ADP No: 050927-164

Wilmington Waterfront Development Project

Draft Environmental Impact Report

Volume I

Prepared by:

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THE PORT OF LOS ANGELES

LAWaterfront

with assistance from:

ICF Jones & Stokes
an ICF International Company

December 2008

WILMINGTON WATERFRONT DEVELOPMENT PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME I

SCH# 2008031065

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December 2008

ICF Jones & Stokes. 2008. Wilmington Waterfront Development Project Draft EIR. December. (ICF J&S 00859.07.) San Diego, CA. Prepared for: Los Angeles Harbor Department.

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EXECUTIVE SUMMARY

ES.1 Introduction

This draft environmental impact report (EIR) assesses impacts related to the Wilmington Waterfront Development Project proposed by the Los Angeles Harbor Department (LAHD). LAHD administers development within the Port of Los Angeles (Port) and overall Port operations. The proposed Project is located in the Port of Los Angeles Plan area and in the Wilmington-Harbor City Community Plan area. The western portion of the proposed Project is adjacent to the community of San Pedro in the City of Los Angeles.

This draft EIR fulfills the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act of 1970 (CEQA Guidelines) (14 California Code of Regulations [CCR] Section 15000 et seq.). LAHD is the CEQA lead agency.

The draft EIR describes the environmental resources that would be affected by the proposed Project and evaluates the significance of the potential impacts to those resources as a result of constructing and operating the proposed Project.

ES.1.1 Project Boundary

The proposed Project site is generally bounded by Lagoon Avenue to the west, Broad Avenue to the east, C Street to the north, and Slip 5 to the south, where over-water viewing piers and floating docks are proposed. The site includes the Waterfront Red Car Line and the multi-modal California Coastal Trail (CCT) linkages beginning in the west at Swinford Street, moving along Front Street to John S. Gibson Boulevard, and then along Harry Bridges Boulevard until it terminates at Avalon Boulevard in the east. The proposed Project includes several components and associated infrastructure improvements that would occur over an approximately 94–acre area. The recreational and open space areas within the proposed Project area would be operated by LAHD and the City of Los Angeles.

ES.1.2 Project Summary and Highlights

The proposed Project involves development of a variety of land uses within the three distinct areas of the proposed project site: (1) the Avalon Development District, (2) the Avalon Waterfront District, and (3) the Waterfront Red Car Line Extension and multi-modal CCT linkage area. The draft EIR describes the environmental resources that would be affected by the proposed Project. The draft EIR will address elements of the proposed Project in these three areas on both the program and project level. A program-level analysis is prepared when the lead agency has a proposed program or series of actions that can be characterized as one large project, and some specific design information may be uncertain. A program-level analysis generally analyzes broad environmental effects of the program with the understanding that additional site-specific environmental review may be required for particular aspects of the program when those aspects are proposed for implementation and construction. Below highlights the major elements of each of the three areas, except where indicated all elements will be analyzed at a project-level analysis.

ES.1.2.1 Avalon Development District (Areas A and B)

Proposed Project elements in this area include (1) infrastructure improvements to support up to 150,000 square feet of light industrial development analyzed a a program level; (2) development of up to 58,000 square feet of commercial uses; (3) sidewalk and pedestrian-oriented enhancements along Island, Fries, and Marine Avenues, Harry Bridges and Avalon Boulevards, and C street; (4) a 1-acre passive park located on the vacant Railroad Green; and (5) adaptive reuse of the historic 14,500-square-foot Bekins Storage property for a Waterfront Red Car Museum.

ES.1.2.2 Avalon Waterfront District

Proposed Project actions or elements in this area include:

- Constructing pedestrian-oriented features and improvements such as a waterfront promenade with 12,000 square feet of restaurant/visitor-serving retail development, a 200-foot Observation Tower with a pedestrian ramp, a 10-acre Land Bridge with an elevated park, and a pedestrian "water" bridge enhanced by an integrated water feature that would provide the surrounding Community with open space and improved pedestrian access to the waterfront;
- Demolishing the Los Angeles Department of Water and Power (LADWP) Marine Tank site and associated pipe conveyance infrastructure, and remediating the site;
- Programmatically evaluating the feasible relocation of the Marine Tank Farm liquid bulk storage tanks to an existing liquid bulk storage tank facility (the Olympic Tank Farm) located 1.5 miles northeast of the proposed project site on the southeastern corner of Alameda and Robidoux Streets; and

- Vacating Avalon Boulevard south of A Street, realigning Broad Avenue to the waterfront, and realigning Water Street to run adjacent to the Pacific Harbor Rail Line, which would travel under the Land Bridge to improve pedestrian circulation and provide space for the waterfront promenade.

ES.1.2.3 Waterfront Red Car Line/Multi-Modal California Coastal Trail Extension

The proposed Project includes a program-level analysis to extend the Waterfront Red Car Line from Swinford Street in the west to Avalon Boulevard in the east, connecting the communities of San Pedro and Wilmington. The proposed Project would also extend the Multi-Modal California Coastal Trail (CCT) in the San Pedro Community from Swinford Street in the west to the Wilmington Community at Avalon Boulevard in the east.

ES.1.2.4 Project Sustainability and Design Features

The Wilmington Waterfront Project is intended to showcase LAHD's commitment to sustainability. The proposed Project would incorporate a number of sustainable elements focusing on the effort of LAHD to create a green Port. These are analyzed as part of the proposed Project within this draft EIR. Additionally, the proposed Project would incorporate several features to enhance the proposed Project's final design. While not required to mitigate a significant impact, these design measures also serve to further minimize the proposed Project's effect on surrounding uses and environmental resources. The following proposed project elements and design measures are consistent with LAHD's Sustainability Program and policies:

- Use recycled water from the existing 24-inch recycled water main under Harry Bridges Boulevard for all landscaping and water feature purposes to decrease the proposed Project's use of potable water;
- Drought-tolerant plants and shade trees would be included in the planting palette;
- Increase permeable surfaces and improve stormwater runoff quality by installing bioswales and permeable pavement at the surface parking locations to reduce stormwater runoff and provide natural filtration of pollutants;
- Install approximately 20,000 square feet of solar panels on the shade pavilions on the Land Bridge and waterfront piers with a goal of achieving up to 12.5% of the proposed Project's energy needs;
- Provide incentives for green incubator technologies and businesses to locate within the 150,000 square feet of proposed light and limited industrial within the Avalon Development District;
- Require LEED™ certification for all new buildings as feasible by implementing and ensuring consistency with the LAHD's Green Building Policy, Leadership in

Energy and Environmental Design (LEED) Certification (minimum Silver) is required for all new development over 7,500 square feet;

- Follow LAHD sustainable engineering design guidelines in the siting and design of new development; and,
- Employ LAHD sustainability measures during construction and operation and use recycled and locally derived materials for proposed project construction, while achieving recycling goals for construction and demolition debris.
- Implement energy efficient design features in the final design to help ensure energy needs are minimized to the extent feasible during construction and operation of the proposed Project (as specified in Chapter 3.2, "Air Quality and Meteorology," and Chapter 3.12, "Utilities").
- Implement water quality and conservation design features in the final design to help ensure water quality impacts are minimized during construction at the water's edge and in the water and operationally through the use of construction BMPs and bioswales (as specified in Chapter 3.14, "Water Quality, Sediments, and Oceanography"). Additionally, the proposed Project's use of potable water would be reduced through the use of reclaimed water for irrigation and water features (as specified in Chapter 3.12 "Utilities").
- Implement noise design features**.** Site commercial uses at the waterfront (i.e. 12,000 square feet of restaurant/visitor-serving retail) would be located more than 100 feet from the heavily used San Pedro Branch Line and TraPac ICTF lead (as specified in Chapter 3.9, "Noise").
- Implement aesthetic design features. Public art, consistent with the Wilmington Waterfront Development Program Public Art Master Plan, would be integrated into the proposed project area and would include up to two major sculptural pieces. Views of the waterfront and Wilmington community would be created through the construction of the elevated park, pedestrian bridge, and observation tower. The proposed Project would also implement the Wilmington Waterfront Development Program Lighting Design Guidelines to improve efficiency and reduce glare (as specified in Chapter 3.1, "Aesthetics").
- Implement pedestrian access and public docking design features**.** Pedestrian access to the waterfront and throughout the proposed project site would be improved through the extension of the California Coastal Trail and Waterfront Red Car Line, pedestrian water bridge, elevated park/Land Bridge, and waterfront promenade. Additionally, the proposed Project would create more public docking opportunities and improve waterside access to the Wilmington Waterfront. A water taxi service stop could also be accommodated.

ES.1.2.5 Proposed Planning/Land Use Changes

The proposed Project would also include amendments to the City of Los Angeles General Plan, the Port of Los Angeles Plan (Port Plan), the Wilmington-Harbor City Community Plan (CP), and the Port Master Plan (PMP) as listed below:

- Extend the Port Plan jurisdictional boundary from Water Street north to Harry Bridges Boulevard and from Broad Avenue in the east to Marine Avenue in the west, to include the single block of the Avalon Development District south of Harry Bridges Boulevard, the Avalon Triangle Park development site, and the Avalon Waterfront District, resulting in a corresponding retraction of the Wilmington-Harbor City CP jurisdictional boundary;
- Extend the PMP jurisdictional boundary to match the Port Plan adjustment, which would include the single block of the Avalon Development District south of Harry Bridges Boulevard, the Avalon Triangle Park development site, and the Avalon Waterfront District to be consistent with the Port Plan jurisdictional boundary change
- Amend the City of Los Angeles General Plan to downgrade existing streets including Avalon Boulevard. This would include the downgrade of Avalon Boulevard from a collector street to a local street from Harry Bridges Boulevard south to its terminus at Water Street.
- Amend Port Plan existing land use designation of General/Bulk Cargo & Commercial/Industrial Uses Non-hazardous in PA 5 to add Recreation (this would include the waterfront area and the area where Triangle Park would be located);
- Amend Port Master Plan's existing land use designations for PA 5 (General Cargo, Liquid Bulk, Dry Bulk, Commercial Fishing, Industrial, Institutional, Other) to add Recreation and Commercial (non-fishing related) land uses; and
- Amend the Los Angeles Municipal Zoning Code (including previous and expanded boundary) to add Recreation, consistent with the Tidelands Trust to accommodate proposed project components (e.g., waterfront promenade, Land Bridge, Observation Tower). The Triangle Park area would be rezoned to Open Space.

ES.2 Purpose of this Draft EIR

This draft EIR will be used to inform decision makers and the public about the potential significant environmental effects of the proposed Project. Section 1.4 describes the agencies that are expected to use this document, including the lead and responsible agencies under CEQA. Section 1.5 describes the scope and content required of an EIR, and Section 1.6 describes the key principles guiding the preparation of this document.

This draft EIR is being provided to the public for review and comment, and to assist them in participating in the planning process. After public review and comment, a final EIR will be prepared that will include responses to comments on the draft EIR received from agencies, organizations, and individuals. The final EIR will provide the basis for decision making by the CEQA lead agency, as described below, and other responsible agencies.

ES.2.1 CEQA Introduction

This EIR is being prepared by the LAHD in compliance with the CEQA Statute and the CEQA Guidelines, which require the evaluation of potential environmental impacts resulting from LAHD discretionary decisions.

CEQA was enacted by the California legislature in 1970 and requires public agency decision makers to consider the environmental effects of their actions. When a state or local agency determines that a proposed project has the potential to significantly affect the environment, an EIR is prepared. According to Section 15121(a) of the CEQA Guidelines (CCR, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that identifies significant effects of a proposed project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided. A public agency must mitigate or avoid significant environmental impacts of projects it carries out or approves whenever it is feasible to do so. In instances where significant impacts cannot be avoided or mitigated, the project may nonetheless be carried out or approved if the approving agency finds that economic, legal, social, technological, or other benefits outweigh the unavoidable significant environmental effects.

The Port of Los Angeles is specifically recognized in the California Coastal Act of 1976 (PRC §§ 30000 et seq.) as a primary economic and coastal resource, essential to the national maritime industry (PRC § 30701(a).) The State of California granted the submerged lands and tidelands comprising the Port in trust to the City of Los Angeles in 1929 by statute commonly referred to as the "Los Angeles Tidelands Trust Grant" (Chapter 651, Statutes of 1929, as amended). As trustee of the Port, the LAHD operates it in accordance with the Los Angeles City Charter, the Los Angeles Tidelands Trust Grant, the Public Trust Doctrine and the California Coastal Act. These legal mandates require that LAHD use the Port for the purposes of promoting and accommodating waterborne commerce, navigation, fishery and related purposes.

The actions under consideration by LAHD involve physical changes to the environment that would have a potentially significant impact. In addition, comments provided by public agencies, including responsible and trustee agencies, and the public in response to the Notice of Preparation (NOP) have also indicated that the proposed Project may have significant impacts. Accordingly, an EIR is required. This draft EIR evaluates the direct, indirect, and cumulative impacts of the proposed Project in accordance with the provisions set forth in the CEQA Guidelines.

The primary intended uses of this draft EIR by LAHD is to (1) inform agencies considering permit applications and other actions required to construct, lease, and operate the proposed Project and (2) to inform the public of the potential environmental consequences of the proposed Project. LAHD's certification of the EIR, Notice of Completion, and Statement of Overriding Considerations (if necessary) will document LAHD's decision as to the adequacy of the EIR and will inform subsequent decisions by the LAHD regarding approval and construction of the proposed Project. LAHD would use this EIR to support permit applications, construction contracts, leases, and other actions required to implement the proposed Project and to adopt mitigation measures that, where possible, would reduce or eliminate significant environmental impacts. LAHD

could also use this draft EIR to obtain California Coastal Commission approvals to amend the Port Master Plan to redesignate land areas for Port operations.

Other agencies (federal, state, regional, and local) that have jurisdiction over some part of the proposed Project or a resource area affected by the proposed Project are expected to utilize this EIR as part of their approval or permit processes.

ES.2.1.1 CEQA Baseline

Section 15125 (a) of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a proposed project that exist at the time of the NOP. The conditions that existed at the time the NOP was circulated for review (March 2008) are described in Chapter 2, "Project Description," and are also described in appropriate sections within Chapter 3, "Environmental Analysis," when baseline conditions are formulated from multiple sources of data. These environmental conditions constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. The CEQA baseline represents the setting at a fixed point in time, with no project growth over time. This differs from the No Project Alternative (discussed later in this chapter and in detail in Chapter 5, " Project Alternatives") in that the No Project Alternative addresses what is likely to happen at the site over time, starting from the baseline conditions. The No Project Alternative allows for growth at the proposed project site that would occur without additional discretionary approvals.

ES.3 Existing Environmental Setting

ES.3.1 Regional Setting

The Port is located at the southernmost portion of the City of Los Angeles (City) and comprises 43 miles of waterfront and 7,500 acres of land and water, with approximately 300 commercial berths. The Port is bound by the community of San Pedro to the west, the Wilmington community to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. Figure ES-1 shows the regional location of the proposed project area. **Error! Bookmark not defined.**

The Port is an area of mixed uses, supporting various maritime-themed activities. Port operations are predominantly centered on shipping activities, including containerized, break-bulk, dry-bulk, liquid-bulk, auto, and intermodal rail shipping. In addition to the large shipping industry at the Port, there is also a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards, and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sportfishing and harbor cruises. The Port has retail shops and restaurants, primarily along the west side of the Main Channel. It also has recreation,

community, and educational facilities, such as the Banning's Landing Community Center, the Cabrillo Marine Aquarium, and the Los Angeles Maritime Museum.

