Planning District 7 of the PMP. These include:

- The Bayshore Bikeway

- L-Ditch Remediation Project
- Undergrounding of Transmission Lines
- Former Goodrich South Campus Demolition
- The existing South Bay Boatyard.

In addition to the projects in Planning District 7, there are five projects being considered or recently approved in or adjacent to Planning District 5 of the PMP. They consist of the following:

- National City Aquatic Center
- National City Marina Improvement Project
- Public/Private Venture Unaccompanied Enlisted Personnel Housing Pilot Project and Privatization of Palmer Hall
- National City Marine Terminal Capacity Enhancement: Vehicle Processing Facility
- National City Marine Terminal: Wharf Extension.

There are also two projects within Planning District 6 of the PMP that are being considered or recently approved. These consist of the following:

- Coronado Yacht Club
- Glorietta Bay Marina Project.

While not a part of the Proposed Project, these projects would take place within the Proposed Project planning area. Each has independent utility and is undergoing or has undergone separate environmental review. For this reason, they are not analyzed in this EIR, except to the extent that they contribute to the cumulative impacts of the Proposed Project.

***The Bayshore Bikeway.*** Planning efforts are currently underway by SANDAG to relocate the Bayshore Bikeway to a new Class I bike path facility along the existing SDG&E utility corridor located approximately 0.25 mile west of I-5. The SDG&E right-of-way (ROW) corridor between E Street and Main Street, which extends through the Proposed Project area, is proposed for a segment of the future new Class I bike path facility. This segment through Chula Vista would provide a continuous bikeway system between National City and Imperial Beach.

***L-Ditch Remediation Project.*** The L-Ditch is an approximately 4.43-acre, approximately 50-foot-wide L-shaped feature. The feature extends adjacent to Street C from Marina Parkway to Street A, and adjacent to Street A from Street C to Marina Way. The L-Ditch is a drainage feature with approximately 1.07 acres of wetland habitat. Contaminant removal from the L-Ditch

is a requirement under the Clean-Up and Abatement Order (CAO) issued by the RWQCB for the Goodrich South Campus remediation. A Remedial Action Plan (RAP) is under preparation to determine the most appropriate and effective manner by which remediation of the L-Ditch can be achieved to the satisfaction of RWQCB.

***Undergrounding of Transmission Lines.*** The City and SDG&E have signed a memorandum of understanding (MOU), the intent of which is to underground SDG&E transmission and distribution lines throughout the City over time. A 150-foot-wide SDG&E easement runs the entire length of the project site (on site) along its eastern boundary, parallel to I-5. Currently, three 138 kV lines (including steel lattice structure towers) exist within the ROW, one of which will be undergrounded, and the other two will be removed. The timing of these projects is subject to several conditions, including funding of the undergrounding by the City pursuant to the MOU. Currently, SDG&E plans that the first phase of lattice tower removal will occur by the end of 2009. The undergrounding component is near completion. The new 230 kV line in Chula Vista should be completed by December 2008. In addition, a 230 kV line, also in this easement, will be placed underground. Undergrounding of this line has already been approved. There are also existing 69 kV overhead structures within this easement that would remain in place, unless an interested party other than SDG&E proposes and funds the undergrounding (SDG&E NOP comment letter, September 2005). *Figure 3-16* shows the location of the SDG&E transmission ROW and location of existing steel lattice structures on the project site. The undergrounding of transmission lines is not part of the Proposed Project because it is an independent project, subject to the jurisdiction of the California Energy Commission (CEC) and the California Public Utilities Commission, which will be implemented whether or not the Proposed Project is approved. The potential environmental impacts of the undergrounding of transmission lines were analyzed in the SDG&E Silvergate Transmission Substation Project Final EIR, certified on September 7, 2006 by the CPUC.

***Former Goodrich South Campus Demolition.*** Buildings associated with the former Goodrich South Campus facility currently exist on Parcels H-15, H-18, and H-23. The Goodrich Relocation Agreement provided for consolidation of the Goodrich campus north of H Street and acquisition of Parcels H-15 and H-18, and a portion of H-23, by the Port via a previous land exchange with Goodrich. The Port has begun demolition of the buildings on this site, which will be completed prior to commencement of any construction of the Proposed Project. The demolition of these buildings is addressed in a separate environmental document (*Goodrich Relocation Agreement Mitigated Negative Declaration*, prepared and approved by the City of Chula Vista (1999) Redevelopment Agency, Case No: IS-99-21).

In addition, there is soil and groundwater contamination at this location, which is subject to remediation under the jurisdiction of the RWQCB; remediation will be completed prior to the commencement of any construction on the affected parcels, and therefore this report assumes

that the former Goodrich South Campus parcels are bare ground suitable for redevelopment, with demolition of the former Goodrich South Campus buildings completed and remediation of the contamination completed or in progress pursuant to the requirements of the RWQCB.

***South Bay Boatyard.*** In 2001, a PMP Amendment changed the land use designation of the existing South Bay Boatyard site to “commercial recreation” and provided for its future relocation (Board of Port Commissioners No. 2001-190). The “commercial recreation” land use designation and approved relocation allows for redevelopment of the site in a manner consistent with the Proposed Project. In 2005, an amendment to the South Bay Boatyard lease was approved, to allow the Port to terminate the lease earlier in order to allow redevelopment of the site and, in the meantime, allow for modifications to the existing South Bay Boatyard which include a 660-ton boat hoist, which is fully operational, to facilitate removal of boats from the water.

***National City Aquatic Center.*** The City of National City is interested in adding to its public amenities with the construction of an aquatic center in Pepper Park. The project will enhance the community and provide recreational and educational opportunities in the area through the construction of a 5,500-square-foot aquatic center with indoor and outdoor classroom facilities and the demolition and relocation of existing restrooms.

The project would be built by National City’s Community Development Commission in Pepper Park, an area adjacent to the Sweetwater River Channel at the foot of Marina Way.

***National City Marina Improvement Project.*** The Port’s National City Marina Improvement project includes a CDP issued in April 2006 for development of a two-story marina building (approximately 12,000 square feet and 26 feet high), a restroom locker building, a dining area, an outdoor observation terrace, an up-to-250-slip recreational boat marina and guest dock, a boardwalk, and landscaping, which are nearing completion. The project site is located east of Pepper Park and north of the Sweetwater Flood Control channel at Thirty-Second Street and Marina Way in National City. Pier 32 Marina Group, LLC proposes to develop 21 acres of land and water area to accommodate the proposed marina building and associated amenities, parking, a recreational boat marina, a freestanding locker/shower facility, promenade, site landscape improvements, and a public viewing area.

***Coronado Yacht Club.*** The Coronado Yacht Club Project consists of replacing approximately 5,505 square feet of existing floating docks and gangways (dock structure) with approximately 4,734 square feet of new dock structure. Over-water coverage would be reduced by approximately 771 square feet. No eelgrass has been identified in the yacht club basin. In addition to replacing the docks, all associated piles would need to be replaced (resulting in 12 new piles). New piles would be installed by first jetting the pile to within 5 feet of tip elevation

and then driving the pile the remainder of the depth. Silt curtains would be deployed throughout pile installation.

***Glorietta Bay Marina Project.*** The Glorietta Bay Marina Project involves the replacing a marina building and docks, dredging portions of the marina, and creating an eelgrass mitigation site. It includes the construction of a promenade/sidewalk and the extension of the Bay route bicycle path. The Strand Way will be realigned and the parking lot will be reconfigured to a shoreline pocket park. The site is located on the Coronado peninsula northwest of the project site, approximately 4.5 miles away.

***Public/Private Venture Unaccompanied Enlisted Personnel Housing Pilot Project and Privatization of Palmer Hall.*** The Department of the Navy has proposed to lease, construct, operate, and maintain an unaccompanied housing development, including privatization of an existing 258 room Bachelor Enlisted Quarters and construction of 941 units in three residential buildings with four 18-story towers. The Navy has prepared an Environmental Assessment and subsequent Finding of No Significant Impact in November 2006, as no impacts were identified.

***National City Marine Terminal Capacity Enhancement: Vehicle Processing Facility.*** The project proposes to construct a bi-level car processing facility at the Port of San Diego's National City Marine Terminal. The car processing facility would be on 2 levels covering 15 acres. The covered storage facility will be used for processing cars received at the Port's deep-water marine terminal prior to their outbound shipment on truck and rail to distribution centers across the country. The existing terminal is currently capable of handling roughly 500,000 units per year, but there is a demand for importing an additional 350,000 autos. This project will add capacity for processing an additional 131,000 vehicles per year or a total of 631,000 cars. Environmental review has not yet started for this project, but review is expected to be completed in approximately June 2009.

***National City Marine Terminal: Wharf Extension.*** The project includes a 1,500-foot wharf extension and dockside dredging at the National City Marine Terminal, increasing the Terminal's capacity from its current 8 berths to 11. National City Marine Terminal is a 230-acre complex located on San Diego Bay. There are presently 8 operating berths providing 6,000 feet of berth area. The Terminal handles imported vehicles, lumber, military, and roll-on/roll-off cargo. The Terminal is a designated Priority of Use Terminal for "deployment of the Armed Forces of the United States" by the U.S. Department of Transportation Maritime Administration. Under Port Planning Order (PPO) No. CASD 12, the Terminal must provide 3 berths and 15 acres of staging space to support national defense missions, with as little as 48 hours notice, for periods up to 30 days or longer. When activated, this order significantly impacts commercial goods movement operations. This Wharf Extension project will alleviate many of those impacts. The proposed wharf extension will provide additional commercial berthing at the Terminal,

which will reduce berthing conflicts and promote growth and versatility of maritime cargo movements. The environmental review has not yet started for the project, but review is expected to be completed in early 2010.

**Other Considerations.** Despite the SBPP's RMR status and the lack of details concerning the switchyard relocation, subsequent to public circulation of the previous Draft EIR, public comments inquired about potential use of the SBPP site for a new football stadium. The City and the San Diego Chargers (Chargers) have had discussions concerning a new football stadium in which the Chargers have identified two potential locations, including the site of the existing SBPP and switchyard. The Port is informed that no site has been agreed upon, no application or plan has been submitted, and no agreement has been reached between the City and the Chargers concerning a stadium project. Furthermore, the SBPP and switchyard site is within the jurisdiction of the Port, not the City, and the Port is not a party to the discussions between the City and the Chargers. The description of future uses in the Otay District does not include a football stadium because the Port has neither initiated nor received any plan or proposal for such use nor is it considered a cumulative project, as its nature is still speculative at this time.

## 6.4 Land/Water Use and Compatibility

### 6.4.1 Cumulative Impact Analysis

The cumulative assessment of land use impacts relies on the General Plan Update and the other Port projects identified above. Land use impacts resulting from the adoption of the Proposed Project are not considered cumulatively considerable. The General Plan Update promotes locating future development near existing and planned urban infrastructure, including transit. The development of the Proposed Project would place additional demands on facilities, such as roads and public facilities/utilities—most notably, water, wastewater treatment, schools, solid waste disposal, and police and fire protection. The specific cumulative effects related to these issues are discussed under the respective headings in this section.