ES.3.2 Proposed Project Setting

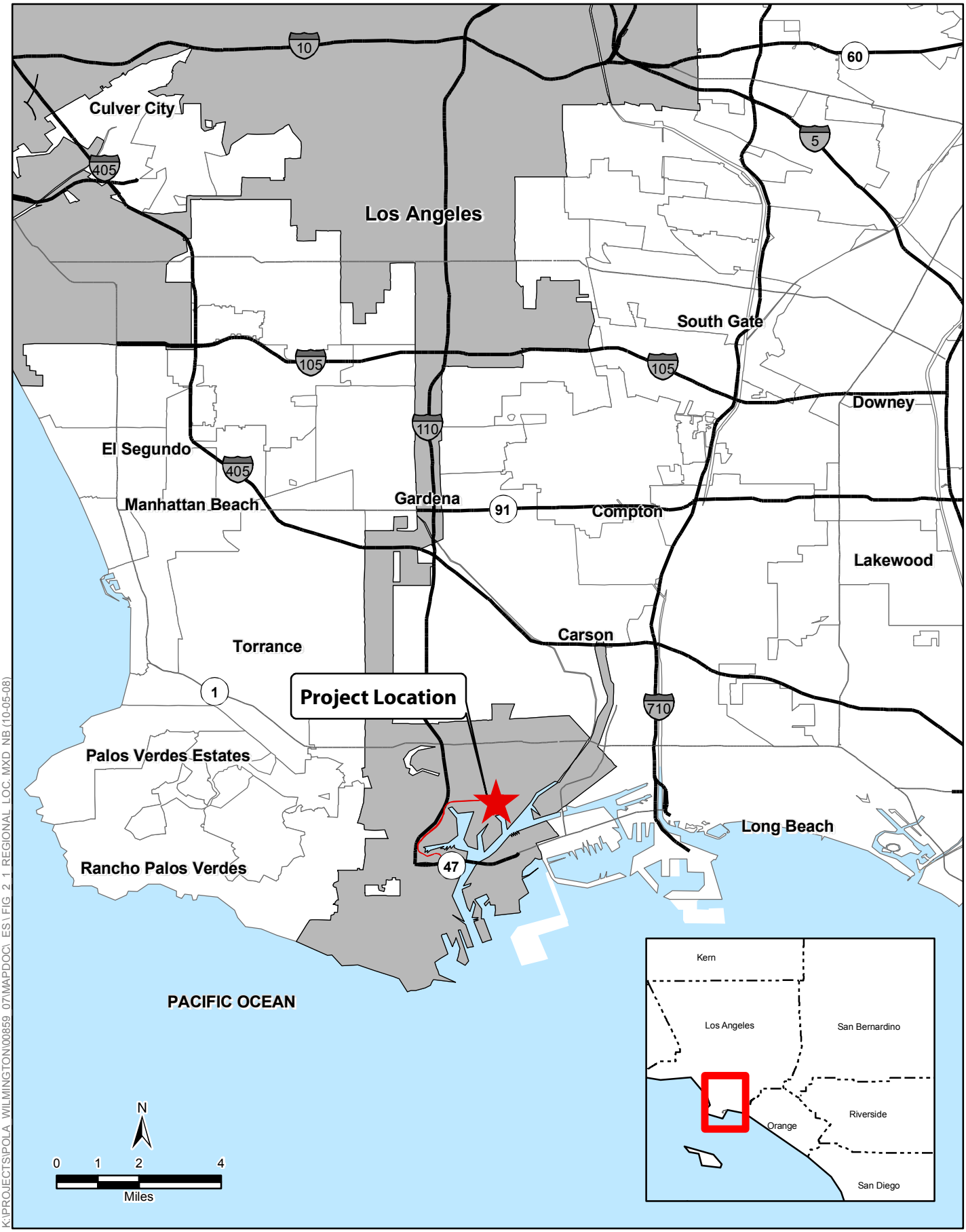
The proposed project site is generally bounded by Lagoon Avenue to the west, Broad Avenue to the east, C Street to the north, and Slip 5 to the south, where over-water viewing piers and floating docks are proposed. The site includes the Waterfront Red Car Line and the multi-modal California Coastal Trail (CCT) linkages beginning in the west at Swinford Street, moving along Front Street to John S. Gibson Boulevard, and then along Harry Bridges Boulevard until terminating at Avalon Boulevard in the east (Figure ES-2).

ES.3.3 Existing Site Conditions

The intersection of Avalon and Harry Bridges Boulevards serves as the gateway to the center of Wilmington's business district (heading north on Avalon Boulevard) and the gateway to the community's waterfront (heading south on Avalon Boulevard). The corridor in this vicinity contains modest one- and two-story commercial and industrial buildings, with many vacant and/or underutilized lots. The Avalon Triangle Park development is proposed on the southeastern corner of the site.

The Avalon Development District is composed of industrial commercial buildings and vacant lots along the north side of Harry Bridges Boulevard, between Lagoon and Broad Avenues south of C Street, as well as a single block located south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue. Existing industrial structures on privately owned, LAHD-leased, and LAHD-owned lots are scattered throughout this district. The historic 14,500-square-foot Bekins building is located at 245 North Fries Avenue/312–326 West C Street. Existing businesses located on private parcels from west to east include Wilmington Iron Works at 432 West C Street; Tenzera, Inc., at 227 North Island Avenue; Harpur's Marine Engines at 502 West C Street; Marine Wholesale & WHSE, CO, at 220 North Fries Avenue, Avalon Rafts at 218 and 221–227 North Avalon Boulevard; LA Bunker Surveyors, Inc, at 214 N. Marine Avenue; Monterey Inn (residential) at 233 North Avalon Boulevard; and Smokey's Cycle Parts at 236 North Avalon Boulevard. Other buildings present in the Avalon Development District, but whose functions are unknown include 414 West C Street, 246 North Fries Avenue, and 229 North Broad Avenue. None of the above privately owned parcels are targeted for modification by the proposed Project with the exception of the historic Bekins buildings, which are planned for rehabilitation in accordance with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings. Figure ES-3 illustrates LAHD-owned, LAHD-leased, and privately owned property.

The Avalon Waterfront District area would include the waterfront promenade area and a Land Bridge with an elevated park. Existing buildings in the waterfront promenade area include the 10,000-square-foot Banning's Landing Community



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SOURCE: ESRI Streetmap USA (2007)

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Figure ES-1
Regional Location
Wilmington Waterfront Development Project

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SOURCE: ESRI USA Imagery (2006)

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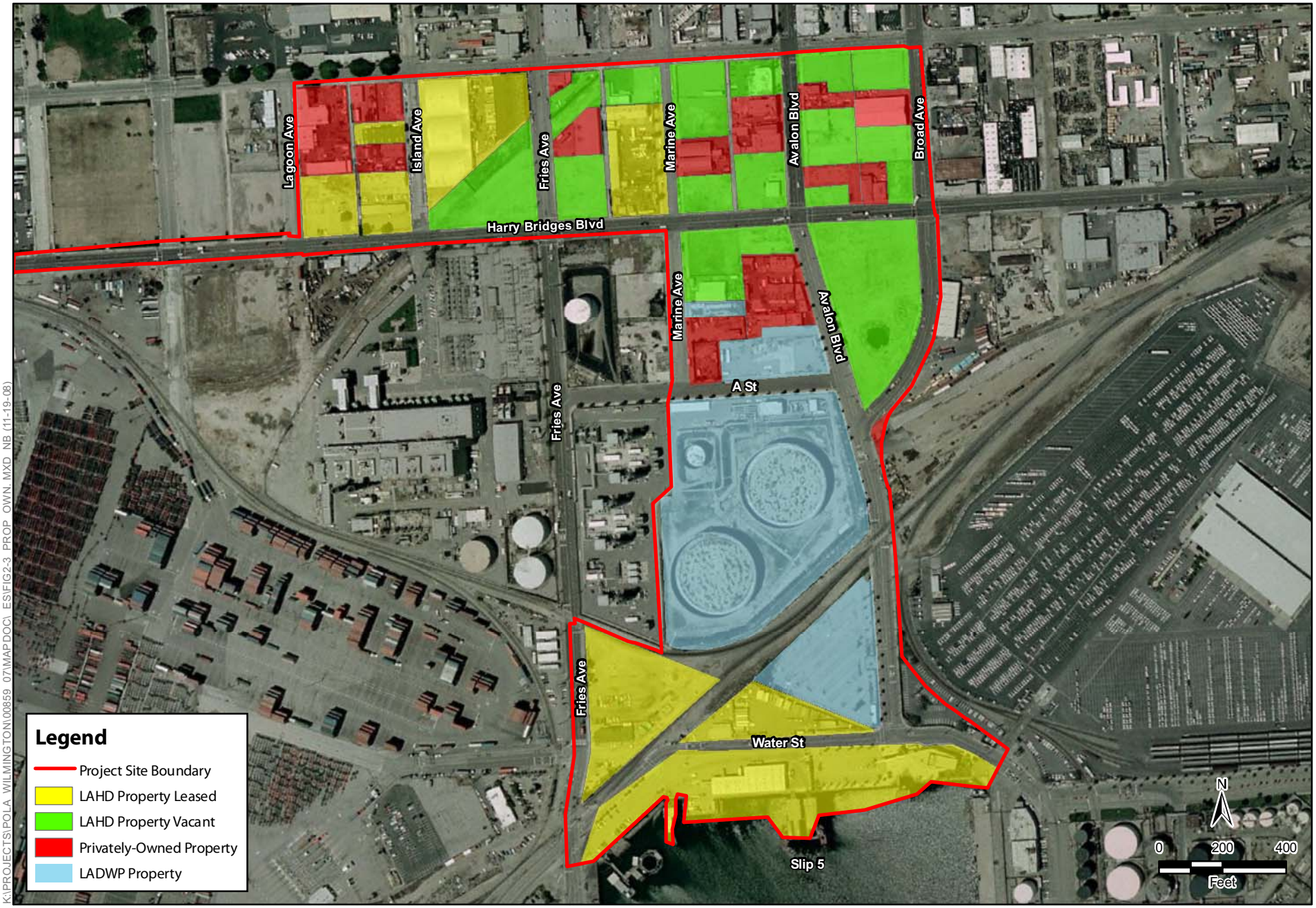
Figure ES-2
Proposed Project Boundary and Surrounding Area
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Port of Los Angeles (2008)

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Figure ES-3
Property Ownership
Wilmington Waterfront Development Project

Center built in 1996, the potentially locally significant National Polytechnic University (College of Oceaneering) building (which would remain), the 30,860-square-foot Catalina Freight building (which would be demolished), and the 2,370-square-foot National Polytechnic College of Science Hyperbaric Chamber building and 1,800-square-foot welding pier immediately south of Water Street (both of which would be demolished).

The major land use in the area of the proposed Land Bridge and elevated park is the existing LADWP Marine Tank Farm site, on Lot 35, a 348,865-square-foot parcel north of Pacific Harbor Rail Line and south of A Street (Figure ES-3 illustrates LAHD-owned, LAHD-leased, and privately owned property). Structures on this parcel include two operational 58,965-square-foot liquid bulk storage tanks, which hold up to 450,000 barrels (bbl), one of which contains raw gas oil and the other hydro-treated gas oil; a smaller operational 30,000 bbl containing hydro-treated gas oil; and six other ancillary structures, which total 18,500 square feet. The Marine Tank Farm's liquid bulk storage tanks and ancillary structures are leased and operated by the Valero Corporation. In addition to this large parcel, LADWP owns Lot 36, a vacant 99,775-square-foot parcel south of the rail line, and Lot 34, a vacant 41,389-square-foot site immediately north of A Street. All LADWP-owned land mentioned above would be dedicated to park use, and existing buildings and structures would be demolished.

The Avalon Triangle Park project site is located on a large, paved vacant lot on the southeast corner of Harry Bridges and Avalon Boulevards. The Avalon Triangle Park project has been planned and assessed under CEQA separately from the proposed Project, but has been designed to complement the planning and design of the proposed Project.

Avalon Triangle Park site is included in the proposed Project area because the site would be within the proposed extension of the Port Plan jurisdictional boundary and would be removed from the Wilmington-Harbor City Community Plan.

The proposed Project includes a programmatic assessment of the relocation of the LADWP Marine Tank Farm to the offsite Olympic Tank Farm, which currently contains nine existing liquid bulk storage tanks. The land is void of natural vegetation. The two areas large enough to accommodate the Marine Tank Farm storage tanks have previously supported storage tanks. The site is located approximately 1.5 miles northeast of the proposed project site, at the southeastern corner of Alameda and Robidoux Streets.

ES.3.4 Surrounding Uses

While the proposed project site lies partially within the Wilmington-Harbor City Community Plan, the majority of the Wilmington community lies north of the proposed Project. Wilmington is approximately 11.40 square miles and is composed of varied land uses. However, the community land uses that surround the proposed project site are almost exclusively light industrial with a small pocket of heavy

commercial. The nearest residential area is within 5 miles of the proposed project site.

The Wilmington Industrial Park is located northeast of the proposed project site and is bounded (approximately) by Anaheim Street on the north, Harry Bridges Boulevard on the south, Alameda Street on the east, and Broad Avenue on the west. The industrial park is designated and zoned for light industry, and is developed with a number of industrial uses, as well as some container and truck storage facilities. Some large areas of land remain vacant and available for development.

Directly east of the proposed project site is the 85-acre Wallenius Wilhelmsen Lines (WWL) Auto Terminal site. WWL deals mainly in vehicle processing and logistics services and can store up to 8,000 vehicles on site. An extensive rail yard for loading and unloading auto racks is located on site. WWL customers at this site include Nissan and Infiniti. WWL Auto has been a tenant at the Port since 1969 (LAHD 2008).

The 34.7-acre Vopak site is situated south of WWL Auto Terminal and the proposed Project. The Vopak site stores liquid bulk chemical products in approximately 60 storage tanks with a total holding capacity of 700,000 bbls. Onsite storage includes organic and inorganic chemicals, petroleum, animal fats and vegetable oils, and dry bulk goods. The Vopak site also supports a bulk cement distribution facility with an 86,000-square-foot warehouse.

Immediately west of the proposed project site is the LADWP Harbor Generating Station (HGS). The HGS is located to the west of Fries Avenue at the intersection of Fries Avenue and A Street. In addition, there are five combustion turbines (also known as Peaker Units) associated with the Harbor Generating Station that are located to the east of Fries Avenue. The HGS is owned and operated by LADWP and is located on an 18.3 acre site outside the existing jurisdiction of the Port Plan and the PMP. It was originally constructed in the late 1940s, with the Peaker Units added in 2001, to provide local in-basin generation, voltage and VAR (Volts Ampere Reactive) support, transmission support, southern system security, and emergency support for the LADWP electrical system. The basic power generation activities and corresponding facility areas are power generation units, electrical switching and receiving, and fuel storage tanks. However, the HGS does have diesel fixed generators to provide emergency power. More detail on the HGS is provided in Chapter 3.7.

Farther west of the proposed project site is the 173-acre Trans Pacific (TraPac) Container site, which has 11 post-Panamax cranes with 100-foot-gauge and 40-long-ton main hoist capacity. The terminal features a 28,000-square-foot maintenance shop, 546 reefer plugs (wheels), 48 grounded plugs, 3 portable generators that maintain an additional 96 plugs, a wash system for the exterior of containers, a wash system for the interior of containers, 10 transtainers, 12 side-handlers, and 4 toplifts. Shipping lines served by TraPac include Mitsui O.S.K., China Shipping, Norasia, Compañia Sudamericana de Vapores, Zim, Wan Hai, APL, Hyundai Merchant Marine Co., and CMA-CGM.

The Los Angeles Board of Harbor Commissioners recently approved the TraPac Container Terminal expansion, located between Berths 136 and 147. The expansion will allow TraPac to expand cargo handling in an efficient manner from 900,000 twenty-foot equivalent units (TEUs) (baseline year 2003) to 2.4 million TEUs by 2025. It is expected that particulate matter of less than 2.5 microns ($PM_{2.5}$) will be reduced by 75% and nitrogen oxides (NOx) will drop by 55% below baseline levels as a result of mitigation measures applied during proposed project operations. By 2015, total proposed project emissions of volatile organic compounds (VOCs), nitrogen oxides (NO_X), sulphur oxides (SO_X), and particulate matter (PM_{10} and $PM_{2.5}$) will be reduced approximately 50%. The health risks associated with the modernized terminal operations will be well below regulatory standards of significance and will reduce the estimated residential cancer risk associated with terminal operations to below baseline levels in large parts of Wilmington.

Much of the proposed Project planning is based upon the Wilmington Waterfront Master Plan Development Program (Program), which is described in detail in ES.7.1, "Project Planning History and Community Involvement." In addition to the Avalon Development District and the Avalon Waterfront District, the Program encompasses the Harry Bridges Buffer Area project located west of Lagoon Avenue. This area, which lies to the northwest of the proposed project site, is intended to provide an open space buffer and visual screening between the Wilmington community and Port industrial operations. Like the Avalon Triangle Park development project, the construction of the Harry Bridges Buffer Area project is proceeding independently and separate from the proposed Project.

ES.4 Proposed Project

ES.4.1 General Overview

The proposed Project involves a variety of land uses within the proposed project area, including public waterfront and open space areas, commercial development, and transportation and parking facilities. Each of these is described in further detail in this section.

ES.4.2 Proposed Project Objectives

CEQA Guidelines (Section 15124(b)) require that the project description contain a statement of objectives, including the underlying purpose of the proposed Project. The proposed Project is intended to fulfill the overall project purpose of the LAHD. The proposed project objectives were developed based on the community planning process that is thoroughly discussed in Chapter 2, "Project Description." The proposed project objectives are described below.

- Create a project that will serve as a regional draw and attract visitors to the Wilmington Waterfront;

- Design and construct a waterfront park, promenade, and dock to enhance the connection of the Wilmington community with the waterfront while integrating design elements related to the Port's and Wilmington's past, present, and future;
- Construct an independent project that integrates design elements consistent with other area community development plans to create a unified Los Angeles waterfront through the integration of publicly oriented improvements;
- Enhance the livability and economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region by promoting sustainable economic development and technologies within the existing commercial Avalon Development District; and
- Integrate environmental measures into design, construction, and operation to create an environmentally responsible project.