The General Plan Update's focus on smart growth and walkable communities minimizes much of the potential impacts associated with accommodation of growth. The Proposed Project incorporates the planning principles outlined in the General Plan Update by promoting mobility through an increased jobs/housing balance, transit-oriented development, increased density, and mixed-use development.

The General Plan Update sets the following goals for area planning efforts:

1. Provide for safe, healthy, walkable, and vibrant communities with a balance of jobs and housing.

2. Provide for a mix of land uses that meets community needs and generates sufficient revenue for public facilities, services, and amenities.
3. Provide for a sustainable circulation/mobility system that provides transportation choices and is well integrated with the City's land uses.

To further these goals, Policy LUT 4.2 encourages new development that is organized around compact, walkable, mixed-use neighborhoods and districts in order to conserve open space resources, minimize infrastructure costs, and reduce reliance on the automobile. Higher-density residential and mixed-use development would be completed in accordance with Policy LUT 5.13, which provides the following guidelines:

- Create a pleasant walking environment to encourage pedestrian activity.
- Maximize transit usage.
- Provide opportunities for residents to conduct routine errands close to their residence.
- Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.
- Use architectural elements or themes from the surrounding neighborhood.
- Provide appropriate transition between land use designations to minimize neighbor compatibility conflicts.

Furthermore, policies associated with Objective LUT 24 stress the importance of integrating the City's planning efforts with other regional planning bodies.

Because of the use of "smart growth" principles, the Proposed Project furthers the goals of the adopted General Plan. Commercial, recreational, and residential uses are placed within walking distances. Because of the conformance to the smart growth principles in the General Plan Update EIR, the incremental land use effect of adopting the Proposed Project is not cumulatively considerable and is not significant.

Water use for the Proposed Project includes the construction of half of the proposed H Street Pier (this pier is for pedestrian and recreational uses, such as fishing, and does not provide boat access) and changes to the boat slips in the Chula Vista Marina and the existing South Bay Boatyard. Half of the Pier is scheduled for construction in Phase II, with the remainder of the Pier and the improvements to the Marina and Boatyard occurring in Phases II and IV. The National City Aquatic Center, marina improvements, and the Glorietta Bay project do not represent a land or water use cumulative effect.

The Glorietta Bay project and the Coronado Yacht Club project are across the Bay on the Coronado peninsula. Because of their distance from the Proposed Project, they do not represent a

cumulative land use or water use effect with the Proposed Project. As noted in the cumulative biological discussion, the creation of an eelgrass mitigation site avoids a cumulatively considerable impact related to water use.

The National City Marina Improvement project lies about 1 mile north of the subject project. It lies north of the Sweetwater Marsh NWR and across the mouth of the Sweetwater River from the Proposed Project. The project includes a 250-slip recreational boat marina. The National City Marina boat basin has been constructed and, when completed, boats will access the Bay via the Sweetwater River Channel south of the Twenty-fourth Street Marine Terminal. The EIR for the project indicated that “negligible boating use is expected to occur south of the Sweetwater Channel” (1994:9-98). Because water use improvements for Phase II of the Proposed Project are limited to the construction of half of the H Street Pier and do not provide for additional boat slips, the project does not represent a cumulative considerable water use impact when considered with the National City developments.

#### **6.4.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to land use in the project area. Accordingly, no mitigation measures would be required.

### **6.5 Traffic/Circulation and Parking**

#### **6.5.1 Cumulative Impact Analysis**

The traffic analysis conducted for the Proposed Project is included in *Section 4.2, Traffic and Circulation*. The parking analysis conducted for the Proposed Project is included in *Section 4.3, Parking*. These analyses are based on the technical study prepared for the Proposed Project and attached as *Appendix 4.2-1*, which includes a cumulative analysis. The baseline for the traffic study was the analysis conducted for the General Plan Update. That study included the regional traffic forecast conducted by SANDAG and analyzed the changes resulting from the general plan amendment. That analysis assumed the current land uses within the Bayfront planning district. The analysis presented in this EIR assesses the changes to the Bayfront planning district in consideration of the adopted General Plan Update.

The General Plan Update EIR found that there were significant unmitigated traffic impacts. It concluded that recommended operational improvements were not sufficient to reduce impacts to a level less than significant and that certain roadways would experience an unmitigable impact.

The traffic analysis conducted for this project employed the regional traffic database and modeling employed by SANDAG and is based on the Traffic Impact Analysis for the Proposed Project prepared by Kimley-Horn and Associates, Inc., March 2008 (*Appendix 4.2-1*).

Cumulative and direct traffic impacts are identified in *Chapter 5* of this report. The traffic analysis includes mitigation measures to reduce significant traffic impacts.

As described in Section 4.2, Traffic and Circulation of this EIR, all of the roadway improvements within the Sweetwater and Harbor Districts (except for the new F Street segment) are evaluated at a project-level. The analysis was structured in this way to provide flexibility to construct identified roadway improvements sooner than required in the traffic analysis, if deemed necessary. The proposed timing of construction for roadway improvements, however, is tied to requirements of proposed adjacent development. For Phase I project-level components, therefore, only those improvements required for access, frontage, and traffic impact mitigation for development on Parcels H-13, H-14, HP-5, and H-17 are proposed for construction prior to or concurrently with development of these Phase I components. Roadway improvements necessary for Phase I program-level components identified in Table 3-5 and subsequent phase program-level components identified in Table 3-6 would be required prior to or concurrently with the development of these specific components. All impacts resulting from construction of roadway improvements for subsequent phases of development in the Otay District, and the new F Street segment in the Sweetwater District, are evaluated in this EIR as part of the program-level analysis.

As part of the traffic analysis, cumulative impacts were identified if the project contributed to a roadway, intersection or freeway segment that operated at level of service (LOS) E or LOS F. All of the segments of I-5 between SR-54 and Palomar Street currently operate at LOS F (except for SR-54 to E Street, which operates at LOS D in the AM peak hour and LOS E in the PM peak hour), and all phases of the Proposed Project would contribute traffic to each of these segments. The following I-5 freeway segments would experience congestion in Phase I that would be considered significant:

- E Street to H Street (LOS F0, NB/SB, AM/PM) (**Significant Impact 6.5-1**)
- H Street to J Street (LOS F0, NB/SB, AM/PM) (**Significant Impact 6.5-2**)
- J Street to L Street (LOS F0, NB/SB, AM/PM) (**Significant Impact 6.5-3**)
- L Street to Palomar Street (LOS F0, NB/SB, AM/PM) (**Significant Impact 6.5-4**).

In Phase I Conditions with Closure of F Street and Extension of H Street and Partial Extension of E Street, the following I-5 freeway segments would experience congestion that would be considered significant:

- H Street to J Street (LOS F0, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-5**)
- J Street to L Street (LOS F0, NB/SB, AM/PM) (**Significant Impact 6.5-6**)
- L Street to Palomar Street (LOS F0, NB/SB, AM/PM) (**Significant Impact 6.5-7**).

## Phase II

In Phase II, the following I-5 freeway segments would experience congestion that would be considered significant:

- H Street to J Street (LOS F0, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-8**)
- J Street to L Street (LOS F0, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-9**)
- L Street to Palomar Street (LOS F0, NB/SB, AM/PM) (**Significant Impact 6.5-10**).

## Phase III

In Phase III, H Street between Street A to I-5 Ramps would operate at LOS D (**Significant Impact 6.5-11**). To accommodate traffic from the project and to provide another route to I-5, E Street is proposed to be extended in Phase III from the ~~Gaylord~~ RCC Driveway to west of Bay Boulevard. With the extension constructed, the following intersections would experience congestion and would be considered significant:

- H Street and I-5 SB Ramps (LOS E, PM) (**Significant Impact 6.5-12**)
- J Street and I-5 NB Ramps (LOS E, AM) (**Significant Impact 6.5-13**).

In addition to roadway segments and intersections, the following I-5 freeway segments would experience congestion that would be considered significant:

- J Street to L Street (LOS F0, NB, AM) (**Significant Impact 6.5-14**)
- L Street to Palomar Street (LOS F1, SB, PM) (**Significant Impact 6.5-15**).

In Phase III Conditions with Extension of E Street, the following roadway segments would experience increases in traffic that would be considered significant:

- E Street west of Bay Boulevard (LOS D) (**Significant Impact 6.5-16**)
- Street A (H Street to Street C) (LOS F) (**Significant Impact 6.5-17**).

Under Phase III Conditions with Extension of E Street, the following intersections would experience congestion that would be considered significant:

- E Street and Bay Boulevard (LOS F, PM) (**Significant Impact 6.5-18**)
- J Street and Bay Boulevard (LOS E, PM) (**Significant Impact 6.5-19**)
- J Street and I-5 NB Ramps (LOS E, AM/PM) (**Significant Impact 6.5-20**).

Under Phase III Conditions with Extension of E Street, the following I-5 freeway segments would experience congestion that would be considered significant:

- SR-54 to E Street (LOS F0, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-21**)
- E Street to H Street (LOS F0, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-22**)
- H Street to J Street (LOS F1, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-23**)
- J Street to L Street (LOS F1, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-24**)
- L Street to Palomar Street (LOS F0, NB, AM and LOS F1, SB, PM) (**Significant Impact 6.5-25**).

#### Phase IV

Under Phase IV Conditions, the following roadways would experience increases in traffic that would be considered a cumulative impact:

- Bay Boulevard (H Street to J Street) (LOS D)
- Bay Boulevard (J Street to L Street) (LOS D).

Although the impacts to segments along Bay Boulevard in Phase IV would be considered cumulative, the intersections along this segment operate at LOS D or better without mitigation. Thus, impacts would not be considered significant and additional mitigation is not required.

Under Phase IV Conditions, the following intersections would experience congestion that would be considered significant:

- H Street and Woodlawn Avenue (LOS F, AM/PM) (**Significant Impact 6.5-26**)
- H Street and Broadway (LOS F, PM) (**Significant Impact 6.5-27**)
- J Street and I-5 NB Ramps (LOS E, PM) (**Significant Impact 6.5-28**).

In addition to the General Plan Update EIR, other cumulative projects were considered as part of this analysis. The Bayshore Bikeway project will not generate traffic and, as such, would not contribute to the cumulative traffic impacts. The former Goodrich South Campus demolition would be completed prior to the implementation of the Proposed Project, and would, therefore, not contribute to cumulative traffic impacts.

The National City Aquatic Center, National City Marina Improvement, and National City Terminal projects are located north of the Sweetwater River in National City. They access the regional circulation system via Mile of Cars Way. Traffic from this area was included in the regional forecast completed by SANDAG, upon which the regional traffic modeling was completed.

Similarly, the Navy housing project is included in land uses that are part of the regional traffic model used to evaluate the Proposed Project; therefore, they are considered in the project's cumulative traffic analysis. Because of the distance of the Coronado projects from the site, no cumulative traffic impacts are anticipated from those projects.

### 6.5.2 Mitigation Measures

#### Phases I and II Mitigation Measures

The following mitigation measure would reduce cumulative impacts to I-5 (see **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**) but not to below a level of significance:

- 6.5-1** 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:
- 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 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.
- 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.
- h) The Plan shall also expressly include each Entity's pledge that it will cooperate with each other in implementing the Plan.
- 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.

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 this mitigation measure.

### Phase III Mitigation Measures

- 6.5-~~23~~** 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 ~~Gaylord~~ 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.
- 6.5-~~34~~** 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.
- 6.5-~~45~~** Prior to issuance of a certificate of occupancy for any Phase III project, the Port shall widen E street between the ~~Gaylord~~ 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.
- 6.5-~~56~~** 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.
- 6.5-~~67~~** 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.
- 6.5-~~78~~** 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.

**6.5-89** 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.

**6.5-910** 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.

**6.5-101** 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 location. This mitigation would reduce **Significant Impact 6.5-27** to below a level of significance.

**6.5-112** Prior to the issuance of certificates of occupancy for any development in Phase IV of the development, the Port shall construct a dual eastbound left-turn lane along J Street at the intersection of J Street and I-5 NB Ramps. The additional lanes shall be constructed to the satisfaction of the City Engineer. This mitigation would reduce **Significant Impact 6.5-28** to below a level of significance.

## 6.6 Aesthetics/Visual Quality

### 6.6.1 Cumulative Impact Analysis

The cumulative assessment of landform relies on the General Plan Update EIR and the Regional Comprehensive Plan. The potential for an adverse effect is contingent upon the design and location of future buildings. The Regional Comprehensive Plan EIR also assesses the cumulative impact of this effect. The Regional Comprehensive Plan EIR concluded that (SANDAG 2004:5.3-10):

Increased density in existing neighborhoods may result in buildings that are different in bulk and scale than existing structures. Depending on the buildings' location and design, the construction of larger buildings within an already established community poses a significant visual resource impact.

The Regional Comprehensive Plan EIR goes on to provide mitigation for this effect in the form of a measure that calls for the design of projects to minimize contrasts in scale and massing between a project and the surrounding natural forms and developments.

Future growth has the potential to impact the visual environment through fundamental changes in land use. Adoption of the Proposed Project would result in substantial changes to landforms and visual quality throughout the project area. Increased density within the plan area would result in increased building heights and mass.

The project that has the most direct relationship to the Proposed Project in relation to visual quality is the Urban Core Specific Plan. The Urban Core subdistrict at E Street at I-5 would allow structures as high as 120 feet. In two Urban Core subdistricts near transit stations along I-5 designated as Transit Focus Areas, the building heights could be as high as 210 feet. The principal reason for allowing high-rise structures at these two primary gateways (E Street and H Street gateways at I-5) is consistent with the recommendation in the General Plan Update of creating "landmarks and skyline for key areas of the City, and punctuate them as vibrant, active and successful community centers" (LUT 91).

As with the Proposed Project, the vision of this area of the Urban Core Specific Plan differs substantially from the existing visual character of the area, primarily due to the intensification of land use (increased heights, mass, and density) and the integration of residential with commercial and office uses.

The draft EIR for the Urban Core Specific Plan concluded that the Urban Core Specific Plan would not result in a significant impact to aesthetic character of the site or surrounding area because subsequent development projects in the Urban Core Specific Plan Subdistrict Areas would be required to comply with the Urban Core Specific Plan development regulations (Urban Core Specific Plan, Chapter VI), design guidelines (Urban Core Specific Plan, Chapter VII), and other relevant provisions of the Urban Core Specific Plan, as a part of the design review process. Furthermore, it concluded that, while the change in visual quality within the Urban Core Specific Plan area would contribute incrementally to cumulative impacts with regard to aesthetics, design controls placed on subsequent projects by the City would ensure that development occurs in accordance with the City's goals and design objectives for this area and would, therefore, not result in cumulative negative aesthetic impact.

The Proposed Project would add to the intensification of land use and would further change the character of the area. The cumulative analysis in the General Plan Update EIR, which relied on the Regional Comprehensive Plan EIR, concluded that “the loss of views of significant landscape features and landforms would incrementally increase with implementation of the Regional Comprehensive Plan and general plans within the region.” Because the Regional Comprehensive Plan is a regional plan, the Urban Core Specific Plan intensifies this impact, and the Proposed Project would additionally impact landscape features and landforms in the region, the effects are cumulatively significant (**Significant Impact 6.6-1**).

### 6.6.2 Mitigation Measures

The following mitigation measure for view protection, height and bulk, landscaping, gateways, and lighting would reduce cumulative impacts associated with **Significant Impact 6.6-1**:

#### Mitigation Measure 6.6-1

**Port:**     **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 assure “windows” through the landscaping. Trees should also be considered to help frame the views, and they should be pruned up 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 groundplane 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.

**Port:**     **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.

**City:** **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.

**Port/City:** **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.

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.

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.

**City:** **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 with design guidelines and standards established by the City of Chula Vista. The plan shall be implemented as a condition of project approval.

**Port/City: 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.

**City: 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.

**Significant Impact 6.6-1** would remain significant after mitigation. Impacts to view quality resulting from a change in scale and character and substantial view blockage associated with the Pacifica Residential and Retail Project (**Significant Impact 4.1-4**) would not be reduced to below a level of significance. No feasible mitigation beyond redesign of the project as identified as a project alternative would reduce the impacts to view quality associated with the Pacifica Residential and Retail Project. See *Section 4.4, Aesthetics/Visual Quality* and *Chapter 5, Alternatives*, for further discussion.

## 6.7 Hydrology/Water Quality

### 6.7.1 Cumulative Impact Analysis

The cumulative analysis for hydrology and water quality falls in two areas of concern: the regional water quality and the capacity of storm drains. Regional water quality issues center on whether the incremental effects of the Proposed Project are significant when viewed in connection with the effects of past, present, and reasonably foreseeable projects. Cumulative regional water quality issues are addressed through the requirements of the RWQCB adopted Order No. 2001-01. Hydrologic issues center on whether the drainage from the project contributes incrementally to a significant cumulative drainage impact.

**Water Quality.** The RWQCB is responsible for implementing regional programs for the protection of water quality within each individual watershed. All projects within the watershed must comply with RWQCB Order No. 2001-01 and Municipal Permit R9-2007-001. This program is described in *Section 4.5, Hydrology/Water Quality*, of this EIR and is designed to minimize potential water quality impacts at a regional level. The intent of the program is to establish a mechanism to provide cumulative urban runoff management on a watershed basis.

The City and the Port are co-permittees under the Order. Under the Municipal Stormwater Permit, co-permittees must reduce to the maximum extent possible the pollutants discharged from their respective storm drain systems. The Municipal Stormwater Permit also requires that pollutants from construction-related discharges be reduced by employing Best Available Technology/Best Conventional Technology performance standards. The Municipal Stormwater Permit outlines the individual responsibilities of the co-permittees including, but not limited to, the implementation of management programs, BMPs, and monitoring programs. Compliance by participating agencies, including the Port and City, is mandated.

Each co-permittee must implement the requirements of the Municipal Stormwater Permit across two broad levels of responsibility. Co-permittees have responsibility for the water quality impacts of urbanization within: (1) their jurisdiction, and (2) their watershed(s). The Municipal Stormwater Permit reflects these two broad levels of responsibility, in that it requires implementation of a comprehensive Urban Runoff Management Plan (URMP) at the jurisdictional level and a Watershed Urban Runoff Management Program (WURMP) at the watershed level.

The Proposed Project would comply with regional water quality protection programs required under the NPDES permit, municipal stormwater permit (RWQCB adopted Order No. 2001-01), and, more specifically, Port and City Standard Urban Storm Water Mitigation Plans (SUSMPs). Conformance with the required stormwater permits would avoid cumulative water quality impacts.

**Hydrology.** There are currently no upstream storm drains that connect directly to the project site. Currently, the City's off-site runoff flows into the Bay through the existing J Street Channel and Telegraph Canyon Channel. For the most part, the project site's runoff would remain separated from upstream storm drain systems. There is no downstream capacity constraint for this scenario, as the Bay is at the end of the stormwater conveyance system.

The project would connect on-site storm drains to the J Street Channel approximately 300 feet upstream from the channel/bay interface. The project would also widen the existing Telegraph Canyon Channel and connect on-site storm drains approximately 650 feet upstream from the Bay. A significant cumulative impact would occur as a result of the Proposed Project if the runoff contribution from the project were to contribute incrementally to a drainage capacity problem in the Telegraph Canyon Channel on site.

Using the City's drainage standards, it was determined that the peak flow from the storm drains of the Proposed Project would reach the channel and dissipate into the Bay before the peak flow from the City of Chula Vista reaches the channel (see analysis in *Appendix 4.5-6*). Therefore, the project's runoff would not contribute to the cumulative runoff flows in the Telegraph Canyon

Channel. Because the Proposed Project would not contribute to the cumulative peak flows from the City of Chula Vista, it would not have a significant cumulative impact on hydrology.

When considered with other projects in the watershed, the Proposed Project would not contribute to a cumulative impact to hydrology/water quality.

### **6.7.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to water quality in the project area. Accordingly, no mitigation measures would be required.

## **6.8 Air Quality**

### **6.8.1 Cumulative Impact Analysis**

The cumulative assessment of air quality impacts relies on the current RAQS. In order to meet federal air quality standards in California, the California Air Resources Board (CARB) required each air district to develop its own strategy for achieving the National Ambient Air Quality Standards (NAAQS). The San Diego Air Pollution Control District (APCD) prepared the 1991/1992 RAQS in response to the requirements set forth in the California Clean Air Act. The RAQS set forth the steps needed to accomplish attainment of state and federal ambient air quality standards.

The RAQS addresses air effects from industrial sources, area-wide sources, and mobile sources. It also considers transportation control measures and indirect source review. Industrial sources are stationary air pollution sources for which APCD has control responsibility. Area-wide sources include such things as consumer products, small utility engines, hot water heaters, and furnaces. Both the CARB and the APCD have authority to regulate these sources. Mobile sources are principally emissions from motor vehicles. The CARB establishes emission standards for motor vehicles and regulates other motor-vehicle-related activities, such as aftermarket parts certification and fuel standards.

The components of the RAQS that are most directly related to the Proposed Project fall within the transportation control measures and indirect source control. Transportation control measures include measures to reduce vehicle trips, use, miles traveled, and traffic congestion. Indirect sources are those facilities that generate or attract mobile sources that can result in emissions of pollutants for which there is a state ambient air standard. These uses include shopping centers, schools, residential uses, etc. These measures involve actions by the City and Port as they pertain to planning, zoning, and development activities.