ES.4.3 Proposed Project Elements

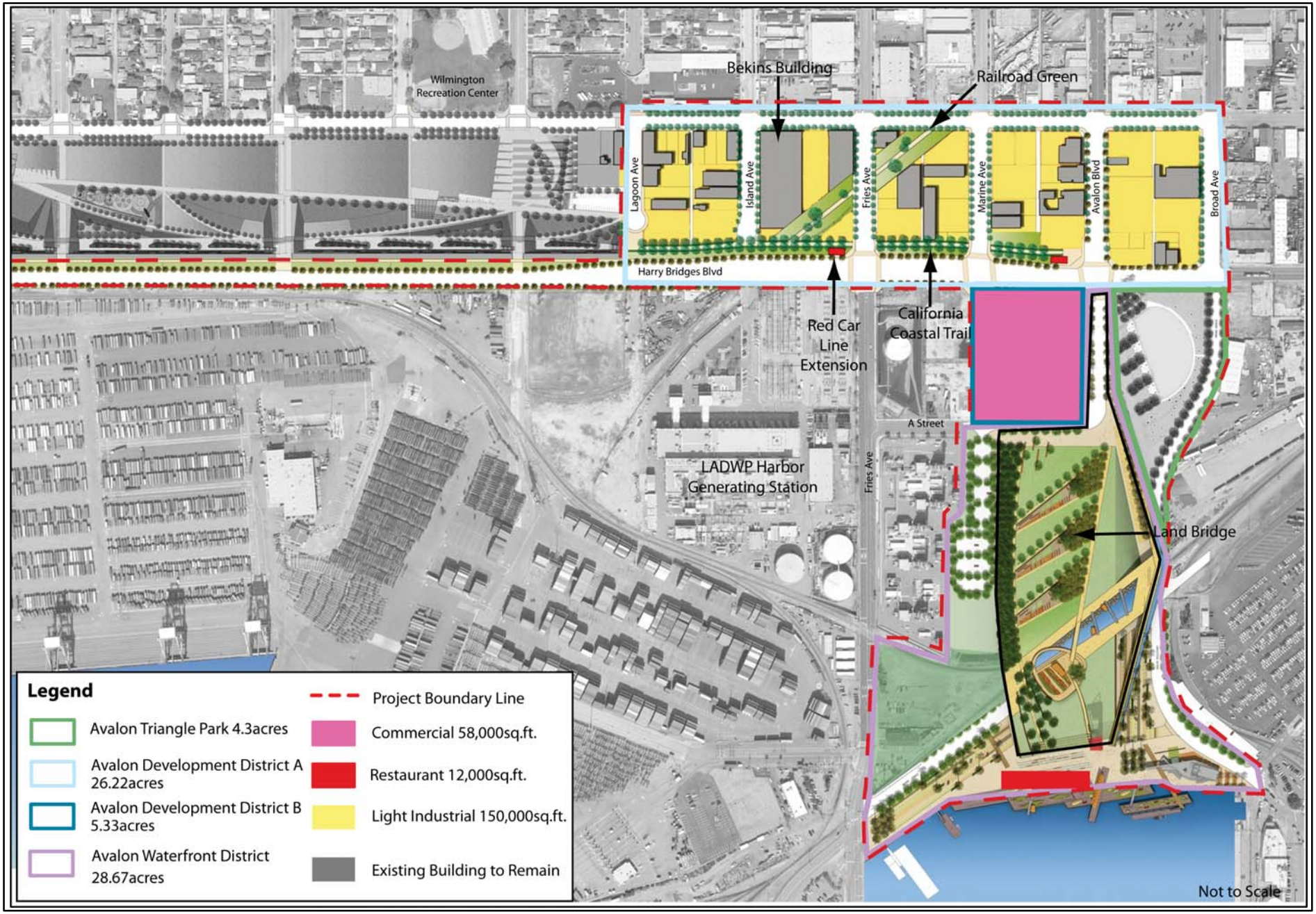
The proposed Project is composed of several actions and elements spread over approximately 94 acres. Development under the proposed Project would occur in the following three areas:

- the Avalon Development District (Areas A and B);
- the Avalon Waterfront District; and
- the Waterfront Red Car Line/Multi-Modal California Coastal Trail

In each of these three areas sustainable design elements and features are proposed to help reduce energy and water requirements and to contribute to an improved project design. Jurisdictional boundary adjustments are required for the Port Element of the City's General Plan, Wilmington Harbor-City Community Plan, and the Port Master Plan. The re-designation of land uses and rezoning within the proposed project area would also occur under the proposed Project within the three areas identified above.

The proposed Project would be constructed and implemented in two phases. The first—Phase I: Interim Plan—would occur between 2009 and 2015; the second—Phase II: Full Buildout Plan—would occur between 2015 and 2020. Section ES.4.5, "Project Phasing and Demolition and Construction Plan," provides additional details regarding the proposed project phasing.

The proposed project actions or elements within the three major areas of development are described in greater detail below. Figure ES-4 shows an overview of the elements included in the proposed Project. Table ES-1 provides a summary of the three major areas of development by each action or element, the existing uses, and the phase each action or element would occur. Figure ES-5 illustrates the completed proposed Project using a simulated view.



SOURCE: Sasaki (2008)

Figure ES-4
Proposed Project Boundary by Separate Areas
Wilmington Waterfront Development Project

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SOURCE: Sasaki(2008)

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Figure ES-5
Proposed Project Rendering
Wilmington Waterfront Development Project

Table ES-1. Elements of the Proposed Project

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
AVALON DEVELOPMENT DISTRICT			
Light Industrial Development	Police trailer at southeast corner of C Street and Marine Avenue, vacant industrial lots owned by Port north of Harry Bridges Boulevard, Trade School located at corner of Lagoon and C Street; scattered private buildings	Construction and operation of a maximum of 75,000 sf of light industrial development (oriented toward green technology businesses) around Avalon Boulevard, in the industrial area between Lagoon and Broad Avenues, north of Harry Bridges Boulevard and south of C Street; trade school and private buildings to remain unchanged	Potentially construct and operate an additional 75,000 sf of light industrial development (oriented toward green technology businesses).
Commercial Development	Dockside Ship & Machine Repair structures totaling approximately 10,000 sf and an underutilized 5,500 sf structure south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue and vacant industrial lots	Construction and operation of 58,000 sf of retail/commercial development south of Harry Bridges Boulevard along Avalon Boulevard	N/A
Waterfront Red Car Museum	Bekins Storage Property at 245 Fries Avenue/312–326 West C Street; the Bekins Storage Property is a collection of potentially historic buildings and warehouse structures built in 1916, including a 14,500 sf building	Adaptive reuse of the 14,500-sf building located on Bekins Storage Property as Waterfront Red Car Museum consistent with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings	N/A
Railroad Green	Vacant railroad right of way and lot	Construction and operation of approximately 1 acre passive recreation park crossing diagonally from Harry Bridges Boulevard (at Island Avenue) to C Street (east of Fries Avenue)	N/A
Vacate Avalon Boulevard	Avalon Boulevard and associated infrastructure (i.e., curbs, gutters, etc.), vacant industrial lots and industrial buildings listed under Commercial development above	Vacation of Avalon Boulevard south of A Street	N/A
Realign Broad Avenue	Broad Avenue and associated infrastructure (i.e., curbs, gutters, etc.) and a corner of a lot used for material storage	Realignment of Broad Avenue to continue to the waterfront	N/A
Streetscape Improvements	Existing infrastructure and streets in the Avalon Development District which include Harry Bridges and Avalon Boulevards, C Street, and Broad, Lagoon, Marine, Island, and Fries	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
	Avenues		
Demolition			
Demolish Dockside Ship & Machine Repair Structures	Approximately 10,000 sf (also listed above in Commercial Development)	Demolish all structures	
Demolish Underutilized Structure at 115 N. Avalon Boulevard	Approximately 5,500 sf	Demolish structure	
AVALON WATERFRONT DISTRICT			
Waterfront Promenade & Replacing Existing Bulkhead	Catalina Freight, existing bulkhead and pier	Construction and operation of waterfront promenade with landscaping which includes 43,220 sf of new viewing piers (1,155 concrete pilings, 24 inches in diameter), replacement of approximately 17,880 sf of existing piers (478 concrete piles), and two floating docks measuring 5,870 sf for visiting vessels	N/A
Land Bridge with Elevated Park (total 10 acres)	LADWP Marine Tank Site	Construction and operation of large section (4 acres of recreational space) of the land bridge extending from the waterfront to the LADWP tanks over the existing rail lines and the realigned Water Street	Completion of remaining section of the remaining 6-acre land bridge to total 10 acres; sloped open lawn, ornamental gardens, and terraces with decomposed granite would landscape this portion of the land bridge
Pedestrian Water Bridge	LADWP Marine Tank Site	Construction and operation of the pedestrian "Water" Bridge from Entry Plaza to the waterfront promenade and Observation Tower.	N/A
Entry Plaza	Vacant industrial lot	Construction and operation of 1-acre Entry Plaza located at the southeast corner of Harry Bridges and Avalon Boulevards adjacent to Avalon Triangle Park	N/A
Observation Tower	Catalina Freight parking and Water Street	Construction and operation of 200-foot-tall Observation Tower with a 2,144-sf footprint and a pedestrian ramp.	N/A
Restaurant Development	Catalina Freight and existing bulkhead and pier	N/A	Construction and operation of 12,000 sf of restaurant development at the waterfront

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
Realignment of Water Street	Existing Water Street and infrastructure (i.e., curb, gutter, etc.)		
Landscaping Improvements	Existing College of Oceaneering parking lot	Landscaping improvements to the existing College of Oceaneering parking lot and area surroundings	N/A
Passenger Drop	Existing Broad Street and infrastructure (i.e., curb, gutter, etc.)	Construction and operation of a passenger drop-off east of Banning's Landing Community Center along Broad Avenue	
Demolition			
Demolish Catalina Freight	Existing 30,860 sf of Catalina Freight	Demolish entire building	N/A
Demolish National Polytechnic College of Science Hyperbaric Chamber Building	Existing 2,370 sf of National Polytechnic College of Science Hyperbaric Chamber Building	Demolish entire building	N/A
Demolish National Polytechnic College of Science Welding Pier	Existing 1,800 sf of National Polytechnic College of Science Welding Pier	Demolish entire building	N/A
LADWP Marine Tank Site	Three LADWP bulk storage tanks leased by Valero and associated infrastructure (i.e., 18,500 sf of building and subterranean pipelines)	Acquisition and demolition of all tanks and associated infrastructure	N/A
Relocation			
LADWP Bulk Storage Tank Capacity to Olympic Tank Site	LADWP Marine Tank Site	After the LADWP tanks are demolished a potential feasible relocation of the reduction of bulk storage capacity due to the demolition of the LADWP tanks is the Olympic Tank Site.	N/A
Dockside Ship & Machine Repair to 141 and 211 N. Marine Avenue	Dockside Ship & Machine Repair and an unknown, underutilized structure	Prior to the realignment of Avalon Boulevard and construction of 58,000 sf of commercial, the Dockside Ship & Machine Repair and an unknown underutilized structure would be removed and possibly relocated to 141 and 211 N. Marine Avenue	N/A

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
Parking			
Fries Avenue	LADWP Marine Tank Farm	Construction and operation of 51 spaces off of Fries Avenue	N/A
North of Banning's Landing	Existing Water Street and infrastructure (i.e., curb, gutter, etc) and portions of a vacant LADWP-owned lot	Construction and operation of 71 spaces north of Banning's Landing under the pedestrian water bridge	N/A
West of Land Bridge, East of Peaker Plants	LADWP Marine Tank Site	N/A	Construction and operation of a landscaped 148-space surface parking area with landscaping accessible from A Street adjacent to the Land Bridge
WATERFRONT RED CAR LINE AND CALIFORNIA COASTAL TRAIL			
Extension of Waterfront Red Car Line	Existing streets and associated infrastructure (i.e., curb, gutter, etc.)	N/A	Construction and operation of the Waterfront Red Car Line, which would begin at the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard (exact alignment is unknown at this time)
California Coastal Trail (CCT)	Existing sidewalks, streets, and associated infrastructure (i.e., curb, gutter, etc.)	N/A	The CCT would follow the existing public right-of-way from the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard

ES.4.3.1 Avalon Development District (Areas A and B)

The Avalon Development District is an industrial area located in south Wilmington. The Avalon Boulevard commercial corridor, which bisects the Avalon Development District, is the primary commercial corridor in Wilmington, with the "center of town" located around the intersection of Avalon Boulevard and Anaheim Street about ½

mile from Harry Bridges Boulevard. Avalon Boulevard currently terminates in the proposed project area at the water's edge. The Avalon Development District includes approximately 31.5 acres and has been divided into two areas, A and B, defined by the proposed boundary change of the Port and Wilmington Harbor-City Community Plan areas. The elements or actions associated with the Avalon Development District primarily include:

Area A (within the Wilmington Harbor-City Community Plan area)

- **Light Industrial Development**—conduct a programmatic assessment of infrastructure improvements (including stormwater improvements, dry utility lines, potable water lines, and wastewater lines) to support up to 150,000 square feet of light industrial development, consistent with current zoning, generally located between Broad Avenue (east) and Lagoon Avenue (west), C Street (north), and Harry Bridges Boulevard (south).
- **Park Development—a 1-acre pas**sive park located on the vacant Railroad Green located between Island Avenue and Fries Avenue.
- **Waterfront Red Car Museum**—adaptive reuse of the historic 14,500-square-foot Bekins Storage property located at 245 Fries Avenue/312–326 West C Street for a Waterfront Red Car Museum.
- **Pedestrian Enhancements**—sidewalk and pedestrian-oriented enhancements along Lagoon, Island, Fries, and Marine Avenues, Harry Bridges and Avalon Boulevards, and along C street.

Area B (within the proposed Port Plan and Port Master Plan areas)

- **Commercial Development**—development of up to 58,000 square feet of maritime visitor-serving commercial uses, such as an open air Mercado, south of Harry Bridges Boulevard, east of Marine Avenue, west of Avalon Boulevard, and north of A Street.
- **Street Realignments and Enhancements**—realign and improve Avalon Boulevard and Broad Avenue (also part of the Avalon Waterfront District).

ES.4.3.1.1 Industrial and Commercial Land Uses

Development proposed around Avalon Boulevard, in the industrial area between Lagoon and Broad Avenues, north of Harry Bridges Boulevard and south of C Street, and referred to as Area A in this document to denote that it would remain under the jurisdictional boundary of the Wilmington Harbor-City Community Plan, would build upon the area's existing character, providing opportunities for in-fill development of light industrial uses. The proposed Project would provide pedestrian amenities such as enhanced sidewalks and street trees along Island, Fries, and Marine Avenues, Avalon and Harry Bridges Boulevards, and C Street. Infrastructure improvements would be completed to allow for up to 150,000 square feet of light industrial uses over the next 12 years with a buildout year of 2020. In addition to the infrastructure improvements within the industrial areas, the proposed Project would develop up to 58,000 square feet of commercial development, such as a pedestrian-

oriented Mercado, one block south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue in the location denoted as Area B due to its proposed incorporation into the Port Plan and PMP boundary areas, both of which would expand north to Harry Bridges Boulevard.

Nearly all development within the Avalon Development District would occur on vacant land. Site clearing, demolition of paved sites, and rough grading would be required. Except for a few parcels detailed below in Area B, privately owned parcels and buildings would not be modified. Most of these existing uses would see streetscape improvements and pedestrian enhancements that may temporarily affect individual building accessibility due to construction activities. Figure ES-6 provides typical pedestrian improvements throughout the Avalon Development District.