In 1992, SANDAG adopted Transportation Control Measures (TCM) for the Air Quality Plan, which set forth 11 tactics aimed at reducing traffic congestion and motor vehicle emissions in the

San Diego Air Basin (SDAB). For each of these tactics, the TCM evaluated the potential emissions reduction on a region-wide basis. These tactics are presented in the air quality section of this report (see *Section 4.6*).

The tactic that is most applicable to the current proposal is the Indirect Source Control Program. The TCM plan identified job-housing balance, mixed-use, and transit corridor development as criteria for indirect source control. As part of job-housing balance, SANDAG indicates that land use policies and programs shall be established to attract appropriate employers to residential areas and to encourage appropriate housing in and near industrial and business areas. Mixed-use development should be designed to maximize walking and minimize vehicle use by providing housing, employment, education, shopping, recreation, and any support facilities within convenient proximity. Finally, transit corridor development specifies that the City and the Port land use plans and development policies shall be designed to foster the use of transit. Further, high residential development densities shall be encouraged within walking distance of major transit routes with development having convenient access to transit.

As described in *Section 4.6, Air Quality*, while the proposed land use changes would be different from the former General Plan upon which growth projections used for the RAQS and State Implementation Plan (SIP) were based, the RAQS and SIP do account for air emissions associated with the current adopted General Plan. Emissions from area sources and energy use would be similar to the uses proposed in the former General Plan. The main source of emissions associated with the Proposed Project would be vehicles. According to the Analysis of Intersections with Significant Chula Vista Bayfront Traffic (Kimley-Horn and Associates 2008) (*Appendix 4.2-4*), land uses in the existing Chula Vista General Plan Update for the CVBMP area were projected to generate 152,654 Average Daily Traffic (ADT). The Proposed Project, as currently proposed, would generate 79,317 ADT, a reduction of 73,337 ADT. Given that the amount of traffic and associated vehicular emissions assumed in the Chula Vista General Plan Update is higher than the current Proposed Project traffic and emissions, the Proposed Project would not be inconsistent with either the General Plan that served as the basis of the RAQS or with the growth assumptions in the RAQS, and therefore would not result in a significant impact. The SDAB is non-attainment for federal and state ozone standards, state PM<sub>10</sub> and state PM<sub>2.5</sub> standards. As indicated in *Section 4.6, Air Quality*, of this report, construction activities would result in significant air quality impacts for each criteria pollutant except carbon monoxide and sulfur dioxide during Phase I. During Phases II through IV, construction activities would result in significant air quality impacts for each criteria pollutant except sulfur dioxide.

Several cumulative projects that are within the current project boundary but are not part of the Proposed Project would not contribute to the cumulative air analysis. The Bayshore Bikeway does not represent an air pollution contribution. Because the demolition of the former Goodrich

South Campus would occur before Phase I is initiated, it would not factor into the cumulative analysis for the Proposed Project.

In addition to the projects in Planning District 7, there are five projects being considered or recently approved in or adjacent to Planning District 5 of the PMP. They include the National City Aquatic Center, the National City Marina Improvement, National City Marine Terminal Capacity Enhancement and Wharf Extension projects, the Coronado Yacht Club, and the Glorietta Bay Marina Project at the western shore of Glorietta Bay.

The *Draft Mitigated Negative Declaration for South Bay Boatyard Improvements Project* (Port 2005b) indicated that the South Bay Boatyard would not obstruct implementation of the applicable air quality plan or violate air quality standards. As such, construction of the improvements at the existing South Bay Boatyard does not contribute to the cumulative air quality condition. As with the operation of the SBPP, the operation of the Boatyard is ongoing and the air emissions are part of the ambient air conditions.

Because of the air basin's non-attainment status for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>, the potential increase in residential units, and the construction activities associated with the Proposed Project, the project would contribute to both cumulative construction and operational air quality impacts (**Significant Impact 6.8-1** and **Significant Impact 6.8-2**). As described in Section 4.6, Air Quality, this impact is the result of the project exceeding significance thresholds for criteria pollutants and is associated with the project's exposure of sensitive receptors to pollutant concentrations in excess of the California AAQS and NAAQS due to regional air pollutant concentrations, to which the project contributes. Please refer to Table 4.6-2, which identifies the potential health effects associated with exposure to these elevated concentrations of pollutants.

### ***Cumulative GHG Impacts***

A forecast for Greenhouse gas (GHG) emissions in the SDAB or in California is not currently available. As noted in *Section 4.6, Air Quality*, it is estimated that California produces about 7 percent of U.S. GHG emissions, with about 41 percent of those emissions related to transportation and about 22 percent related to electricity. In December 2007, CARB finalized 1990 emissions at 427 million metric tons of CO<sub>2</sub> equivalent emissions and established mandatory GHG reporting regulations for certain sectors of the economy. CARB's regulations address approximately 94 percent of the industrial and commercial stationary sources of emissions. Regulated entities include electricity generating facilities, electrical retail providers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 metric tons of CO<sub>2</sub> from stationary source combustion.

Implementation of the Proposed Project would result in GHG emissions as documented in *Section 4.6, Air Quality*, of this report. Climate change is a global issue caused by GHG

emissions worldwide. The State of California adopted the Global Warming Solutions Act of 2006 (referred to as AB 32) to reduce statewide GHG emissions and halt the state's contribution to further or catastrophic global climate change. The state also has related legislative orders addressing the statewide emissions of GHG, including Executive Order S-3-05. The GHG emission reduction goals of AB 32 and related Executive Orders consist of reducing GHG emissions to 2000 levels by 2010; to 1990 levels by 2020; and to 80 percent below 1990 levels by 2050.

Because of the cumulative nature of the problem of global climate change, the Proposed Project's GHG emissions were evaluated on a cumulative level in *Section 4.6, Air Quality*. The project-level components would emit 20 percent less GHG emissions above existing conditions than would occur with development consistent with "business as usual." As discussed in *Section 4.6, Air Quality*, "business as usual" is considered to be development in compliance with energy efficiency standards established by Title 24. Through the implementation of GHG-reducing project design features, project-level components (Phase I) of the Proposed Project would not contribute to a conflict with or obstruction of the goals or strategies of AB 32 or related Executive Orders (see *Section 4.6, Air Quality*).

Furthermore, Phase I components of the Proposed Project would also comply with all applicable federal, state, and local programs designed to reduce GHG emissions in effect at the time of issuance of permits.

Program-level components of the Proposed Project have not reached the design stage that enables the development of Project Design Features (PDFs). As such, no PDFs have been assigned to Phase II through Phase IV components of the Master Plan. While the Program Master Plan developments will be required as conditions of approval to adopt GHG emission reduction measures similar to those adopted by ~~the Gaylor Resort and Conference Center and~~ the Pacifica Residential and Retail Development, the specific PDF opportunities cannot be identified at this time.

In the absence of PDF commitments, the level of efficiency of the program phases cannot be established. Therefore, the program-level components of the Master Plan would potentially contribute to a conflict with the goals or strategies of AB 32 or related Executive Orders, which would be considered a cumulatively significant impact to global climate change (**Significant Impact 6.8-3**).

## 6.8.2 Mitigation Measures

### Mitigation Measure 6.8-1

The following mitigation measure would be required to mitigate **Significant Impact 6.8-1**, which would result from the project's incremental contribution to construction-related cumulative air quality impacts:

**Port/City:** 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 South Coast AQMD CEQA Air Quality Handbook (SCAQMD 1999)):

- a) Where practicable, use low pollutant-emitting equipment.
- b) Where practicable, use catalytic reduction for gasoline-powered equipment.
- c) Use injection timing retard for diesel-powered equipment.
- d) Water the grading areas a minimum of twice daily to minimize fugitive dust.
- e) Stabilize graded areas as quickly as possible to minimize fugitive dust.
- f) Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry.
- g) Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads.
- h) Remove any visible track-out into traveled public streets within 30 minutes of occurrence.
- i) Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred.
- j) Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads.
- k) Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling.
- l) Suspend all soil disturbance and travel on unpaved surfaces if winds exceed 25 mph.
- m) Cover/water on-site stockpiles of excavated material.
- n) Enforce a 15 mile-per-hour speed limit on unpaved surfaces.

- o) On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather.
- p) Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the City or Port to reduce dust generation.
- q) Electrical construction equipment shall be used to the extent feasible.

### Mitigation Measure 6.8-2

The following mitigation measure would be required to mitigate the significant cumulative impact **Significant Impact 6.8-2**, which would result from the project's incremental contribution to operational-related cumulative air quality impacts:

**City:** A. For residential as well as mixed-use/commercial development within the City's jurisdiction, the applicants shall submit an Air Quality Improvement Plan (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 ~~either~~ evaluate the project in accordance with the computer modeling procedures outlined in the City's AQIP Guidelines, using the Chula Vista CO<sub>2</sub> Index Model including any necessary site plan modifications, ~~or participate in the GreenStar Building Energy Program.~~

**Port/City: B.** Prior to the issuance of building permits, the applicant shall demonstrate that the Proposed Project shall comply 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:

- Use of low-NO<sub>x</sub> 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 doublepaned.

Although these measures would reduce the 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, cumulative air quality impacts remain **significant and unmitigated**.

### Mitigation Measure 6.8-3

The following mitigation measure is required to mitigate **Significant Impact 6.8-3**, which would result from potential conflict with the goals or strategies of AB 32 or related Executive Orders:

**Port/City:** Development of program-level components of the Chula Vista Bayfront Master Plan (Phases II through IV) shall implement measures to reduce GHG emissions. Specific measures may include but are not limited to the following:

#### Energy Efficiency

- 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 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.

#### 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 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.
- 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 Measure 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.

## **6.9 Noise**

### **6.9.1 Cumulative Impact Analysis**

There is one source of noise that is of primary concern for the cumulative assessment: traffic on area roads. The master plan analysis for the project analyzed all impacts on a cumulative basis. A cumulative noise impact resulting from approval of the Proposed Project would occur if noise resulting from the project, when added to noise from other past, present, or foreseeable projects, adversely impacts sensitive receivers. The traffic analysis conducted for the Proposed Project includes traffic forecast for the development of the General Plan, including the Urban Core Specific Plan, and regional traffic resulting from development under the Regional Comprehensive Plan (RCP). Forecast future traffic volumes on the freeway and circulation element roadways will result in noise levels in excess of the noise standard in the Chula Vista General Plan. The purpose of the analysis here is to determine whether the incremental contribution of the Proposed Project would be considerable. The basis for that assessment is whether the contribution would result in a noticeable increase in noise to a sensitive receiver, as used in the General Plan Update EIR. A significant impact would occur to existing receivers where traffic volumes are projected to result in noise level increases of more than 3 dB resulting from both the Proposed Project and traffic from all other projects forecast in the regional traffic model. The cumulative effects of traffic stem from the addition of project traffic to area roadways that currently produce noise levels in excess of the City's standards. Traffic volumes on circulation assumed the growth in the City as projected in accordance with the General Plan. The General Plan concluded that cumulative traffic impacts throughout the City could exacerbate noise levels to such a magnitude to significantly affect existing land uses. Similarly, the noise analysis conducted for the project indicated that significant cumulative noise impacts would occur to existing receivers adjacent to the project area without mitigation.

The EIR for the General Plan Update indicated that a significant impact would occur to existing receivers where traffic volumes are projected to result in noise level increases of more than 3 dB. Lessening the noise levels in those areas would require a lot-by-lot review of potential exterior use areas and an evaluation of the exterior-to-interior noise reduction of each building exposed to the increase. That analysis would need to assess the feasibility of reducing noise levels to outdoor use areas, and the interior review would require consideration of the effectiveness of existing windows and doors, the adequacy of existing construction, and the need for retrofit. Furthermore, the General Plan Update EIR concluded that, since noise retrofitting was infeasible outside of the project area, traffic impacts were cumulatively considerable, significant, and not mitigated.

The Proposed Project would increase traffic on certain area roadways beyond that assessed in the General Plan Update EIR. As with the General Plan Update EIR, consideration of cumulative noise impacts used a 3 dB increase as an indication of a cumulatively considerable effect on receivers adjacent to roadways where existing conditions exceed the adopted City standard of 65 dB(A) CNEL.

The predicted noise levels on area roadways would not increase by 3 dB or more as a result of the Proposed Project combined with the traffic from all other past, present, and reasonably foreseeable projects forecast in the traffic model. Therefore, noise impacts from approval of the Proposed Project are not cumulatively significant.

### **6.9.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to noise in the project area. Accordingly, no mitigation measures would be required.

## **6.10 Terrestrial Biological Resources**

### **6.10.1 Cumulative Impact Analysis**

The cumulative assessment of impacts to biological resources relies on the Chula Vista MSCP Subarea Plan and the biological information from individual projects within the Port's jurisdiction. Preservation of the region's biological resources is being addressed through the implementation of regional habitat plans. Impacts to biological resources in Chula Vista are managed through the Chula Vista MSCP Subarea Plan. The Subarea Plan is part of the General Plan, and there are no proposed amendments to the Subarea Plan that would lessen the protection of sensitive biological resources.

The MSCP is a comprehensive, long-term habitat conservation plan developed to address the needs of multiple species and the preservation of natural vegetation communities in 12 jurisdictions within San Diego County. The MSCP is the subregional plan prepared under the California Natural Communities Conservation Planning Act (NCCP) (1991). The MSCP is intended to protect species against the potential impacts of habitat loss associated with cumulative development of both public and private lands.

The Subarea Plan for the City's MSCP implements the MSCP subregional plan. It provides comprehensive long-term habitat conservation to address the needs of multiple species and the preservation of natural vegetation communities for lands within the City and sphere of influence boundaries. Any project subject to City approval must conform to the Subarea Plan.

The goals of the Chula Vista MSCP Subarea Plan include (Chula Vista 2003a: pages 1–2):

- To conserve Covered Species and their habitats through the conservation of interconnected significant habitat cores and linkages
- To delineate and assemble a natural habitat Preserve using a variety of techniques, including public acquisition, on- and off-site mitigation, and land use regulations
- To provide a Preserve Management Program that, together with the federal and state management activities, will be carried out over the long term, further ensuring the conservation of Covered Species
- To provide necessary funding for a Preserve management program and biological monitoring of the Preserve
- To reduce or eliminate redundant federal, state, and local natural resource regulatory and environmental review of individual projects by obtaining federal and state Authorizations for 86 species.

The Subarea Plan addresses cumulative impacts to biological and wetland resources within the City. The plan designates a Preserve and provides a regulatory framework for determining impacts on the Preserve and designating mitigation to reduce those impacts. The Proposed Project does not have a direct impact on the Preserve, and potential indirect effects (as identified in *Section 4.8, Terrestrial Biological Resources*, of this report) are addressed and mitigated in accordance with the requirements of the plan. Because compliance with the MSCP Subarea Plan avoids cumulative impacts on biological resources, and because the Proposed Project provides measures that meet the obligations of the plan, the Proposed Project would not have a significant cumulative impact to terrestrial biological resources.

None of the individual cumulative projects have been identified to have or are anticipated to have any significant direct impacts to terrestrial biological resources. Therefore, the cumulative assessment of these resources relied on the Chula Vista MSCP Subarea Plan. While the Port is not subject to the Subarea Plan, the biological analysis conducted for the project used that plan as the foundation of the assessment of direct impacts and the recommended mitigation.

The biological review for the National City Aquatic Center indicated that “the project site consists of developed lands that do not provide suitable habitat for sensitive species” (Lee 2006). The assessment identified indirect impacts to species known to reside within the Sweetwater Marsh NWR and identified mitigation measures that would avoid those impacts. Because there are no direct impacts to sensitive biological resources and because the indirect effects to the marsh are mitigated, the National City Aquatic Center does not add to the cumulative effect on biological resources in the region.

Development of the National City Marina would impact 8 acres of baccharis scrub. The EIR for the marina project indicated that this was not a sensitive habitat and that impacts from its

removal would not be significant. Baccharis scrub was not identified on the Proposed Project site.

In regards to the Glorietta Bay Marina project, Merkel and Associates indicated that (Merkel 2006: 35):

The upland areas of the project are fully urbanized and support no native habitats. The work proposed is a conversion of urban landscape to biologically comparable urban landscape. The work is not anticipated to alter the present ecology of the upland wildlife assemblages and impacts are not considered to be significant.

As such, the Glorietta Bay Marina project does not affect the cumulative impact assessment for the current analysis. The remaining cumulative projects are either in areas devoid of biological resources or are not in the stage of planning to assess specific impacts. However, each project would be required to mitigate project-specific impacts to sensitive biological resources.

### **6.10.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to terrestrial biological resources in the project area. Accordingly, no mitigation measures would be required.

## **6.11 Marine Biological Resources**

### **6.11.1 Cumulative Impact Analysis**

The mitigated negative declaration for the existing South Bay Boatyard project (Port 2005b) indicated that the site did not contain any sensitive species or provide part of a corridor for wildlife movement. It did indicate that driving of pilings into the seabed would temporarily generate noise vibrations that could impact the marine habitat, but that mobile fish and turtle species would avoid the area and return upon completion of construction. Because this project would be completed prior to the initiation of construction for Phase I, this would not represent a cumulative effect.

The National City Marina and National City Aquatic Center are located at the south end of Tidelands Avenue adjacent to Pepper Park north of the Sweetwater River. The boat basin has been constructed and did not impact open water. Excavation of the basin involved excavation of dry material behind a berm. Because the National City projects do not involve the loss of open water habitat, they do not contribute to a cumulative effect, as it relates to marine biological resources.

The Glorietta Bay Marina project is the only cumulative project where marine biological resource impacts have been identified and quantified. Improvements to the Glorietta Bay Marina

were evaluated by Merkel and Associates. That study concluded that the project “impacts to eelgrass habitat are the only significant adverse impact to water resources anticipated from the project” (Merkel 2006). The Merkel report indicates that the project would impact 4,922 square feet (0.1 acre) of eelgrass. The project identifies mitigation measures that would reduce the effects on eelgrass. This is accomplished through the creation of eelgrass habitat. The analysis by Merkel and Associates indicates that, according to standards for mitigation of this resource as outlined in the Southern California Eelgrass Mitigation Policy (SCEMP) (NMFS 1991, rev. Jan. 18, 2005) requirements for impacts to this resource, a compensatory mitigation for the impacts will require a successful replacement of 1.2:1 (replacement to impact) or 5,906 square feet of eelgrass.

The National City Terminal Wharf Extension may also impact eelgrass habitat. Impacts have not been analyzed or quantified, but may be significant.

The 0.1 acre of impact from the Glorietta Bay project combined with the 45.9 acres of impacts resulting from the construction of the pier and the realignment of the access channel amounts to a total of 46.0 acres of impact. These impacts to eelgrass, combined with potential impacts from the Wharf Extension project, would be cumulatively considerable. Cumulative impacts would be significant (**Significant Impact 6.11-1**).

### 6.11.2 Mitigation Measures

#### Mitigation Measure 6.11-1

The following mitigation measures are required to reduce cumulative impacts to eelgrass habitat in the South Bay resulting from the Proposed Project (see **Significant Impact 6.11-1**).

- I. **Port:**
  - 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.
  - 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.

- 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:
- 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.
- 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.

Implementation of Mitigation Measure 6.11-1 would reduce significant cumulative impacts to eelgrass to below significance.

## 6.12 Cultural Resources

### 6.12.1 Cumulative Impact Analysis

The cumulative assessment of impacts to cultural resources relies on the General Plan Update EIR. The continued pressure to develop or redevelop areas would result in incremental impacts

to the historical record in the San Diego region. Regardless of the efforts to avoid impacts to cultural resources, the more that land is converted to developed uses, the greater the potential for impacts to cultural resources. While any individual project may avoid or mitigate the direct loss of a specific resource, the effect was considerable when considered cumulatively. The General Plan Update EIR concluded that the loss of historic or prehistoric resources from the past, present, and probable future projects in the Southern California/Northern Baja California, Mexico areas would contribute to cumulatively significant impacts to cultural resources.

Two cultural resources were recorded on the project area. As discussed in *Section 4.10* of this report, a prehistoric archaeological site (CA-SDI-5,512) was recorded within the project boundaries, but it was not relocated during field investigations. The site was tested by Caltrans, and it was determined that the tested portion of the site was not significant. Currently, there is no longer sufficient surface material to identify the site.

The Coronado Belt Line Railroad ROW runs along the eastern edge of the project. The physical effects to the Coronado Belt Line Railroad ROW from the project would occur with improvements to the crossings at H, J, E, and I Streets. Crossings of the ROW at these locations currently exist, and they have not altered the basic integrity of the Belt Line.

Because there are no direct impacts to cultural resources, implementation of the Proposed Project would not contribute to a cumulative impact on cultural resources.

### **6.12.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to cultural resources in the project area. Accordingly, no mitigation measures would be required.

## **6.13 Paleontological Resources**

### **6.13.1 Cumulative Impact Analysis**

The cumulative assessment of paleontological resources impacts relies on the General Plan Update EIR. As with cultural resources, the continued pressure to develop undeveloped areas would result in incremental impacts to the paleontological record in the San Diego region. Regardless of the efforts to avoid impacts to these resources, the more that land is converted to developed uses, the greater the potential for adverse impacts. While any individual project may avoid or mitigate the direct loss of a specific resource, the effect was considerable when considered cumulatively.

The Application for Certification (AFC) for the South Bay Replacement Project (SBRP) indicated that, if paleontological resources were encountered during project-related ground

disturbance, the potential contribution to cumulative impacts to paleontological resources would be negligible, given implementation of proposed mitigation measures.