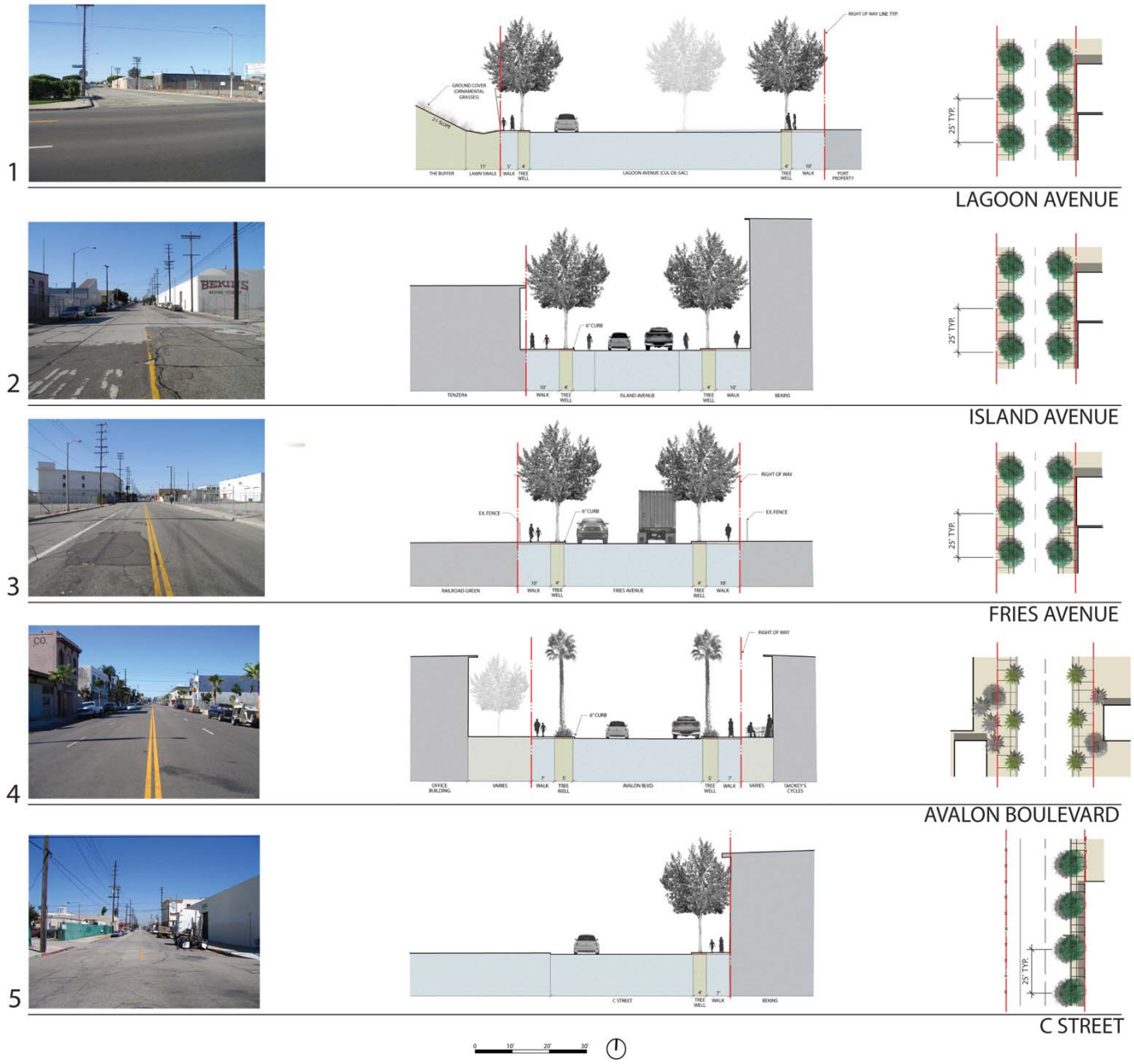
In a few cases, existing privately owned parcels in the Avalon Development District and in small portions of the Avalon Waterfront District would need to be acquired by LAHD in order to implement the proposed realignment of Avalon Boulevard. Parcels that would be subject to acquisition, either through negotiations, which may include the exchange of land within the Avalon Development District or if necessary through eminent domain, would include parcels located at 115, 121, and 131, and 133 North Avalon Boulevard. Table ES-2 lists parcels that would be acquired in the Avalon Development District, while Figure ES-7 illustrates all parcels that would be acquired.

ES.4.3.1.2 Railroad Green Park

A passive open space would be built within an existing abandoned railroad right-of-way. This approximately 1-acre Railroad Green would cross the area diagonally and provide public access, seating, and passive recreation opportunities. Landscaping and open lawn would be installed. Figure ES-8 illustrates a conceptual rendering of the proposed park.

ES.4.3.1.3 Waterfront Red Car Museum

A Waterfront Red Car Museum would be located one block north of the proposed Waterfront Red Car alignment at the Bekins Storage Property at 245 Fries Avenue/312–326 West C Street. The Bekins Storage Property is a collection of potentially historic buildings and warehouse structures built in 1916. These structures, including a 14,500-square-foot building, would be adaptively reused to house the Waterfront Red Car Museum. Rehabilitation would be conducted in accordance with the Secretary of the Interior's Guidelines to Rehabilitating Historic Buildings.



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SOURCE: Sasaki(2008)

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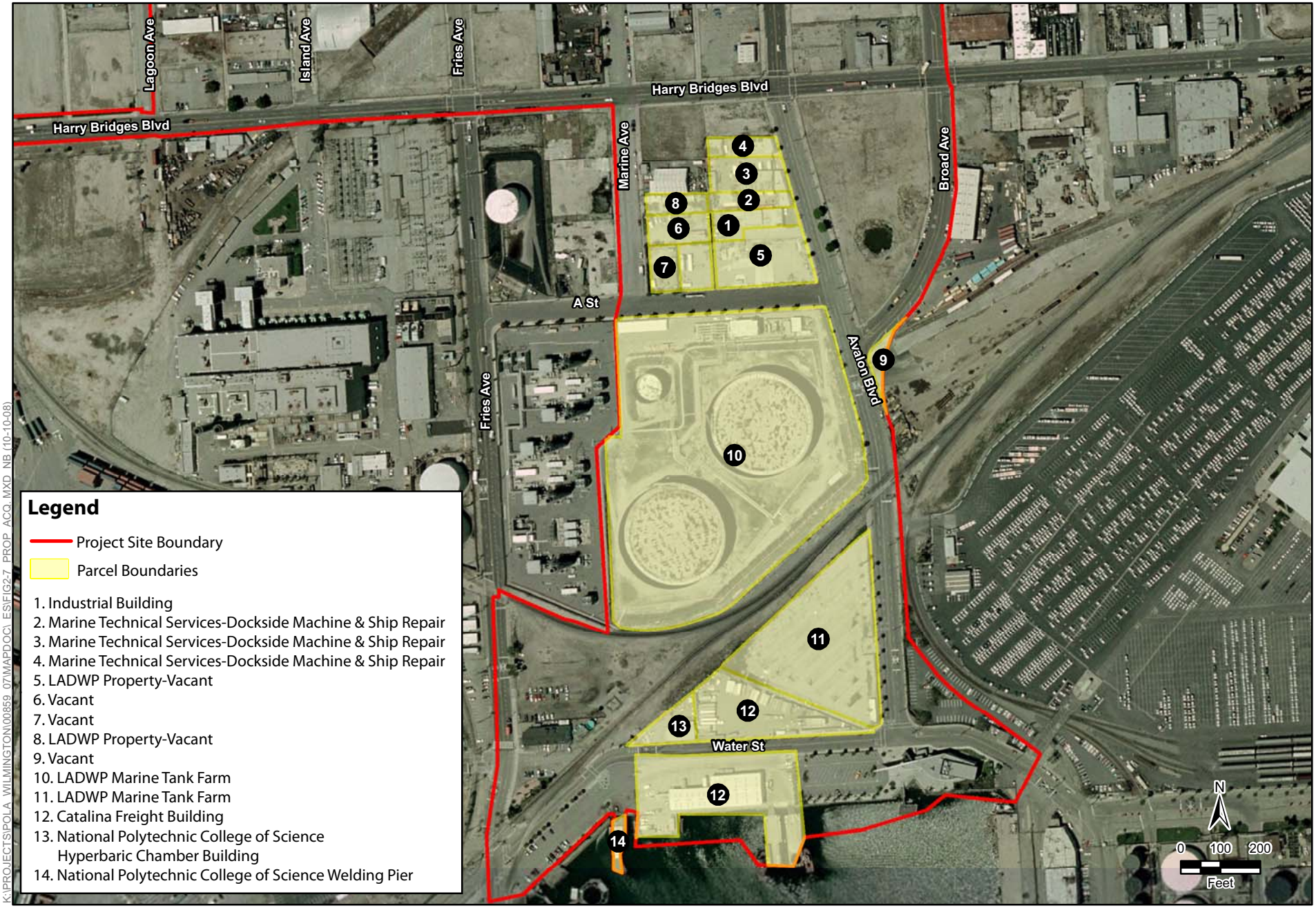
Figure ES-6
Avalon Development District: Street Enhancements
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006)

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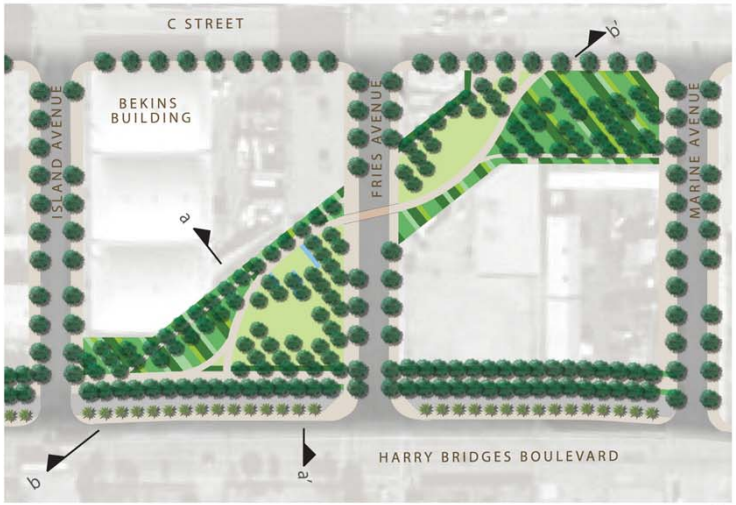
Figure ES-7
Property to be Acquired for the Proposed Project
Wilmington Waterfront Development Project

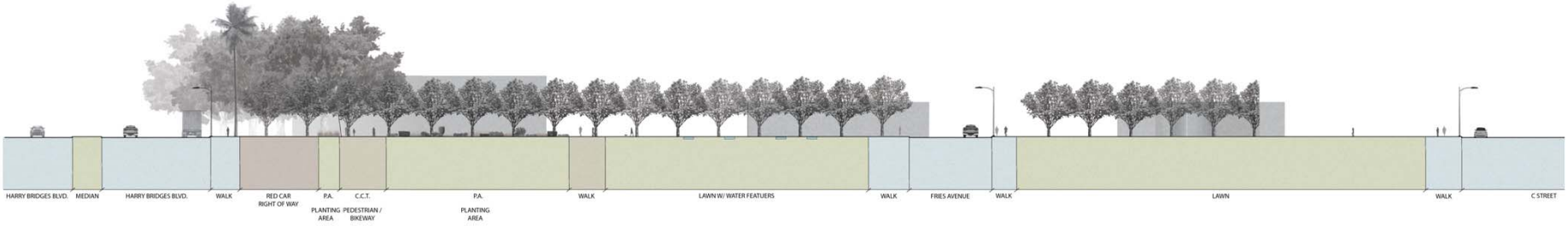


PLAN

EXISTING CONDITIONS

PRECEDENT IMAGES

SECTION a-a'



SECTION b-b'

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SOURCE: Sasaki(2008)

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Figure ES-8
1-Acre Railroad Green Park
Wilmington Waterfront Development Project

Table ES-2. Parcels Located within the Avalon Development District (Area B) to be Acquired or Dedicated for Use of the Land Bridge and Structures Removed

Number in Figure 2-7	*Address or APN*	*Square Footage (Lot/Building)*	*Existing Use or Business Name*	*Potential Relocation Site*	*Potentially Historic*	*Purpose of Removal*
1	115 North Avalon Boulevard	12,850 / 5,578	Industrial building	N/A	No	Realignment of Avalon Boulevard
2	121 North Avalon Boulevard	9,150 / 1,102	Dockside Machine & Ship Repair	141 and 211 North Marine Avenue	No	Realignment of Avalon Boulevard
3	131 North Avalon Boulevard	17,860 / 6,195	Dockside Machine & Ship Repair	141 and 211 North Marine Avenue	No	Realignment of Avalon Boulevard
4	133 North Avalon Boulevard	8,276 / 3,000	Dockside Machine & Ship Repair	141 and 211 North Marine Avenue	No	Realignment of Avalon Boulevard
5	Lot 34 (LADWP) 7440-006-908	41,369 / None	Vacant	No Existing use	No	Realignment of Avalon Boulevard
6	7440-006-014	11,781 / N/A	Vacant—O'Donall Oil, LLC	No Existing Use	No	Commercial
7	7440-006-017	8,451 / N/A	Vacant—Norma J. Hanson, TR	No Existing Use	No	Commercial
8	7440-006-906	7,500 (est) / N/A	Vacant—LADWP	No Existing Use	No	Commercial
Note: Potential historic resources are discussed in Chapter 3.4, "Cultural Resources." Source: LAHD 2008						

ES.4.3.1.4 Traffic Improvements

To improve area traffic circulation, while enhancing pedestrian safety and appeal, selected streets are proposed for improvements. A portion of Avalon Boulevard, south of A Street, would be downgraded and then vacated to prioritize pedestrian use and activity at the 58,000-square-foot commercial parcel, while Broad Street would be realigned to provide vehicular traffic a dedicated route to the waterfront. Table ES-2 lists parcels in the Avalon Development District that would be acquired for the

realignment. Because the realignment also takes place within the Avalon Waterfront District, more information is provided in ES.4.3.2.4.

In addition, an improvement to connect Harry Bridges Boulevard near Lagoon Avenue to Pier A Street would be built during construction of the proposed Project. This improvement, known as the South Wilmington Grade Separation, is a separate project and has been previously assessed under CEQA. It would consist of an elevated road extending from Harry Bridges Boulevard, passing over the existing railroad tracks, and connecting to Pier A Street and Fries Avenue. Once complete, it would allow better access to the proposed project area and nearby industrial sites, and would also reroute some of the truck traffic currently using Harry Bridges Boulevard.

ES.4.3.2 Avalon Waterfront District

The Avalon Waterfront District is composed of the following elements:

- **Waterfront Promenade**—adding pedestrian-oriented features and improvements such as a waterfront promenade with viewing piers and 12,000 square feet of restaurant/visitor-serving retail development, a 200-foot Observation Tower with a pedestrian ramp, removing the Los Angeles Department of Water and Power (LADWP) Marine Tank site and associated pipe conveyance infrastructure, and remediating the site; this area is generally defined by the current Water Street alignment and the National Polytechnic University (College of Oceaneering) to the north, Fries Avenue to the west, and the current Avalon Boulevard alignment to the east. The Port harbor and views of the water at Slip 5 are along its southern border.
- **Land Bridge and Elevated Park**— a 10-acre Land Bridge with an elevated park and a pedestrian "water" bridge enhanced by an integrated water feature that would provide the surrounding community with open space and improved pedestrian access to the waterfront; this area is generally bounded by A Street to the north, Avalon Boulevard to the east, the Harbor Generating Station and its associated peaker unit to the west, with the Harbor Rail Line and Slip No. 5 to the south.
- **Avalon Triangle Park**—located south of Harry Bridges Boulevard, between Broad Avenue and Avalon Boulevard. Avalon Triangle Park is not part of the proposed Project, but it would be included within the area that would be encompassed by the proposed Port Plan and PMP boundary expansion.
- **Avalon Boulevard, Broad Avenue, and Water Street Realignment**—downgrade and vacate Avalon Boulevard south of A Street, realign Broad Avenue to the waterfront, and realign Water Street to run adjacent to the Pacific Harbor Rail Line, which is proposed to travel under the proposed Land Bridge to improve pedestrian circulation and provide space for the waterfront promenade.

The elements or actions associated with the Avalon Waterfront District primarily include the development of a waterfront promenade, including visitor-serving amenities such as commercial development and an observation tower; the

development of a Land Bridge with open space and an elevated park, an Entry Plaza, and a pedestrian water bridge connecting Harry Bridges Boulevard to the waterfront promenade. The existing LADWP Marine Tank site in the area would be demolished, and surface parking and traffic improvements are proposed.

ES.4.3.2.1 Waterfront Promenade and Visitor Serving Amenities

Waterfront Promenade and Commercial Development

The waterfront promenade would be the central public amenity of the Avalon Waterfront District, and would be anchored by visitor-serving development and recreational attractions along the waterfront. A 7-acre outdoor plaza designed for gatherings and events would be constructed at the location of the existing Banning's Landing Community Center parking lot, which would be relocated north, under the pedestrian water bridge. Restaurant/visitor-serving retail uses totaling 12,000 square feet would be incorporated into the waterfront boardwalk in Phase II. Due to the presence of train noise, all commercial structures located at the waterfront (e.g., 12,000 square feet of restaurant/visitor-serving retail use) that would incorporate exterior uses (e.g., outside seating for restaurants) would be located more than 100 feet from the heavily used San Pedro Branch Line and TraPac ICTF lead. The Mormon Island Lead Track would be closer, but train traffic is light and primarily restricted to late night hours. In addition, all commercial structures would be designed to shield any exterior uses from the existing rail line by either locating the building between the exterior use and the rail line or by using sound-attenuating barriers (i.e., clear Plexiglas) at any locations that have direct line of sight to the existing rail lines east of Fries Avenue and along Water Street. The restaurant/visitor-serving retail uses would not require in-water construction.

The waterfront promenade would incorporate approximately 43,220 square feet of new over-the-water viewing piers and two floating docks with a combined size of 5,870 square feet. These piers and floating docks would require approximately 750 concrete piles for support, while the replacement of approximately 17,880 square feet of existing viewing piers would require approximately 478 concrete piles.

The public floating docks would accommodate up to 9 transient boats. Assuming boats would dock for up to 3 hours and assuming slips would not remain vacant for more than a brief period, it was conservatively estimated that the floating docks would support up to 36 boat trips a day. At a future date, it is possible a water taxi program, similar to the Long Beach program but smaller in scale, would be proposed to travel between the proposed Project and San Pedro. Figure ES-9 provides a photosimulation of the proposed waterfront and the Observation Tower in the background.