The Proposed Project and other projects that may be developed in accordance with the General Plan of the City may impact the Bay Point Formation. This would contribute to a cumulative impact to paleontological resources. Because the mitigation measures identified in *Section 4.11* of this report would result in the conservation of the value of any paleontological resource discovered during construction, the Proposed Project would not contribute to cumulative impacts to paleontological resources. Because, similarly, the SBRP will not contribute to a cumulative effect, cumulative impacts to paleontological resources are not significant.

### **6.13.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to paleontological resources in the project area. Accordingly, no mitigation measures would be required.

## **6.14 Hazards and Hazardous Materials/Public Safety**

### **6.14.1 Cumulative Impact Analysis**

Many Port properties have been contaminated since the late 1920s as a result of heavy industrial and marine-related use operations. As discussed in *Section 4.12, Hazards and Hazardous Materials/Public Safety*, during the reconnaissance survey, several properties of environmental concern were identified that previously used or presently use, store, and transport hazardous materials on and adjacent to the project site. Several parcels have been identified as contaminated, and although some sites have been cleaned up pursuant to a RWQCB CAO, residual contamination exists in soil and/or groundwater at several on-site locations.

Land uses that use, store, and transport hazardous materials in the area include the existing South Bay Boatyard, the SBPP, and the Goodrich facility. These existing facilities are required to obtain permits from the appropriate regulatory agencies and to comply with all federal, state, and local laws and regulations which govern the facilities' routine transport, use, and disposal of hazardous materials and which are described above in *Section 4.12.1.1*. Proposed land uses, such as dry cleaners, hotels, gas stations, or medical/dental labs, could use, store, and transport hazardous materials during operation. Any facilities in the Proposed Project area which intend to transport, use, and dispose of hazardous materials also must obtain the applicable regulatory permits and must comply with applicable laws and regulations. These laws, regulations, and permitting requirements have been adopted by federal, state, and local legislatures and are enforced by the regulatory agencies to prevent a significant hazard to the public or the environment. The existing and proposed facilities' compliance with all federal, state, and local laws, regulations, and permitting requirements applicable to their routine transport, use, and

disposal of hazardous materials would ensure that potential cumulative impacts are less than significant.

The Proposed Project would have a significant cumulative impact if, when combined with other projects, there is a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The SBPP, existing South Bay Boatyard, Chula Vista Harbor, and the Goodrich facility (off site) are the major facilities either on or adjacent to the project site that use hazardous materials during operation.

The occurrence of an unforeseen event could lead to the accidental discharge of such materials or substances into the environment. Every business using hazardous materials must be licensed and is required to submit a Hazardous Materials Business Plan to County Department of Environmental Health (DEH)/Hazardous Materials Division. The business plan provides a hazardous materials inventory, site plan, employee training, and contact information to assist with emergency response. Should such an event occur, response would be provided by the County of San Diego Hazardous Incidence Response Team. Conformance to regulatory standards for the operation of existing facilities and implementation of CAO programs currently underway would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

With regard to ongoing demolition of existing structures and site remediation for the former Rohr/existing and former Goodrich facilities, clean-up is currently underway and will be completed as a separate action. Site remediation includes containment and disposal of potential lead-based paints and asbestos-containing materials that may be present in buildings that are being demolished. No development is planned to occur on contaminated parcels until remediation is completed and approval is received from the responsible regulatory agencies. No cumulative impact is identified.

As noted in *Section 4.12, Hazards and Hazardous Materials/Public Safety* of this report, two schools are located within 0.25 mile of the Proposed Project site's eastern boundary. These schools consist of the Feaster Edison Charter Elementary School located at 670 Flower Street, approximately 900 feet east of the Sweetwater District, and the Robert L. Mueller Elementary School located at 715 I Street, approximately 600 feet east of the central Harbor District. All schools are located to the east of I-5. Currently, no businesses or facilities emitting hazardous materials are located within 0.25 mile of these schools.

Robert L. Mueller Elementary School is located within 0.25 mile of Parcel H-15, which is proposed for a mixed commercial office/retail/hotel use. Although a specific user for this location is not yet identified, the land use designation allows for a range of development

including, but not limited to, dry cleaning facilities, medical/dental facilities, hotels, etc., which would emit or handle hazardous materials under an operating permit. Such uses that require permits to operate would be evaluated for risks to sensitive receptors, such as schools, prior to receiving a permit to operate. The operation of such facilities is required to comply with the regulatory rules and procedures associated with the handling and use of hazardous materials.

### **6.14.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to hazardous materials in the project area. Accordingly, no mitigation measures would be required.

## **6.15 Public Services and Utilities**

### **6.15.1 Potable Water Supply and Water Availability**

#### **6.15.1.1 Cumulative Impact Analysis**

Potable water for the City of Chula Vista is provided by member agencies of the San Diego County Water Authority (SDCWA), whose mission it is to provide a safe and reliable supply of water to the San Diego region. To meet their long-term obligation of supplying water to member agencies, SDCWA has developed several plans. These plans use estimates of future populations developed by SANDAG to forecast the need for water and delivery systems. Key among these plans are the Urban Water Management Plan (UWMP) and the Regional Water Facilities Master Plan. On November 17, 2005, the SDCWA adopted its 2005 UWMP, updating the previously adopted 2000 UWMP. On April 26, 2007, the SDCWA adopted its Updated 2005 UWMP in order to incorporate two significant changes to its 2005 UWMP: (1) a change to the desalination project adjacent to the Encina Power Station from a regional supply project to a local supply project, and (2) the adoption of a Drought Management Plan.

In order to project and plan for future water needs, SDCWA has entered into a Memorandum of Agreement with SANDAG to use the most recent regional growth forecast for planning purposes. Using the growth forecasts, SDCWA has developed the UWMP and updates it every 5 years. This plan considers the demands for population and water use through the next 20 years.

Because the UWMP is closely integrated with the regional growth forecasts by SANDAG, the basis of those forecasts is critical to supply and demand projections. SANDAG projects growth based in part on local general plans. The projections involve development of an estimate of regional population growth and the distribution of that population within the region. To the extent that development occurs in accordance with the general plans used to prepare the growth forecasts, their long-term impact on water supply and demand were included in SDCWA's plans.

To the extent that a project differs from the General Plan assumptions, it could vary from the SDCWA projection.

As discussed in *Section 4.14.1.3* of this report, the Water Supply Assessment and Verification Report (WSA&V) completed by the Sweetwater Authority for the Proposed Project verifies the availability of a sufficient water supply to serve existing and future demands in normal, single dry and multiple dry year scenarios through the year 2030. The WSA&V is a cumulative analysis of the projected future demands for potable water from the Sweetwater Authority. Although the WSA&V relied on the anticipated purchase of imported water from the Reserve and Replenishment Supply identified in the Metropolitan Water District's (MWD's) 2005 Regional Urban Water Management Plan (RUWMP), subsequent analysis demonstrated that the combined effect of the revised water supply demand estimate and implementation of the water efficiency project design features would reduce the Proposed Project's water demand to at most 1,731.4 acre-feet per year (af/year), which falls within the 1,746.4 af/yr demand projected for the development evaluated by the Sweetwater Authority's 2005 UWMP.

Moreover, much of the pending litigation involving the reliability of water supply sources has been resolved. Significant regional and statewide attention has been brought to bear on the reliability of the San Joaquin Delta as a source of water supply and on environmental restoration. The Governor, the Legislature; federal, state, and regional agencies; and the public are now focused on implementing a plan that provides for a reliable water supply and preserves environmental restoration in the Delta. The degree and nature of attention the Delta is now receiving demonstrates a likelihood that the water supplies analyzed in the MWD 2005 RUWMP, SDCWA 2005 Updated UWMP, and Sweetwater Authority 2005 UWMP would be available, despite the pending CALFED litigation.

Furthermore, MWD, SDCWA, and the Sweetwater Authority are engaged in substantial efforts to improve the reliability of their water supplies through a host of measures, including conservation, desalination, groundwater supply enhancement, recycled water, and long-term water transfers. These long-term efforts to improve the reliability of supply demonstrate a likelihood that the water supplies analyzed in the MWD 2005 RUWMP, SDCWA 2005 Updated UWMP, and Sweetwater Authority 2005 UWMP would be available.

Availability of water supply was assessed through consultation with the Sweetwater Authority. Water demand was initially determined by the Sweetwater Authority using their standard design criteria and the land use program for the Proposed Project. Based on these rates and the proposed land use densities, a Water Supply Assessment and Verification Report was prepared. Demand calculations were performed based on the projections specific to the proposed RCC provided by the Port in January and March 2006 (see *Appendix 4.14-1*). The average day demand was calculated based on the Sweetwater Authority design criteria. The average day demand is the

average water used in a single day for a specific user. The maximum day demand was also calculated, which accounts for spikes in the water usage during the day, during times of very high use. The projected water demand is presented in *Table 6.15-1* below:

**TABLE 6.15-1**  
**Water Demand Summary by District (MGD)**

Development Area	Average Demand	Maximum Day Demand
Sweetwater District	0.236	0.590
Harbor District	1.553	3.028
Otay District	0.125	0.401
<b>Total</b>	<b>1.914</b>	<b>4.019</b>

SOURCE: Kimley-Horn and Associates 2008.

The Water Supply Assessment and Verification Report prepared by the Sweetwater Authority projects water demand for the users within their service area based on growth projections developed by SANDAG. These projections include existing projects and forecasts for growth through 2030. To complete the assessment, the Authority obtained population and housing growth data for Sweetwater from the SANDAG 2030 Regional Growth Forecast for years 2005 through 2030. These estimates reflect the cumulative projection of regional populations.

The Proposed Project's water supply demands are estimated to be lower than those evaluated in the Water Supply Assessment and Verification and would fall within the level of demand included in Sweetwater's 2005 UWMP. The Sweetwater Authority would not have to rely on the availability of MWD's Reserve and Replenishment Supplies in order to provide a sufficient water supply to the Proposed Project, because the Proposed Project's water demand falls within the demand contemplated by its 2005 UWMP. Accordingly, the Proposed Project would not have a significant cumulative impact on water supply.

#### **6.15.1.2 Mitigation Measures**

There are no significant cumulative impacts and, therefore, no mitigation is required.

### **6.15.2 Wastewater**

#### **6.15.2.1 Cumulative Impact Analysis**

Wastewater services are addressed in the General Plan. Based on recent flow analysis performed by City staff, it is estimated that, by the year 2030, approximately 26.2 MGD of sewage would be generated within the City. Additional capacity would be needed to meet this demand.

The City of San Diego Metropolitan Sewage System (Metro) is in the process of allocating additional capacity rights to participating agencies. As the City's sewage generation approaches

its capacity rights, the City is working with Metro to take appropriate steps to facilitate acquisition of additional treatment capacity to meet the City's build-out needs.