At the water's edge, the proposed Project would modify the existing bulkhead wall through a combination of concrete soil mixing and steel sheet pilings, including replacing a 550-foot length of the existing bulkhead at the head of Slip 5. The existing concrete bulkhead wall would remain in-place, and on the east and west sides of the area designated for soil mixing, a new steel sheet pile wall would be

installed immediately waterward from the existing wall. This action would fill 2,200 square feet of Slip 5. Figure ES-10a shows the top view of the area proposed for soil mixing and for steel sheet pilings, while Figure ES-10b provides a cross-section.

Other waterfront promenade amenities could include a water feature, shade structures, signage, landscaping, and public art.

Observation Tower

The Observation Tower would be an area landmark, visible from the nearby Port businesses and communities of Wilmington and San Pedro. It would incorporate a tall, vertical architectural element that would mimic a sail. The tower would be illuminated at night with accent lighting until midnight, similar to the Vincent Thomas Bridge. Figure ES-11 provides an architectural schematic of the Observation Tower.

ES.4.3.2.2 Land Bridge and LADWP Marine Tank Site

LADWP owns the Marine Tank Farm just north of Banning's Landing between Fries Avenue and Avalon Boulevard, north of Water Street and south of A Street, which it leases to the Valero Energy Corporation. Two large liquid bulk storage tanks, and a third smaller tank, constrain public access to the water's edge.

Beginning in 2012, the property would be dedicated for recreational use and the liquid bulk tanks and associated structures would be removed. Any potential soil and/or groundwater contamination would be remediated pursuant to DTSC, RWQCB, or other oversight agency standards. As mentioned above and listed in Table ES-3 below, several existing structures associated with the LADWP site would be demolished, including the two 450,000 bbls oil storage tanks, the smaller 30,000 bbls tank, and six other structures, totaling 18,500 square feet. Figure ES-7 illustrates all parcels that would be acquired in the Avalon Development District and Avalon Waterfront District.

LADWP would have an opportunity to rebuild similar tanks with similar capacities at an offsite location not yet determined. One potentially feasible site would be the Olympic Tank Farm site 1.5 miles northeast of the proposed Project site on the southeastern corner of Alameda and Robidoux Streets. Figure ES-12 illustrates the Olympic Tank Farm site in relation to the proposed Project. The Olympic Tank Farm is characterized by nine existing liquid bulk storage tanks. As illustrated in the figure, the land is void of natural vegetation. The two areas large enough to accommodate the Marine Tank Farm storage tanks have previously supported storage tanks.

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SOURCE: Sasaki(2008)

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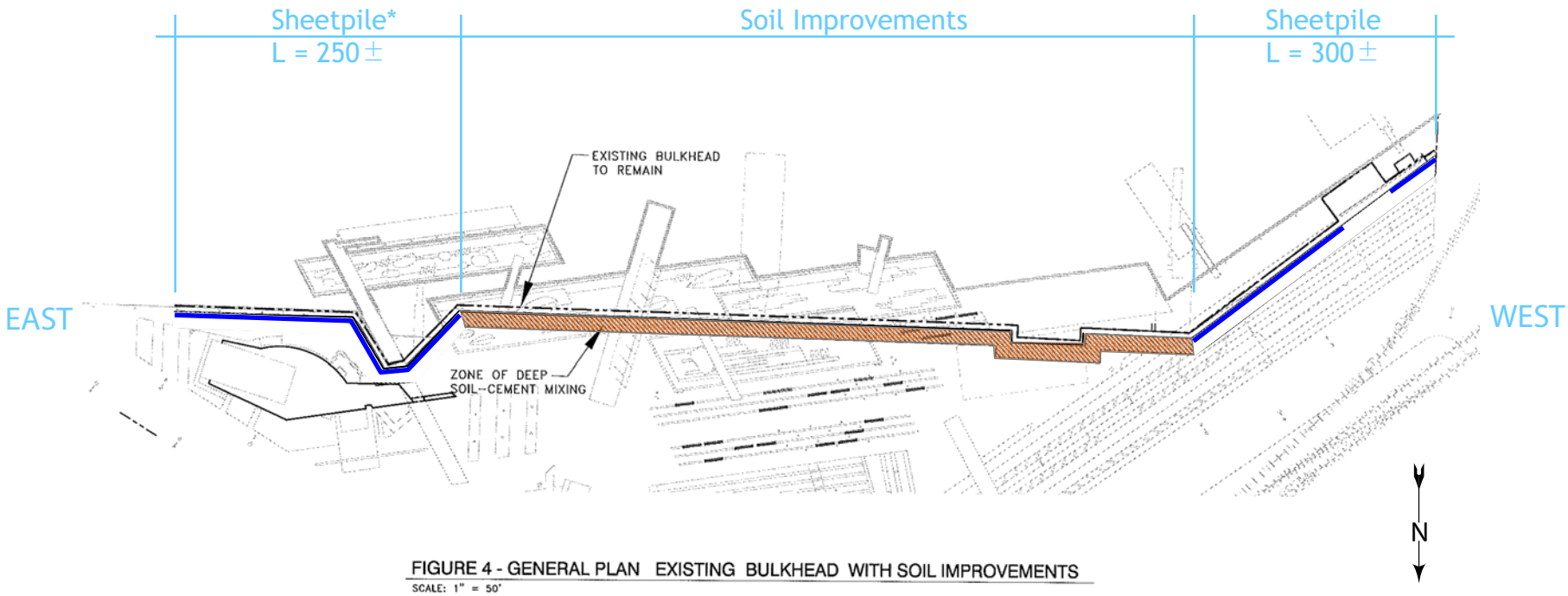
Figure ES-9
Proposed Waterfront
Wilmington Waterfront Development Project



Fill (for sheetpile):

From 40% design – assume 4' from bulkhead wall to sheetpile

A_F = 1000 sf East

A_F = 1200 sf West

* Grade raised approximately 3' using lightweight backfill in this area

SOURCE: Sasaki (2008)

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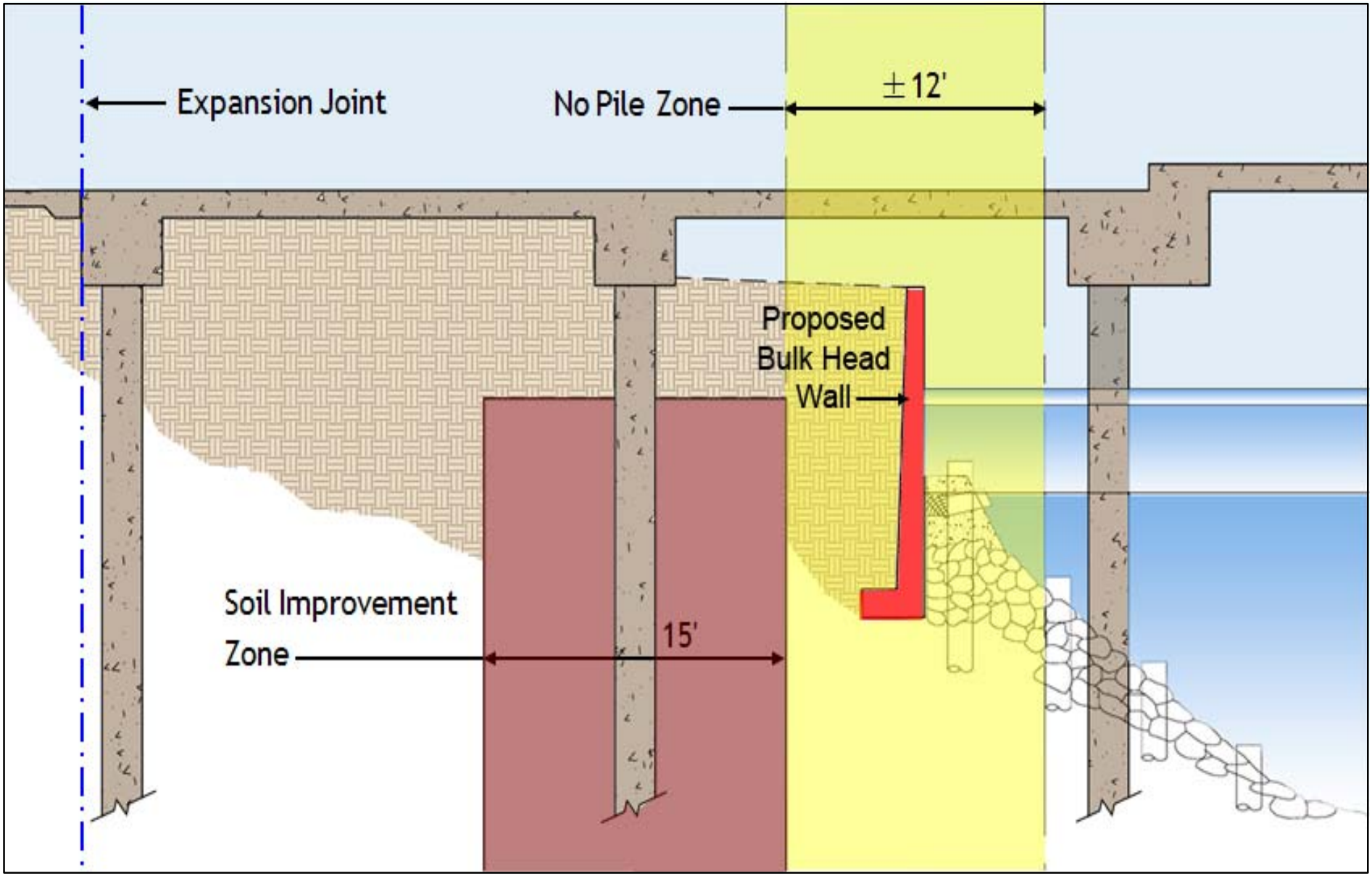
Figure ES-10a
Proposed Bulkhead Wall Design
Wilmington Waterfront Development Project



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SOURCE: Sasaki(2008)

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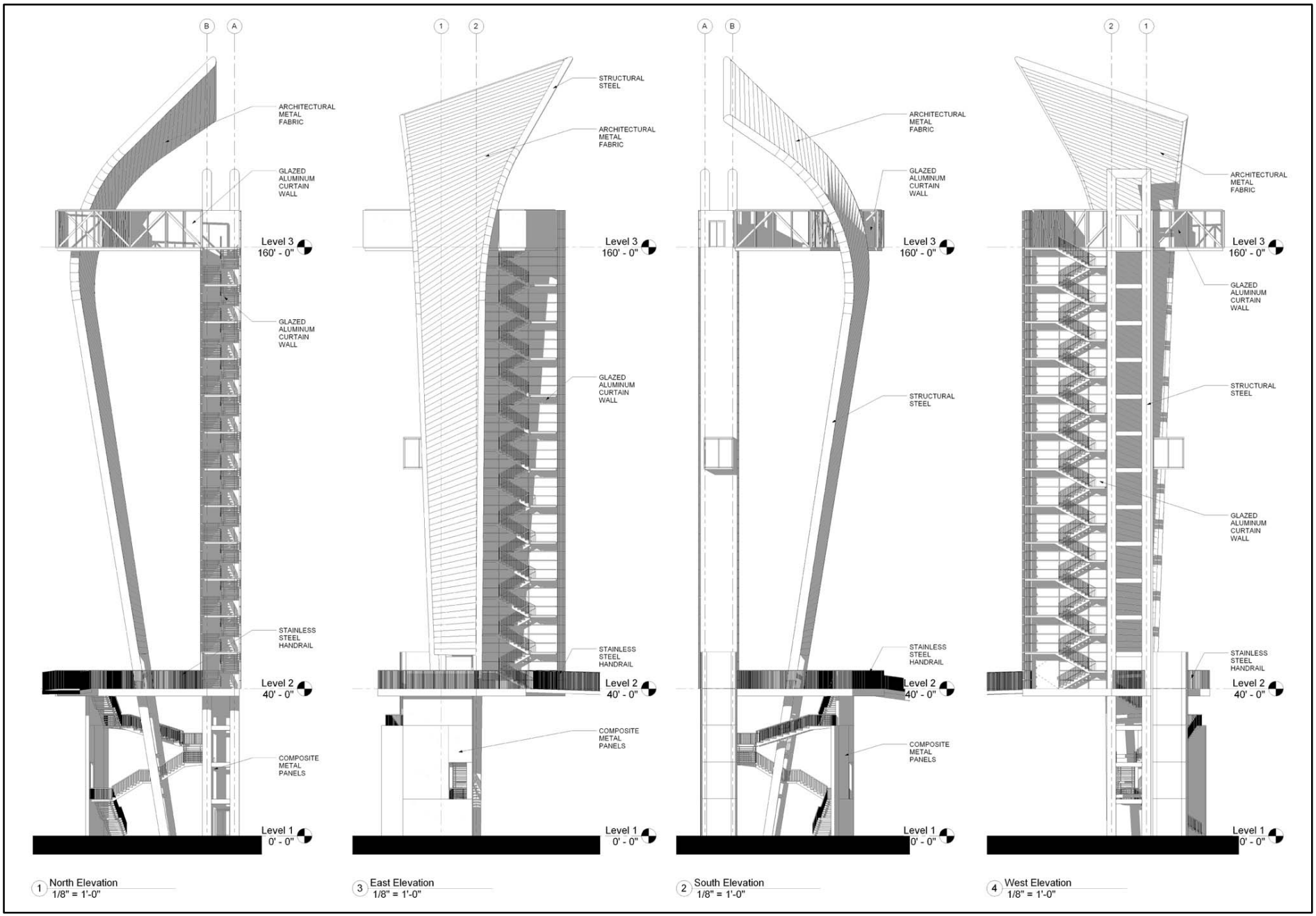
Figure ES-10b
Proposed Bulk Head Wall Cross-Section
Wilmington Waterfront Development Project



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SOURCE: Sasaki(2008)

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Figure ES-11
Conceptal Design of the Proposed Observation Tower
Wilmington Waterfront Development Project

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SOURCE: ESRI USA Imagery (2006)

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Figure ES-12
Aerial View of Olympic Tank Farm
Wilmington Waterfront Development Project

Table ES-3. Parcels Located in the Avalon Waterfront District to be Acquired or Dedicated for Use for the Land Bridge, and Structures to be Removed

Number in Figure 2-7	*Address or APN*	*Square Footage (Lot/Bldg)*	*Existing Use or Business Name*	*Potential Relocation Site*	*Potentially Historic*	*Purpose of Removal*
9	Northwest corner of Parcel 33/ Northwest corner of 7440-005-809	8,000 est/None	Scrap Material Storage	N/A	No	Realignment of Broad Ave.
10	Lot 35 (LADWP)/ 7440-009-905 7440-009-912 Northeast portion of 7440-009-911	348,865/ 18,500 (buildings) and 135,000 est (Oil Tanks)	Marine Tank Farm	Alameda and Robidoux, Los Angeles, CA (Olympic Site)	No	Phase II Land Bridge
11	Lot 36 (LADWP)/ East-central portion of 7440-009-911	99,775/None	Vacant	N/A	No	Phase I Land Bridge
12	100 W. Water Street Southeast portion of 7440-009-911	104,700/ 30,860	Catalina Freight Building (Warehouse and Office)	802 S. Pier A Street	No	Relocating for Business Reasons/Land Bridge and Waterfront Promenade
13	North edge of Slip 5 Southeast portion of 7440-009-911	Unknown/ 2,370	National Polytechnic College of Science Hyperbaric Chamber building	Relocation is not planned	No	Waterfront Promenade
14	North edge of Slip 5 Southeast portion of 7440-009-911	Unknown/ 1,800	National Polytechnic College of Science welding pier	Relocation is not planned	No	Waterfront Promenade
Note: Potential historic resources are discussed in Chapter 3.4, "Cultural Resources." Source: LAHD 2008						

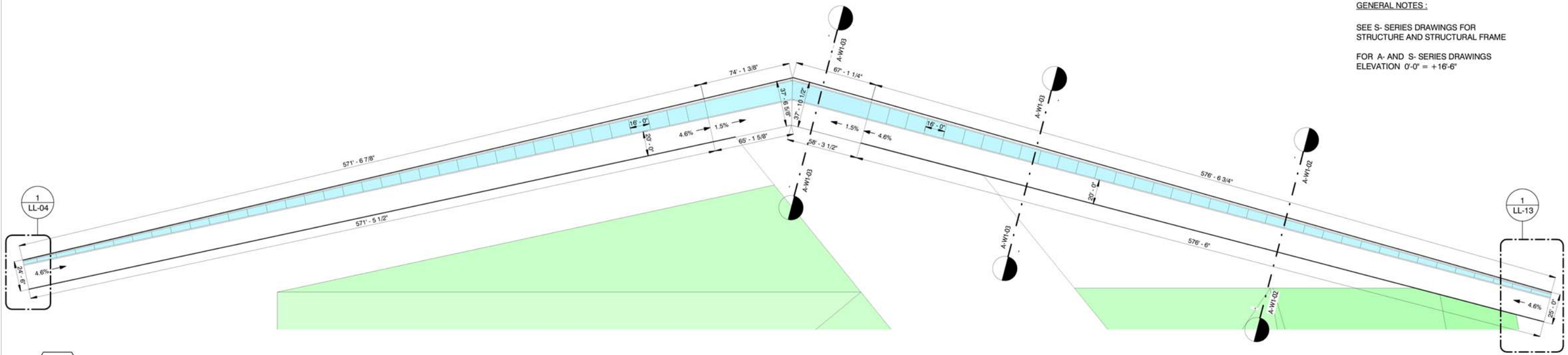
Prior to the removal of the Marine Tank Farm storage tanks and ancillary buildings, a major section of the proposed 10-acre Land Bridge would be constructed and operated under the Phase I: Interim Plan. The upper promenade, with a plaza and a large water feature using recycled water, would be located immediately over the railroad and Water Street crossing. It would consist of the southern portion of the future large elevated park, including terraced seating for public gatherings. Directly west of the Land Bridge, a planting screen would buffer the Land Bridge from the LADWP peaker power units to the west, which would continue to operate during construction and operation of the proposed Project.

This interim Land Bridge would include an interim pedestrian water bridge to the east of the LADWP Marine Tank Farm, connecting the landscaped Entry Plaza to the waterfront. The pedestrian water bridge would provide unimpeded pedestrian and bicycle access to the waterfront. The pedestrian bridge is referred to as a "water" bridge because of the architect-designed water feature that would run its length. Figure ES-13 provides an architectural rendering of the pedestrian "water" bridge, while Figure ES-14 shows a cross-section of the bridge. It would consist of a steel structure with a linear water feature integrated into its outside edge, and would link the 1-acre Entry Plaza, located at the southeast corner of Avalon and Harry Bridges Boulevards, to the waterfront promenade.

During Phase II: Full Buildout, beginning in approximately 2015, the proposed Project would begin construction on the Land Bridge on the then decommissioned LADWP Marine Tank Farm site. This phase of construction would finish the Land Bridge and 10-acre elevated park. Sloped open lawn, ornamental gardens, and terraces with decomposed granite would landscape this portion of the Land Bridge. Shade pavilions with solar panels would be included within the Land Bridge, in addition to the waterfront promenade area, with a goal of providing up to 12.5% of the total proposed Project's operational energy needs. A 148-space surface parking area with landscaping would be accessible from A Street and located adjacent to the bridge and the operating LADWP peaker units. When completed, the Land Bridge and adjacent pedestrian water bridge would connect the Wilmington community with the waterfront promenade via the 1-acre Entry Plaza. Figure ES-15 provides an elevation of the Phase II Land Bridge.

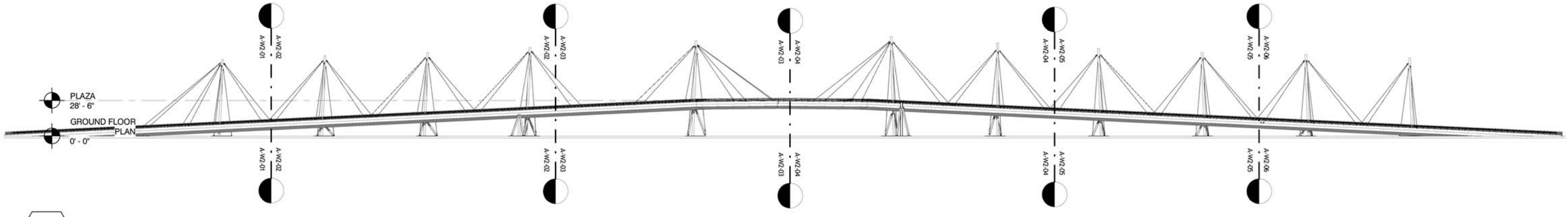
ES.4.3.2.3 Surface Parking

To accommodate the new restaurant/visitor-serving retail and recreational vehicular traffic, three surface parking areas would be constructed for a total of 98,000 square feet of paved area (Figure ES-15b). One area would provide 51 spaces accessible from Fries Avenue; the second would provide 71 spaces north of Banning's Landing under the pedestrian water bridge accessible from the newly realigned Broad Avenue. Both of these surface area would be constructed during Phase I. The third would provide 148 spaces west of the Land Bridge, on the existing LADWP Marine Tank site, and would be accessible from A Street. The third area would be constructed during Phase II: Full Buildout after the LADWP oil tanks were demolished and the LADWP Marine Tank Farm site had undergone remediation for any potential soil or groundwater contamination.



2 WATER BRIDGE - OVERALL PLAN

1" = 40'-0"



1 WATER BRIDGE - OVERALL EAST ELEVATION

1" = 40'-0"

40% PRELIMINARY DESIGN 4-25-08

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SOURCE: Sasaki (2008)

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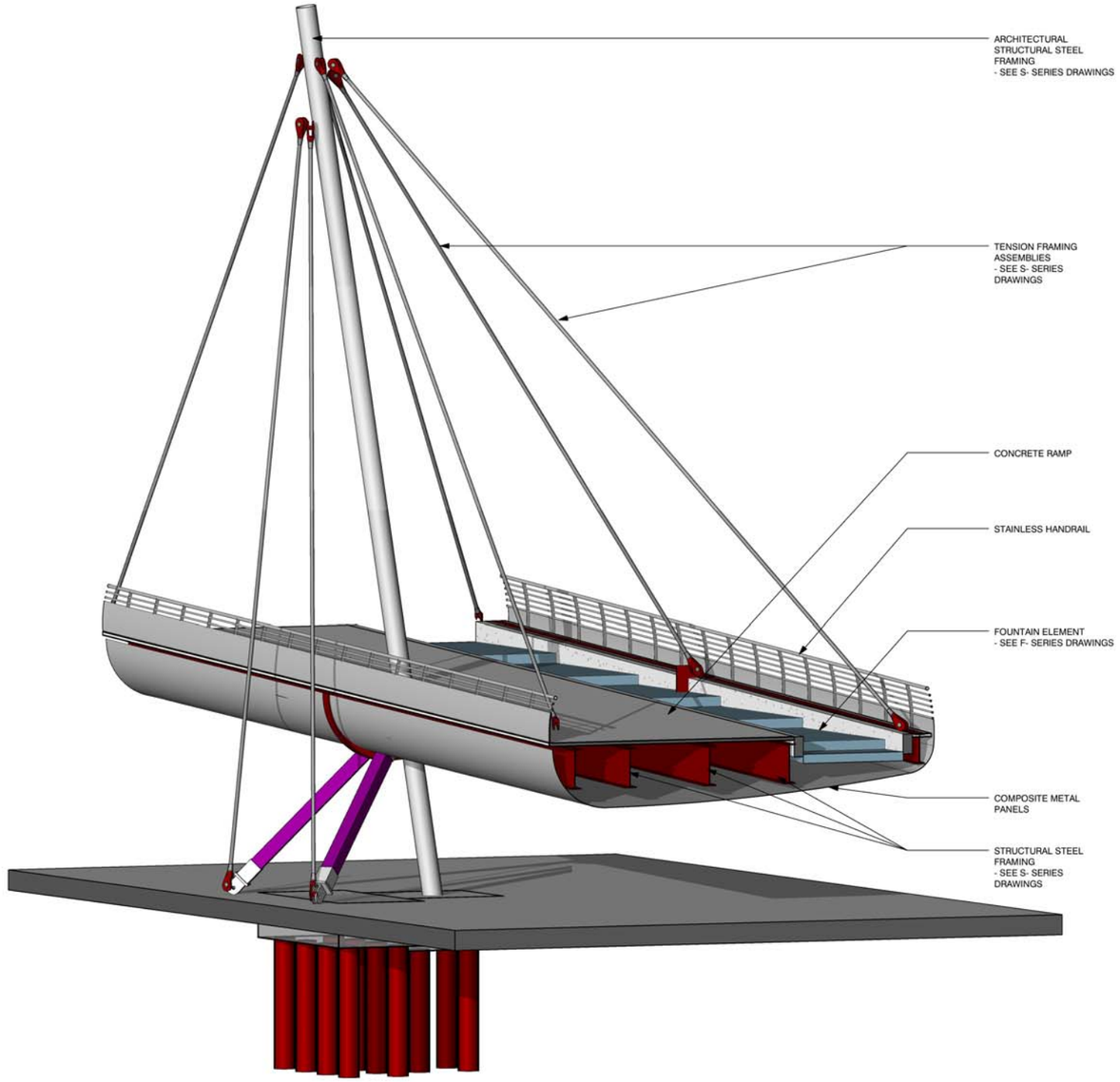
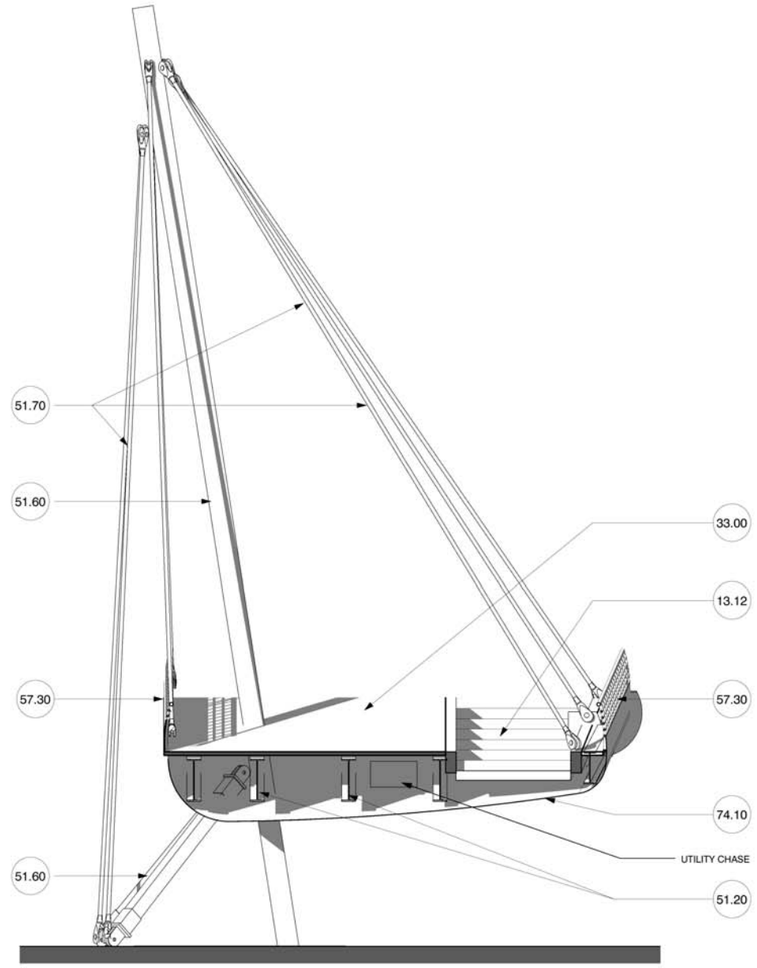
Figure ES-13
Proposed Pedestrian "Water" Bridge Plan and Elevation
Wilmington Waterfront Development Project



2 3D WATERBRIDGE TYPICAL SECTION



1 WATER BRIDGE - TYPICAL SECTION
3/16" = 1'-0"

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SOURCE: Sasaki (2008)

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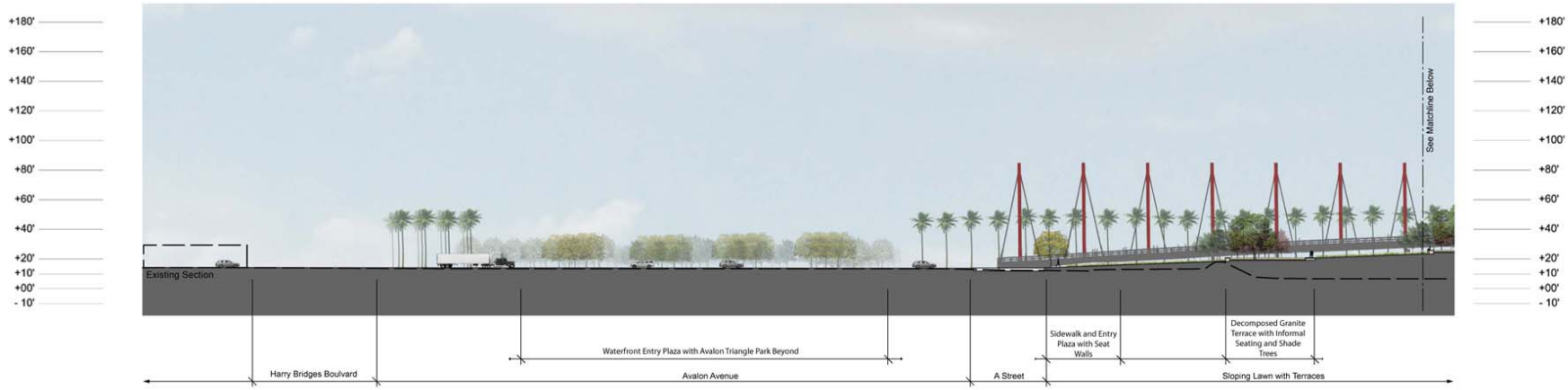
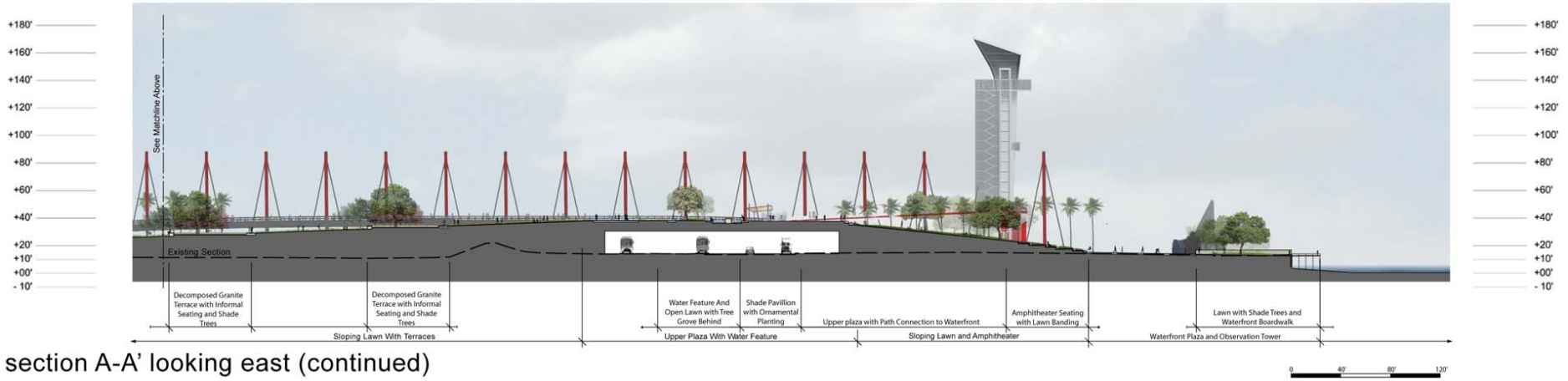
Figure ES-14
Pedestrian "Water" Bridge Section
Wilmington Waterfront Development Project



section A-A' looking east



section A-A' looking east (continued)

SOURCE: Sasaki(2008)