The EIR for the Urban Core Specific Plan indicated that development of the Urban Core Specific Plan would contribute incrementally to impacts to sewer systems serving the region. That EIR noted that the Urban Core Specific Plan, "as well as future development, would be required to adhere to the City's Threshold Standards Policy." This policy requires the City to provide the San Diego Metropolitan Sewer Authority with a 12- to 18-month forecast, to request confirmation that the projection is within the City's purchased capacity rights, and to provide an evaluation of their ability to accommodate the forecast growth. The Urban Core Specific Plan EIR concluded that adherence to the City policies would ensure that cumulative impacts are less than significant.

Chula Vista discharges approximately 17.0 MGD into the Metro system. As part of the recent Wastewater Master Plan Update which was done concurrently with the General Plan Update, the City has projected that, by 2030, the City would be generating approximately 26.2 MGD of sewage. As indicated in *Section 4.14, Public Utilities*, of this report, projected demand for sewage treatment would exceed the remaining available capacity in the year 2030 by 5.33 MGD.

The project adds a peak demand of 2.578 MGD. Considering the identified demand shortfall in the General Plan Update and the SBRP, this additional demand is cumulatively considerable. As identified in *Section 4.14, Public Utilities*, the Proposed Project would increase the demand for sewage treatment. While the City currently has adequate capacity available in the Metro system, by the year 2030 there would be a short-fall; the Proposed Project represents a cumulatively considerable contribution to that short-fall. This would be a significant cumulative impact (**Significant Impact 6.15.2-1**).

#### **6.15.2.2 Mitigation Measures**

##### **Mitigation Measure 6.15.2-1**

The following measure shall be implemented to mitigate for **Significant Impact 6.15.2-1**:

**Port/City:** 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.

### **6.15.3 Solid Waste Management**

#### **6.15.3.1 Cumulative Impact Analysis**

Build-out of the Proposed Project would increase the amount of solid waste generated within the region. As discussed in *Section 4.14* of this report, the nearest landfill to the project site is the Otay Landfill, which has adequate capacity through 2027. Additionally, as required by the City of Chula Vista, all development completed under the Proposed Project would implement programs and policies related to solid waste management, which include curbside recycling programs.

The EIR for the General Plan Update addressed the effects of build-out of the City on the ability of the Otay Landfill to accommodate growth in solid waste. That analysis concluded that there was sufficient capacity at the landfill to accommodate projected population at build-out (approximately 314,388 people), and that there was no significant impact to integrated waste management services. The General Plan analysis included the forecast for the future population of the Urban Core Specific Plan as well as the ongoing contributions to the landfill from outside of the City.

The General Plan Update EIR concluded that the landfill had sufficient capacity for 25 years. The direct impact analysis for the Proposed Project indicates that, with the Proposed Project, the capacity is sufficient through the year 2027. Therefore, cumulative impacts to integrated waste management are not significant because the Otay Landfill has sufficient capacity to serve the increase in solid waste resulting from the Proposed Project and other projects as assessed through the General Plan Update through project build-out.

#### **6.15.3.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to solid waste management in the project area. Accordingly, no mitigation measures would be required.

### **6.15.4 Fire Protection**

#### **6.15.4.1 Cumulative Impact Analysis**

The Chula Vista Fire Department does not currently meet the threshold standards established for response time which requires properly equipped and staffed fire and medical units to respond to

calls citywide within seven minutes for 80 percent of the cases. However, the 2005 Growth Management Oversight Commission Report (Chula Vista, City of 2005c) indicated that, during the latest reporting period, the travel time component has improved, as has dispatch, and that increased response time is attributable to turnout time.

When built out, the Urban Core Specific Plan is the project in the region that would place the greatest cumulative burden on fire protection services. The land uses proposed for the Urban Core Specific Plan project would increase the demand for fire protection services by increasing development densities in the Urban Core Specific Plan Subdistrict Areas. The Urban Core Specific Plan draft EIR indicated that the updated Fire Master Plan, which is under preparation, indicates that “sufficient facilities will exist to serve the proposed Urban Core Specific Plan, but to attain threshold service level, additional personnel would be required.”

The Proposed Project proposes a new fire station that would need to be constructed in order to provide the minimum level of fire and life safety services for the project and serve the cumulative demand required by the projected growth in the remainder of the City. In light of the cumulative demand of the Urban Core Specific Plan, the Proposed Project, and the other specific plans called for in the recent General Plan Update, there would not be a significant cumulative impact to fire protection services.

### **6.15.5 Police Protection**

#### **6.15.5.1 Cumulative Impact Analysis**

The Police Department currently meets the City threshold for responding to Priority One calls within 7 minutes but does not meet the City threshold for Priority Two calls. The Police Department currently responds to 82.1 percent of Priority I calls and 48.4 percent of Priority II calls within the 7-minute response threshold.

The land uses allowed in the Urban Core Specific Plan would result in an increase in calls for police service within the Subdistrict Areas. The Urban Core Specific Plan draft EIR indicated that the facility at Fourth and F Streets in the City would “meet the law enforcement needs created by increased demand from new development in the region, including the proposed project.” However, in order to maintain response times, more police officers would be needed. It was noted that the 7,100 additional residential units and 3.6 million square feet of commercial space permitted in the Urban Core Specific Plan would place substantial demands on existing law enforcement services.

The Proposed Project would generate a demand for police services. It is forecast that six additional police officers may be needed to serve the project. Calculations regarding the generation of citizen-initiated calls for service and estimated need for more police officers as a

result of the proposed project components along with other projects in the area would substantially strain the police protection services and facilities expected to serve the project site. The additional staffing and equipment required will be provided by the City and will be funded by revenues generated by the Proposed Project. Project impacts to police protection services would therefore be less than significant and would not represent a cumulatively considerable impact.

## 6.15.6 Schools

### 6.15.6.1 Cumulative Impact Analysis

The EIR for the General Plan Update indicated that build-out under the adopted General Plan would generate an estimated 27,576 K through 6 students, which would result in the need for one Chula Vista Elementary School District (CVESD) school in the northwest and none in the southwest. In the east, the adopted General Development Plan identifies seven CVESD-operated schools planned for future construction, two of which are currently under construction; build-out under the adopted General Plan would not require additional CVESD schools in the east beyond those currently planned.

In western Chula Vista, the General Plan Update would result in increased school enrollment. In eastern Chula Vista, one Sweetwater Union High School District (SUHSD) high school and two middle schools have already been planned for construction to meet growing demand. SUHSD provided a report based on the current student generation rate, which indicates that an additional high school would be needed to meet the projected increase in the number of high school students with adoption of the proposed General Plan Update.

The Urban Core Specific Plan is in conformance with the General Plan and does not include a general plan amendment. At build-out, the Urban Core Specific Plan is expected to generate a net increase of approximately 3,877 students between elementary, middle school, and high school grades. As identified in *Section 4.13.4* of this report, development of the Proposed Project would result in 1,500 new multifamily units, which would increase the demand on elementary, middle, and high schools in the area by approximately 1,092 students.

Because the schools that serve the Proposed Project are currently at or near capacity, the additional students created by the Proposed Project, the Urban Core Specific Plan, and the other specific plans called for in the General Plan Update would result in significant cumulative impacts to the existing school districts. This would be a significant cumulative impact (**Significant Impact 6.15.6-1**).

### 6.15.6.2 Mitigation Measures

#### Mitigation Measure 6.15.6-1

The following mitigation measure would be required to reduce potential significant school impacts to a less than significant level during Phases I and II (see **Significant Impact 6.15.6-1**).

**Port/City:** Prior to the issuance of a building permit, the applicant shall pay all required school mitigation fees.

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.

### 6.15.7 Library Service

#### 6.15.7.1 Cumulative Impact Analysis

The EIR for the General Plan Update indicated that build-out under the adopted General Plan would require 51,942 square feet of additional library space to meet the forecasted population growth. This includes the approximately 9,159 square feet of library facilities and 54,954 books that are projected to be needed by the Urban Core Specific Plan.

Based on a population rate of 2.159 persons per multifamily unit, the 1,500 dwelling units would result in a total population of approximately 3,239 people. As a result of this expected population increase, the project would require approximately 1,620 square feet of library facilities.

There are currently three full-service libraries in the City: the Civic Center Branch, the South Chula Vista Branch, and the East Lake Branch. The three facilities comprise a total of 102,000 square feet of library space, including 14,000 square feet of administrative facility space. In addition to the three full-service libraries, the Chula Vista Heritage Museum is part of the Chula Vista Public Library System and a Chapter of the Friends of the Library. The Library’s 1998 Facilities Master Plan calls for two additional branch libraries to be constructed prior to 2020 to serve the eastern side of the City. These facilities include a 31,500 square feet full-service library in Rancho del Rey, to be completed by the summer of 2007, and an approximately 30,000 square feet library in the Eastern Urban Center in the Otay Ranch.

Development of the Proposed Project would increase demands on the existing library services in the project area to serve its residents. As identified in *Section 4.13.5* of this report, the project would contribute an incremental demand on libraries. This would be a significant impact (**Significant Impact 6.15.7-1**).

The Municipal Code of the City of Chula Vista does not apply a service demand requirement for libraries to commercial or industrial acreage. As such, the impact and required mitigation only apply to residential uses. Because the service demand for libraries is only applied to residential use and there is no residential use within the Port's jurisdiction, no mitigation by the Port is required.

#### **6.15.7.2 Mitigation Measures**

##### **Mitigation Measure 6.15.7-1**

To mitigate this cumulative impact, the following measure shall be implemented to mitigate for **Significant Impact 6.15.7-1**:

**City:** 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.

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 mitigate, implementation of the measure would not reduce the significant impact to library services to a level below significance.

#### **6.15.8 Parks and Recreation**

##### **6.15.8.1 Cumulative Impact Analysis**

As described in *Section 4.13.3* of this report, the Proposed Project would exceed the minimum parkland requirement of 27.48 acres (pursuant to the Chula Vista Municipal Code Chapter 17.10.040). Although the Port is not subject to the City's requirements, for purposes of this project, City requirements were used. Because the project would provide more parkland than required, the project would not contribute to a significant cumulative impact on local and regional park and recreational facilities. Instead, the Proposed Project would result in an overall benefit to the communities within Chula Vista.

The Proposed Project will provide a variety of recreational facilities, distributing park types and facilities throughout the project area. As proposed, Phase I of the project would develop approximately 26 acres of new parkland in the Sweetwater and Harbor Districts. In addition, approximately 27 acres of new parkland will be provided in Phases II, III, and IV. The Proposed Project also includes reconfiguration of existing parkland, for a total delivery of approximately 80.1 acres of parkland. Physical deterioration of existing regional and neighborhood parks would therefore not occur as a result of the Proposed Project, and the project would not contribute to a cumulatively considerable impact upon parklands.

#### **6.15.8.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to parks and recreation in the project area. Accordingly, no mitigation measures would be required.

### **6.16 Seismic and Geologic Hazards**

#### **6.16.1 Cumulative Impact Analysis**

The major geologic hazards associated with the Proposed Project and future development are related to earthquakes, expansive soils, liquefaction, and seismically induced settlement. The increase in population that would occur with build-out of the Proposed Project and the City's General Plan would combine with other population growth in the county that would expose more people to similar risks.