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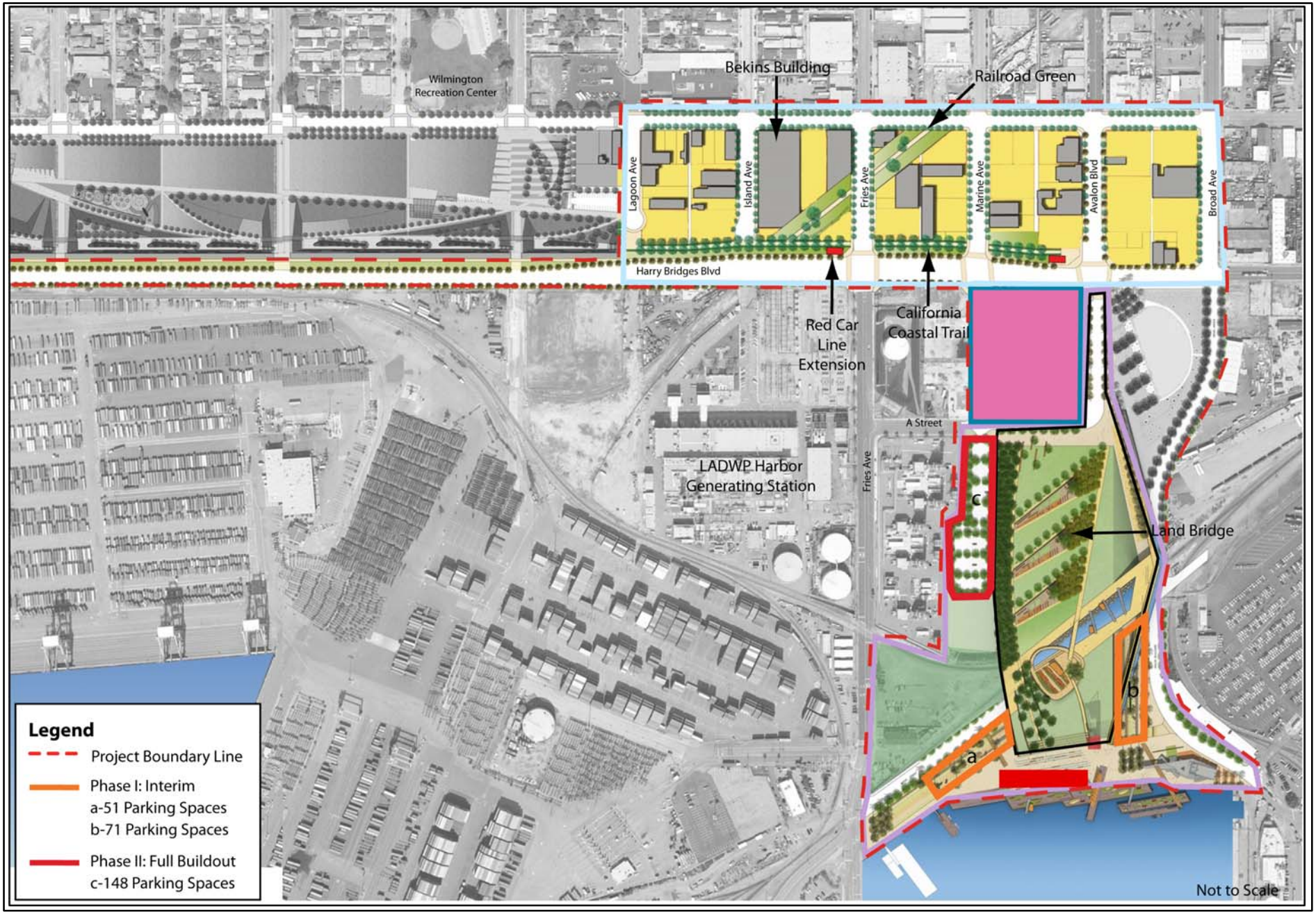
Figure ES-15a
Proposed Land Bridge and Tunnel Section
Wilmington Waterfront Development Project



SOURCE: Sasaki (2008)

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Figure ES-15b
Proposed Parking Areas
Wilmington Waterfront Development Project

ES.4.3.2.4 Traffic Improvements

Vehicular circulation around the Avalon Waterfront District would undergo modifications to improve traffic flows and pedestrian access to the waterfront. To increase the amount of land available at the waterfront, Water Street would be moved north and realigned from its present east–west configuration to run alongside the Pacific Harbor Line railroad tracks, south of the LADWP Marine Tank Farm, in a diagonal northeast–southwest direction (Figure ES-16). Additionally, with the vacation of Avalon Boulevard south of A Street (as described in Section ES.4.3.1.4), Broad Avenue would replace Avalon Boulevard as the main access street for automobile traffic on the east side of the proposed project site and continue through to the waterfront, providing vehicular access to the waterfront promenade and Banning's Landing Community Center. As part of the proposed Project, a passenger drop-off roundabout would be constructed east adjacent to the community center. Table ES-3 lists parcels in the Avalon Waterfront District that would be acquired to realign Avalon Boulevard and Broad Avenue.

ES.4.3.3 Waterfront Red Car Line Extension and the California Coastal Trail

The proposed Project would extend the historic Waterfront Red Car Line and multi-use pedestrian/bicycle CCT to connect to the nearby San Pedro Community. Under the proposed Project, this third development area would form the southern edge of the district along Harry Bridges Boulevard. The extension of the Waterfront Red Car Line/CCT would begin at the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street, onto John S. Gibson, and then onto Harry Bridges Boulevard, where it would terminate at the intersection with Avalon Boulevard. Because specific alignment information is unavailable at the time of the preparation of this EIR, the Waterfront Red Car Line is evaluated at the program level. Additional environmental analysis may be needed at later time once the specific alignment is finalized. Figure ES-17 and Figure ES-18 show typical sections of the California Coastal Trail at John S. Gibson, Front Street, and C Street, with the nearby Waterfront Red Car Line.

ES.4.3.4 Proposed Project-Wide Features and Sustainable Elements

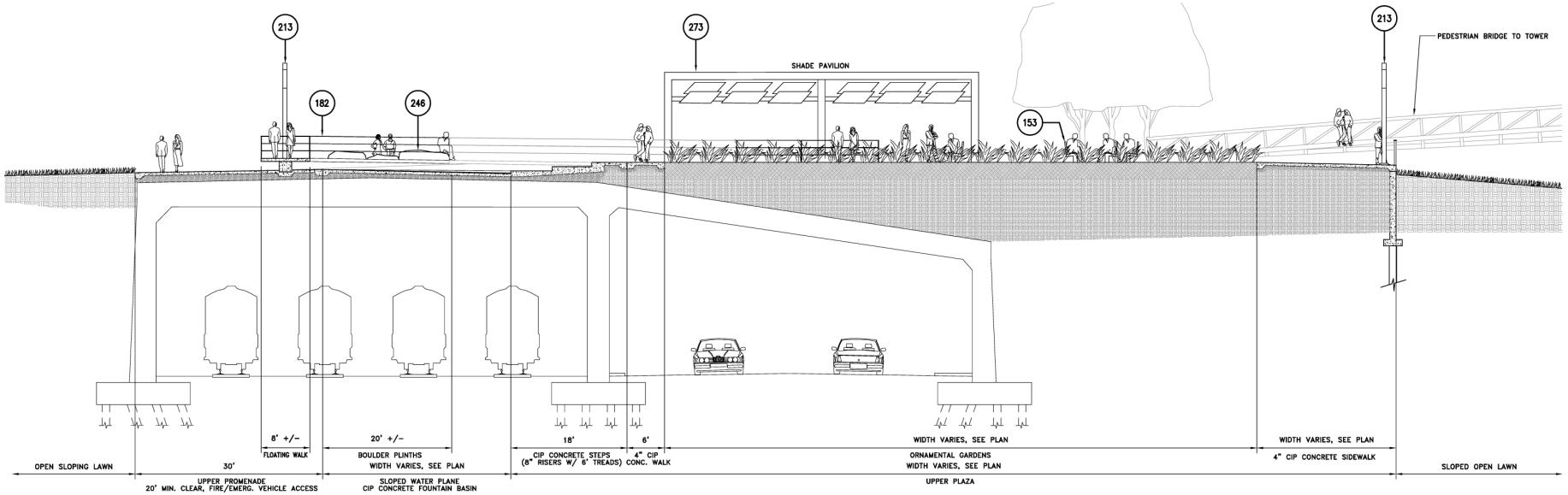
The proposed Project would incorporate a number of sustainable elements focusing on the effort of LAHD to create a green Port. These are analyzed as part of the proposed Project within the draft EIR. The elements are listed and described below in further detail:

- use recycled water for all landscaping and water feature purposes to decrease the proposed Project's need for potable water;

- include drought-tolerant plants and shade trees in the planting palette;
- increase permeable surfaces and improve stormwater runoff quality by installing bioswales, a French drain system (this is an infiltration drainage system, designed to minimize runoff), and permeable pavement at the surface parking locations to reduce stormwater runoff and provide natural filtration of pollutants;
- install approximately 20,000 square feet of solar panels on the shade pavilions, focusing on the Land Bridge and waterfront piers, with a goal of achieving up to 12.5% of the proposed Project's energy needs;
- provide incentives for green incubator technologies and businesses to locate within the 150,000 square feet of proposed light and limited industrial development within the Avalon Development District (Area A);
- require LEED™ certification for all new buildings as feasible by implementing and ensuring consistency with the LAHD's Green Building Policy, Leadership in Energy and Environmental Design (LEED) Certification (minimum Silver) is required for all new development over 7,500 square feet;
- follow LAHD sustainable engineering design guidelines in the siting and design of new development; and,
- employ LAHD sustainability measures during construction and operation, and use recycled and locally derived materials for proposed project construction, while achieving recycling goals for construction and demolition debris.

The proposed Project would incorporate several features to enhance the final design of the proposed Project. While not required to mitigate a significant impact, these design measures also serve to further minimize the proposed Project's effect on surrounding uses and environmental resources. Design measures specific to the proposed Project include:

- **Energy Efficient Design Features.** Implement final design features to help ensure energy needs are minimized to the extent feasible during construction and operation of the proposed Project (as specified in Chapter 3.2, "Air Quality," and Chapter 3.12, "Utilities").
- **Water Quality and Conservation Design Features.** Implement final design features to help ensure water quality impacts are minimized during construction at the water's edge and in the water and operationally through the use of construction BMPs and bioswales (as specified in Chapter 3.14, "Water Quality, Sediments, and Oceanography"). Additionally, the proposed Project's use of potable water would be reduced through the use of reclaimed water for irrigation and water features (as specified in Chapter 3.12 "Utilities").
- **Noise Design Features.** Site commercial uses at the waterfront (i.e. 12,000 square feet of restaurant/visitor-serving retail) more than 100 feet from the heavily used San Pedro Branch Line and TraPac ICTF lead. The Mormon Island Lead Track would be closer, but train traffic is light and primarily restricted to late night hours (as specified in Chapter 3.9, "Noise").
- **Aesthetic Design Features.** Public art, consistent with the Wilmington Waterfront Development Program Public Art Master Plan, would be integrated



1LS-02 / LS-02 TYP. SECTION - UPPER PLAZA (NORTH-SOUTH)
SCALE 1/8"=1'-0"

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SOURCE: Sasaki(2008)

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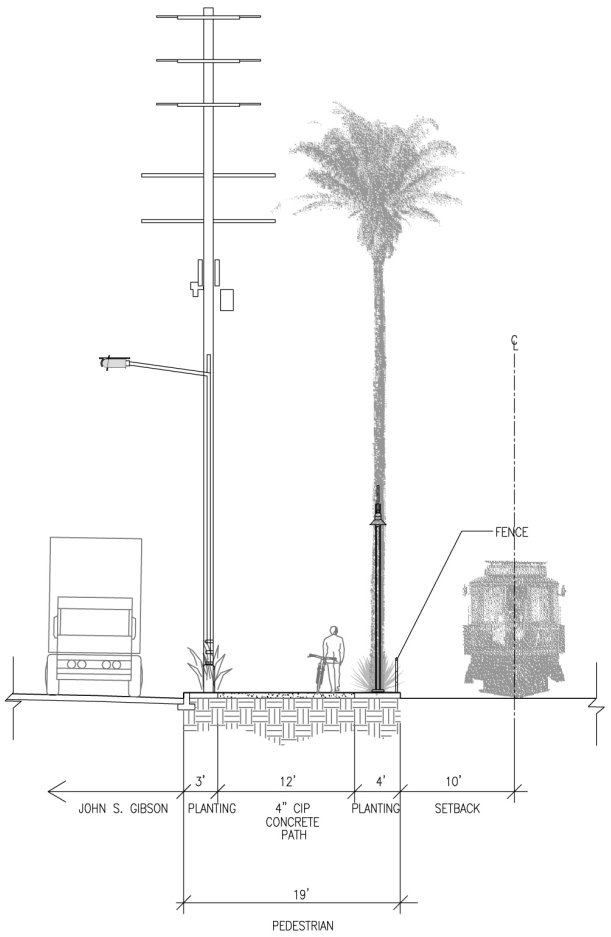
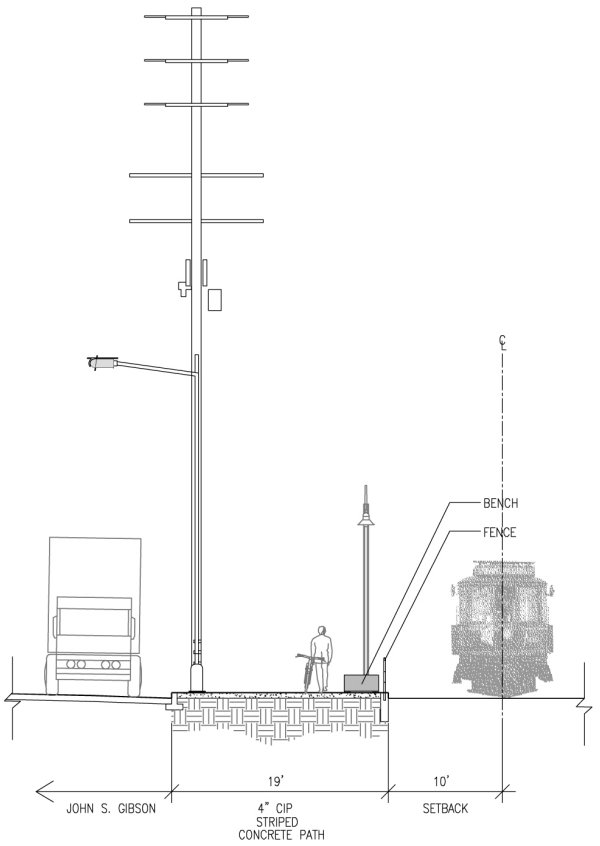
Figure ES-16
Cross-section of Realigned Water Street (Proposed) and the Pacific Harbor Rail Line
Wilmington Waterfront Development Project



1LS-02 / LS-02 SECTION - JOHN S. GIBSON BLVD: TREE UNIT

SCALE 1"=1/8'



2LS-02 / LS-02 SECTION - JOHN S. GIBSON BLVD: BENCH UNIT

SCALE 1"=1/8'

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SOURCE: Sasaki(2008)

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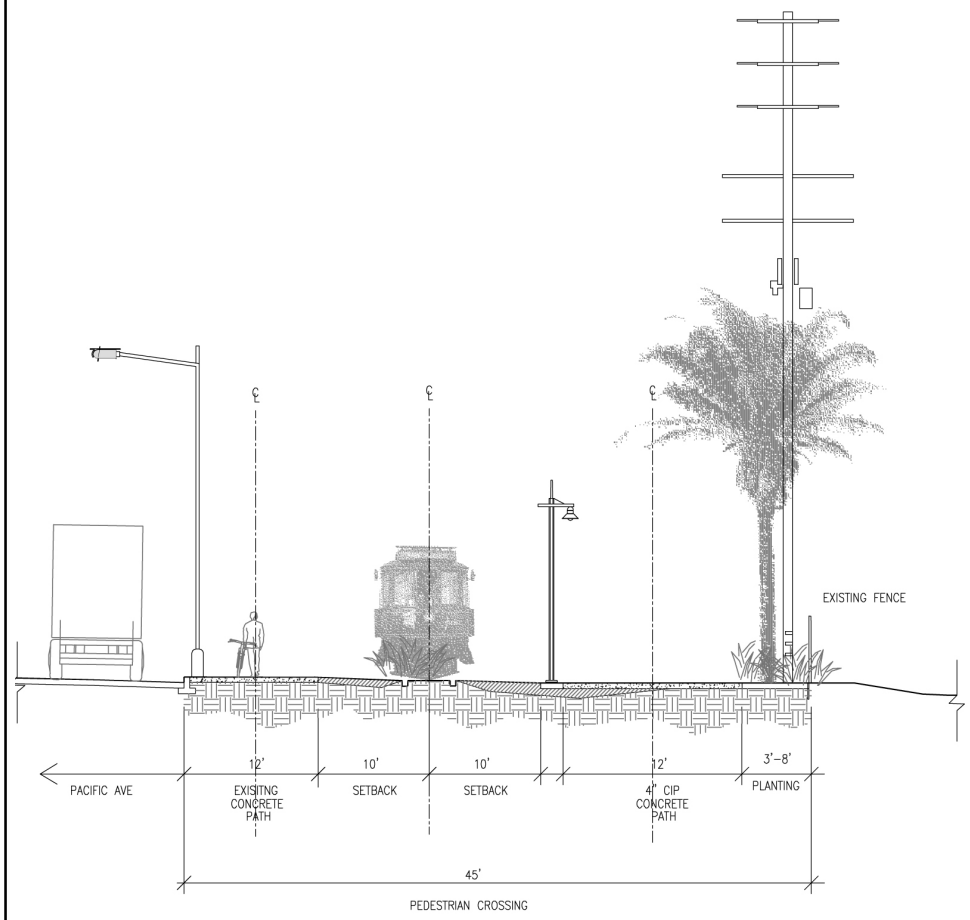
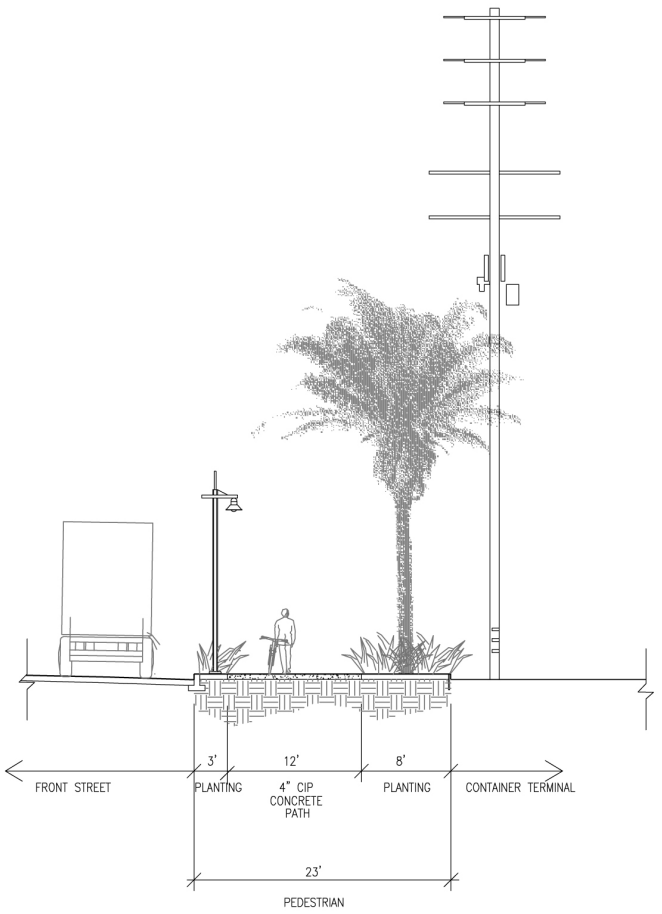
Figure ES-17
Proposed California Coastal Trail Section: John S. Gibson
Wilmington Waterfront Development Project



1LS-04 / LS-04 SECTION - PACIFIC AVE @ RR CROSSING

SCALE 1"=1/8'



2LS-04 / LS-04 TYP SECTION - FRONT STREET

SCALE 1"=1/8'

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SOURCE: Sasaki(2008)

ICF Jones & Stokes
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Figure ES-18
Proposed California Coastal Trail Section: Pacific Avenue and Front Street
Wilmington Waterfront Development Project

into the proposed project area and would include up to two major sculptural pieces. Views of the waterfront and Wilmington community would be created through the construction of the elevated park, pedestrian bridge, and observation tower. The proposed Project would also implement the Wilmington Waterfront Development Program Lighting Design Guidelines (as specified in Chapter 3.1, "Aesthetics").