As discussed in *Section 4.15, Seismic/Geologic Hazards*, implementation of the required mitigation measures would reduce all significant adverse impacts identified regarding the geology and soils of the CVBMP area to levels less than significant. Potential impacts to future development would be reduced to below a level of significance through implementation of remedial measures identified in the geotechnical investigations, which are required by the Grading Ordinance for all new development within the City. In addition, conformance to building construction standards for seismic safety from the California Building Code would assure that new structures would be able to withstand anticipated seismic events within the City. Therefore, implementation of the Proposed Project and associated future development would not result in significant cumulative impacts to seismic and geologic hazards.

#### **6.16.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to geologic hazards in the project area. Accordingly, no mitigation measures would be required.

## 6.17 Energy

### 6.17.1 Cumulative Impact Analysis

The cumulative assessment of energy impacts relies on the SANDAG Regional Comprehensive Plan and the General Plan Update. The Regional Comprehensive Plan concluded that future population growth in the Southern California/Northern Baja California, Mexico region would result in an increase in the need for energy resources, which would be considered to have a cumulatively significant energy impact. The General Plan Update EIR concluded that, because there is no assurance of a long-term supply of energy in the future, the increased projected energy demand results in a significant impact.

The General Plan Update EIR indicates that the adopted General Plan will create a demand of 1,212 million kWh of electricity and 65.5 million therms of natural gas (not including the gas consumed by the SPBB). As indicated in *Section 4.16, Energy*, of this report, SDG&E has indicated that, without an increased import capacity of at least 500 MW, there would be a long-term grid reliability deficiency (Brown 2004). As population increases, demand for energy also increases.

The largest consumer of natural gas in the City is the SBPP. The current facility has a maximum fuel gas demand of 177 standard cubic feet per day. The General Plan Update EIR indicated that the SBPP represented approximately two-thirds of the natural gas used in the City. This demand is not reflected in the forecast demand of 65.5 million therms projected by the City for the General Plan.

To address long-term energy needs, SDG&E has filed a resource plan with CPUC, which proposes a mix of conservation, demand response, generation, and transmission to provide reliable energy for the next 20 years ([http://www.sdenergy.org/uploads/7-9-04SDG&E\\_LTRP.pdf](http://www.sdenergy.org/uploads/7-9-04SDG&E_LTRP.pdf)). In addition to SDG&E's long-term strategy, the City of Chula Vista has objectives and policies contained in the General Plan that promote the use of non-polluting and renewable alternatives to vehicle travel and seek to reduce energy consumption by optimizing traffic flow, directing higher-density housing within walking distance of transit facilities; this would reduce energy demand. Implementation of the policies and objectives contained in the General Plan will aid in reducing adverse energy impacts.

As noted in *Section 4.16, Energy*, of this report, efficiency programs average-year annual energy needs are substantially met by existing SDG&E resources and renewable purchases through 2010. In a high-demand year, the additional energy would come from additional purchases from the market and from local generation added primarily for grid reliability. By 2011, approximately 25 percent of average-year energy would come from resource addition, including additional renewable purchases, on- and off-system generation, and purchases for the market,

facilitated by the additional import capability provided by the added transmission interconnection (SDG&E 2003). SDG&E is currently processing a project to bring an additional 500 MW import capacity into the area. Mitigation measures detailed in Section 4.16, Energy, include design measures that reduce energy consumption in building design, along with the SDG&E efforts for long-term energy supply as outlined in their filing with the CPUC; However, due to the uncertain nature of long-term energy supply, energy impacts are cumulatively significant (**Significant Impact 6.17-1**).

## 6.17.2 Mitigation Measures

### Mitigation Measure 6.17-1

The following mitigation measure would be required to reduce potential cumulative impacts to energy (see **Significant Impact 6.17-1**).

**Port/City:** Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.

- 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.

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.

## 6.18 Population and Housing

### 6.18.1 Cumulative Impact Analysis

The Regional Comprehensive Plan EIR prepared by SANDAG (2004) indicates that there will be a potential increase in regional population between 2004 and 2030 of 1,012,737 people and an increase of 301,065 housing units. These figures represent a 3.4 percent increase over previous Regional Comprehensive Plan projections. The Regional Comprehensive Plan EIR concluded that this represented a significant regional impact to population and housing. Of the million person increase anticipated in the region, the Chula Vista General Plan represents about 10

percent of that amount. The increase in housing units represents about 14 percent of the regional housing growth.

Between 2004 and 2030, the City's population is expected to increase by over 30 percent, a net gain of approximately 90,564 persons by 2030. As part of the draft EIR for the Urban Core Specific Plan, build-out of the Urban Core Specific Plan Subdistrict Areas was projected to result in a total Urban Core population of 27,864 by 2030, nearly triple the existing population.

As an implementing document of the General Plan Update, the Urban Core Specific Plan is intended to accommodate a portion of the City's projected growth in a logical and deliberate manner that enhances Chula Vista's Urban Core; the Urban Core Specific Plan augments the City's supply and variety of housing.

Currently, the Chula Vista General Plan allocates 1,000 residential units within the plan area. Thus, the Proposed Project would represent an increase in housing (by 500 residential units) over the existing plan.

Using the population generation rate of 2.519 used in the General Plan, the additional 500 units currently planned in the Sweetwater District would have a population of 1,259 people.

Currently, the City has a population of 222,300 people. As stated in the General Plan Update EIR, the projected population at build-out of the City (2030) would be 326,900. This represents an increase of 104,600 through 2030. This forecast assumes that approximately 1,259 people will be living in the Sweetwater District by that time.

This population represents less than one percent of the forecast City population in the year 2030. The population of 2,519 people in the Bayfront planning area projected for the General Plan was 0.3 percent of the forecast 2030 population. The approximate 0.7 percent increase in the City's projected population due to the Proposed Project relative to the adopted project would not be cumulatively significant on a regional level.

### **6.18.2 Mitigation Measures**

The Proposed Project would not result in cumulative impacts to population and housing in the project area. Accordingly, no mitigation measures would be required.

## CHAPTER 7 OTHER REQUIRED CONSIDERATIONS

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### 7.1 Growth Inducement

According to Section 15126.2 (d) of the CEQA Guidelines, a project induces growth when it directly or indirectly:

- Fosters economic growth, population growth, or the construction of additional housing in the surrounding environment
- Removes obstacles to population growth
- Taxes public facilities and services

Encourages or facilitates other activities that could significantly affect the environment, either individually or cumulatively.

Direct growth-inducing impacts are commonly associated with the development of new public services, utilities, and roads in previously undeveloped areas. The provision of such necessities in a non-serviced area can induce growth between newly serviced areas and the community from which the facilities are obtained. Furthermore, increases in the population may tax existing community service facilities, requiring construction of new facilities, ultimately resulting in an increase in pace or density of the existing surrounding development. Indirect growth-inducing impacts include an increased demand for housing, commodities, and services that new development causes or attracts by increasing population in an area.

The Proposed Project area is currently developed with infrastructure and public amenities including roads, parks, light industrial buildings and facilities, parking lots, a harbor with two marinas and restaurants, a boatyard, and an RV park. In addition, public services and facilities, such as water and sewer lines as well as police and fire protection, are provided to the site, and approved plans for additional development currently exist. The current City of Chula Vista General Plan (Chula Vista, City of 1995) allocates 400 residential units within the plan area. The Proposed Project proposes an increase of 500 multifamily units as compared to the existing plan, which would be considered growth inducing. The Port Master Plan (PMP) does not anticipate or allow development of any additional residential development within its jurisdiction but does propose a dramatic change in use, replacing existing industrial use designations in the Harbor District with a mix of hotel, retail, office, and cultural uses.

The Proposed Project is expected to contribute greatly to the economy of the Chula Vista region in terms of jobs, personal income, and tax revenues. New development, including the RCC, residential, high-tech businesses, visitor-serving retail, parkland, and open space, would increase activity and use of the Bayfront. Increased use would place a demand on public services and would create demand for more retail businesses, such as gas stations and food stores, ultimately

creating new jobs. It is expected that both locally unemployed and under-employed persons as well as people from regions outside of San Diego County would fill most of the jobs created by implementation of the Proposed Project.

An influx of new permanent residents into San Diego County could result from project implementation. Therefore, the Proposed Project, as discussed in the impact analysis in *Section 4.17.3*, and any of the alternatives, as discussed in *Chapter 5, Alternatives*, would foster local economic growth in the area.

## 7.2 Unavoidable and Irreversible Significant Environmental Effects

Section 15126.2 (b) and (c) of the CEQA Guidelines, respectively, require that an Environmental Impact Report (EIR) address any significant environmental effects that cannot be avoided as well as any irreversible changes to the environment that may result from implementation of the Proposed Project. This discussion shall include significant impacts that can be mitigated, but not below a level of significance.

Significant environmental impacts have been identified for 13 issue areas analyzed in *Chapter 4, Environmental Analysis*, of this report. Impacts to land/water use compatibility, traffic and circulation, urban design/visual quality, hydrology/water quality, air quality, noise, terrestrial biological resources, marine biological resources, paleontological resources, hazards and hazardous materials/public safety, public services (excluding parks), public utilities (except potable water supply), and seismic/geologic hazards would be reduced with the implementation of mitigation. Although mitigation measures are required to reduce the significant effects of traffic impacts on local roadway segments and freeway segments, visual impacts resulting from the height and mass of buildings, impacts resulting from potable water supply availability, air quality impacts, and cumulative energy impacts, these impacts could not be reduced to a level below significant. All other impacts are either less than significant or can be reduced to a less than significant level with implementation of proposed mitigation.

## 7.3 Effects Found Not to Be Significant

Environmental effects found not to be significant include parking, cultural resources, parks, energy, and population and housing. In addition, as part of the analysis conducted for the Proposed Project, consideration was given to the potential for the development of the Proposed Project to affect the economic condition of the San Diego Convention Center to such an extent that it might lead to the physical deterioration of the City of San Diego. Economic Research Associates (ERA) conducted an analysis that evaluated the economic effect of the Resort Conference Center (RCC) on the San Diego Convention Center (*Appendix 7-1*). As a result of the ERA study, it was determined that the RCC would not have a negative effect on the economic conditions on the San Diego Convention Center and therefore would not result in degradation of the physical environment in the area.

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## **CHAPTER 9**

### **AGENCIES, ORGANIZATIONS, AND PERSONS CONTACTED**

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## CHAPTER 10 EIR PREPARATION AND CERTIFICATION

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This Environmental Impact Report (EIR) was prepared by Dudek, 605 Third Street, Encinitas, California 92024, based upon a previous draft prepared by RECON Environmental, Inc. The following professional staff participated in the preparation of the EIR:

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**Certification**

I hereby certify that the statements furnished above present the data and information required for this report to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: April 12, 2010

Signature: \_\_\_\_\_



John W. Helmer

~~Acting~~ Director, Land Use Planning

San Diego Unified Port District