- **Pedestrian Access and Public Docking Design Features.** Pedestrian access to the waterfront and throughout the proposed project site would be improved through the extension of the California Coastal Trail and Waterfront Red Car Line, pedestrian water bridge, elevated park/Land Bridge and waterfront promenade. Additionally, the proposed Project would create more public docking opportunities and improve waterside access to the Wilmington Waterfront. A water taxi service stop could also be accommodated.

ES.4.3.5 Port of Los Angeles Plan, Wilmington-Harbor City Community Plan, and Port Master Plan Amendments

As a component of the proposed Project, the Port Plan and the PMP jurisdictional boundaries would be extended to include the entire Avalon Water District, one block of the Avalon Development District south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue, and the Avalon Triangle Park development site. Because the Wilmington-Harbor City CP shares a common boundary with the Port Plan, both of which are part of the City of Los Angeles General Plan's Land Use Element, expanding the Port Plan boundaries would require a corresponding reduction in the Wilmington-Harbor City Community Plan. In addition, a redesignation of land uses to recreational under the Port Plan and to recreation and commercial under the PMP is proposed. A rezone would be required to allow park uses consistent with the Tidelands Trust in PA 5.

This EIR addresses the potential effects of the administrative boundary changes and land use designation and zone changes on the environment. No physical changes (e.g., grading, construction, etc.) are proposed to the Avalon Triangle Park site. See Figure ES-19 for an illustration of the existing Port Plan and Wilmington-Harbor City Community Plan boundaries and Figure ES-20 for an illustration of the proposed adjustment to the Port Plan and Wilmington-Harbor City boundaries. Figure ES-21 shows the change in land uses and zoning to the Avalon Triangle Park site and the Avalon Waterfront District. Figures ES-22 and ES-23 shows the proposed boundary adjustment to the PMP and the proposed land use additions under the PMP, respectively.

ES.4.4 Proposed Project Impact Analysis

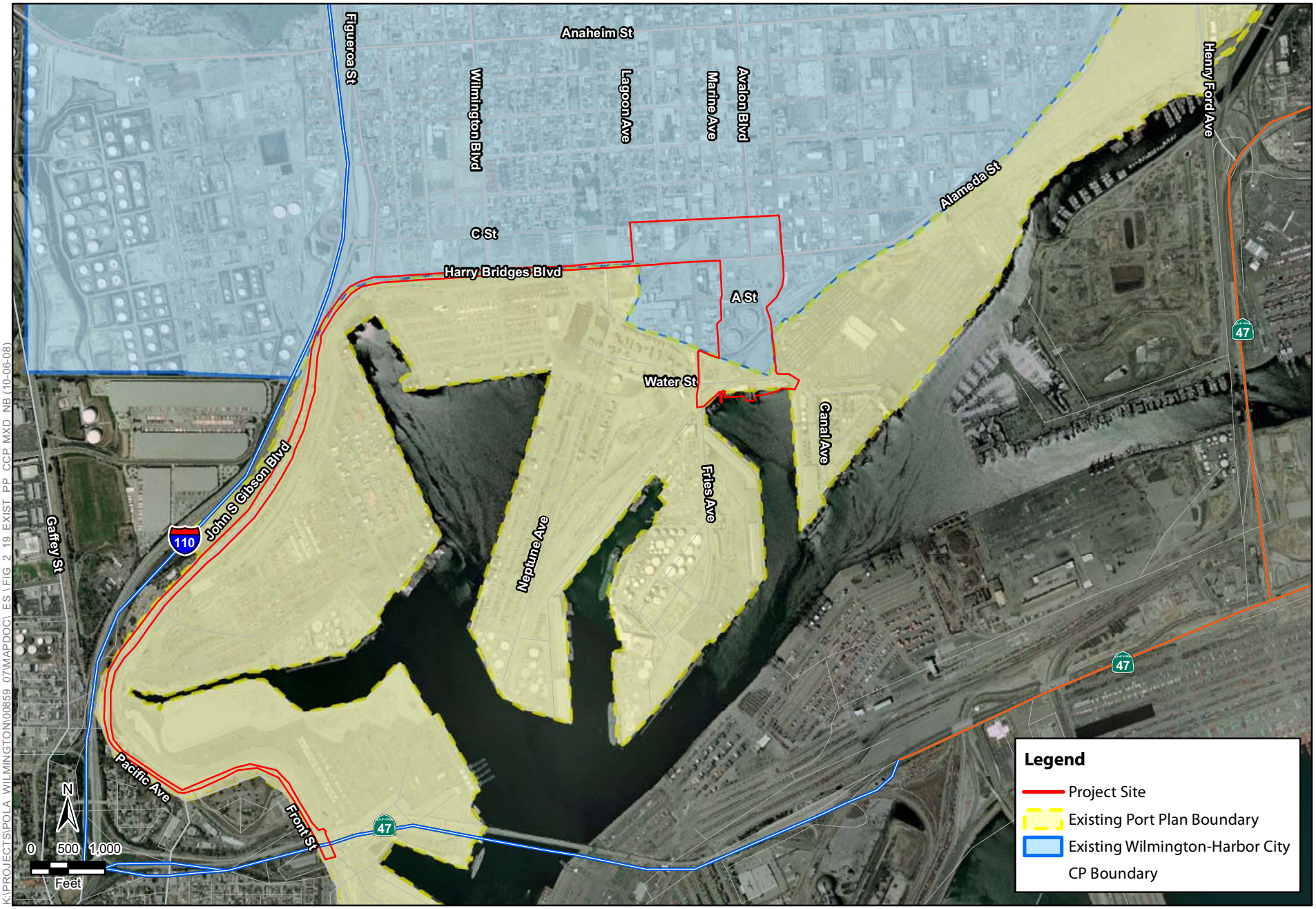
The draft EIR will address elements of the proposed Project at both the program and project level. A program-level analysis is prepared when the lead agency has a proposed program or series of actions that can be characterized as one large project and specific construction information is unavailable. A program-level analysis

generally analyzes broad environmental effects of the program with the understanding that additional site-specific environmental review may be required for particular aspects of the program at the time those aspects are proposed for implementation and construction. A project-level analysis generally has access to all the necessary construction information and is able to analyze the specific details of environmental effects of proposed elements. However, it is possible that a program-level analysis would identify and address all the potential environmental impacts and an additional environmental document would not be required if no additional impacts are identified once all the project-level details are known.

Generally the following elements of the proposed Project will be analyzed programmatically:

- 150,000 square feet of light industrial development in Avalon Development District Area A because the proposed Project provides locations for industrial uses and those uses would be constructed per the underlying zone; however, there are not any specific development proposals at the time of this draft EIR (75,000 square feet in Phase I and the remaining in Phase II);
- Potential relocation of removed LADWP bulk storage capacity to the Olympic Tank Site, because, while the relocation would be conducted and analyzed at a later date by a different lead agency, in removing a currently operating industrial use it is logical to presume the use would be relocated and operated on a feasible site elsewhere even if it is not proposed at the time of this draft EIR (Phase I and Phase II); and
- Extension of the Waterfront Red Car Line, because the exact engineering details of the alignment and operation are not known at the time of preparing this draft EIR (Phase II).

All other proposed project elements (including the Multi-Modal CCT along Harry Bridges Boulevard) will be analyzed at a project level within this draft EIR. Table ES-4 identifies the proposed project components and the respective level of analysis provided in the draft EIR (i.e., program or project level).



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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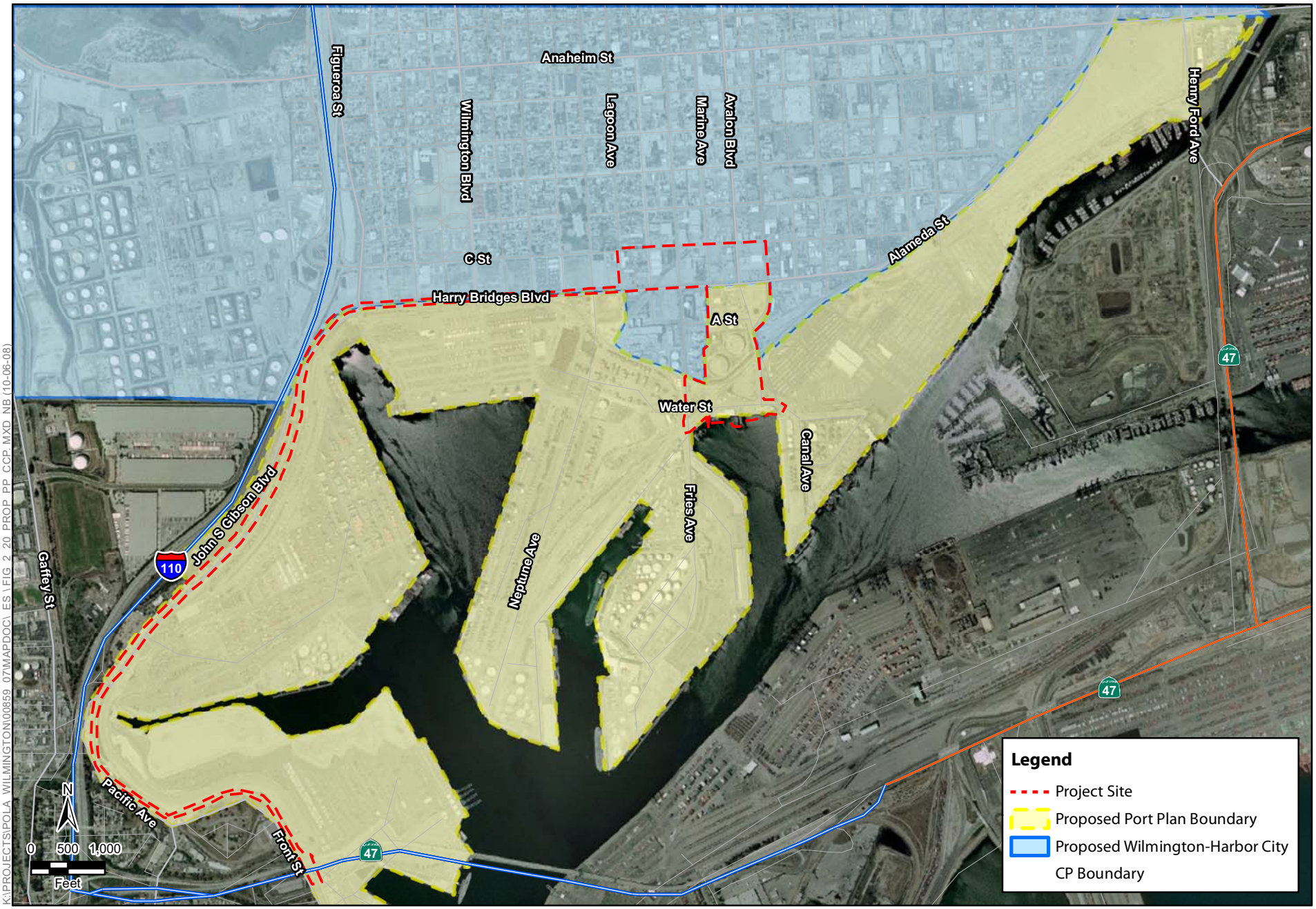
Figure ES-19
Port Plan and Wilmington-Harbor City Community Plan Existing Boundaries
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

Figure ES-20
Port Plan and Wilmington-Harbor City Proposed Boundaries
Wilmington Waterfront Development Project

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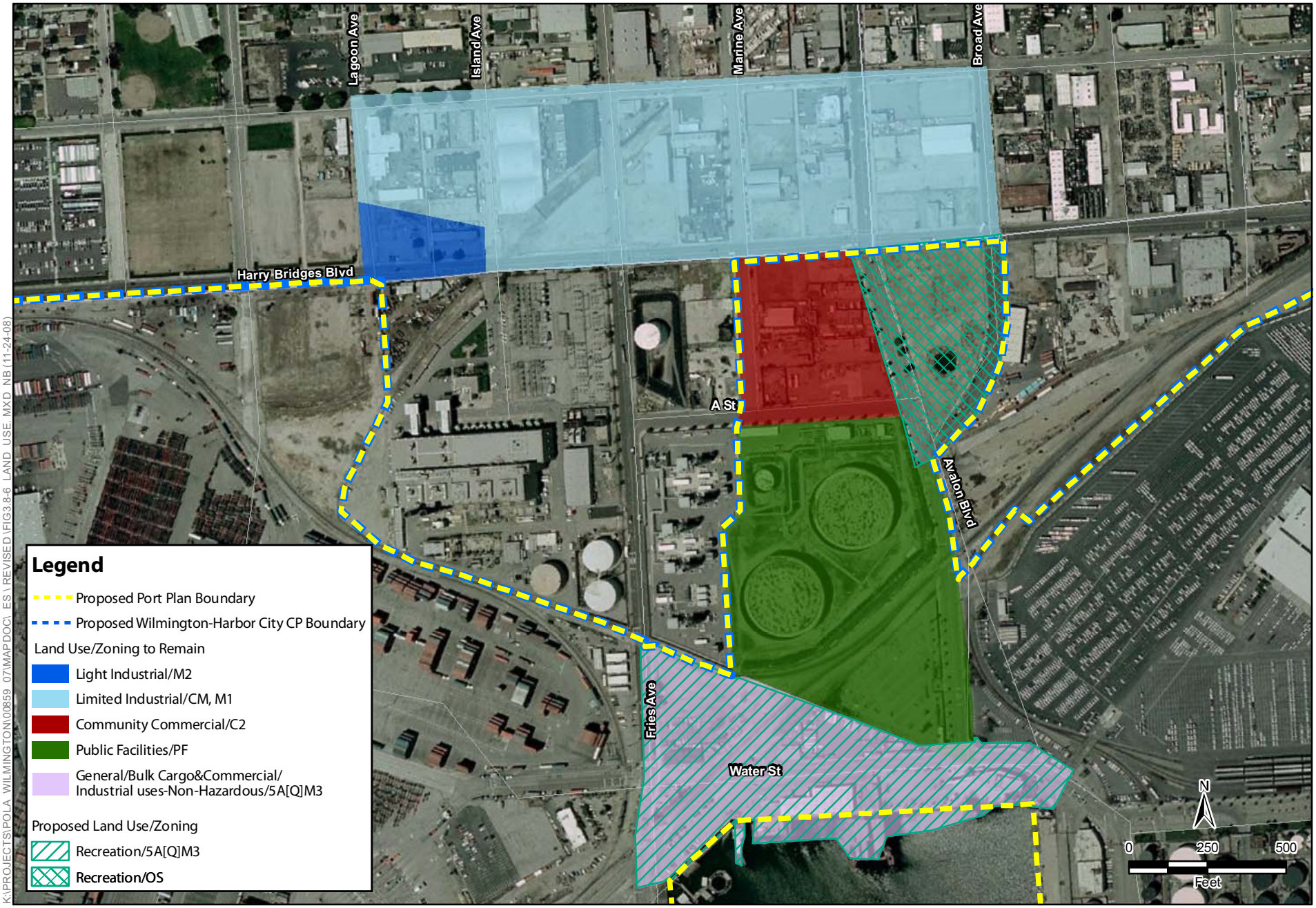
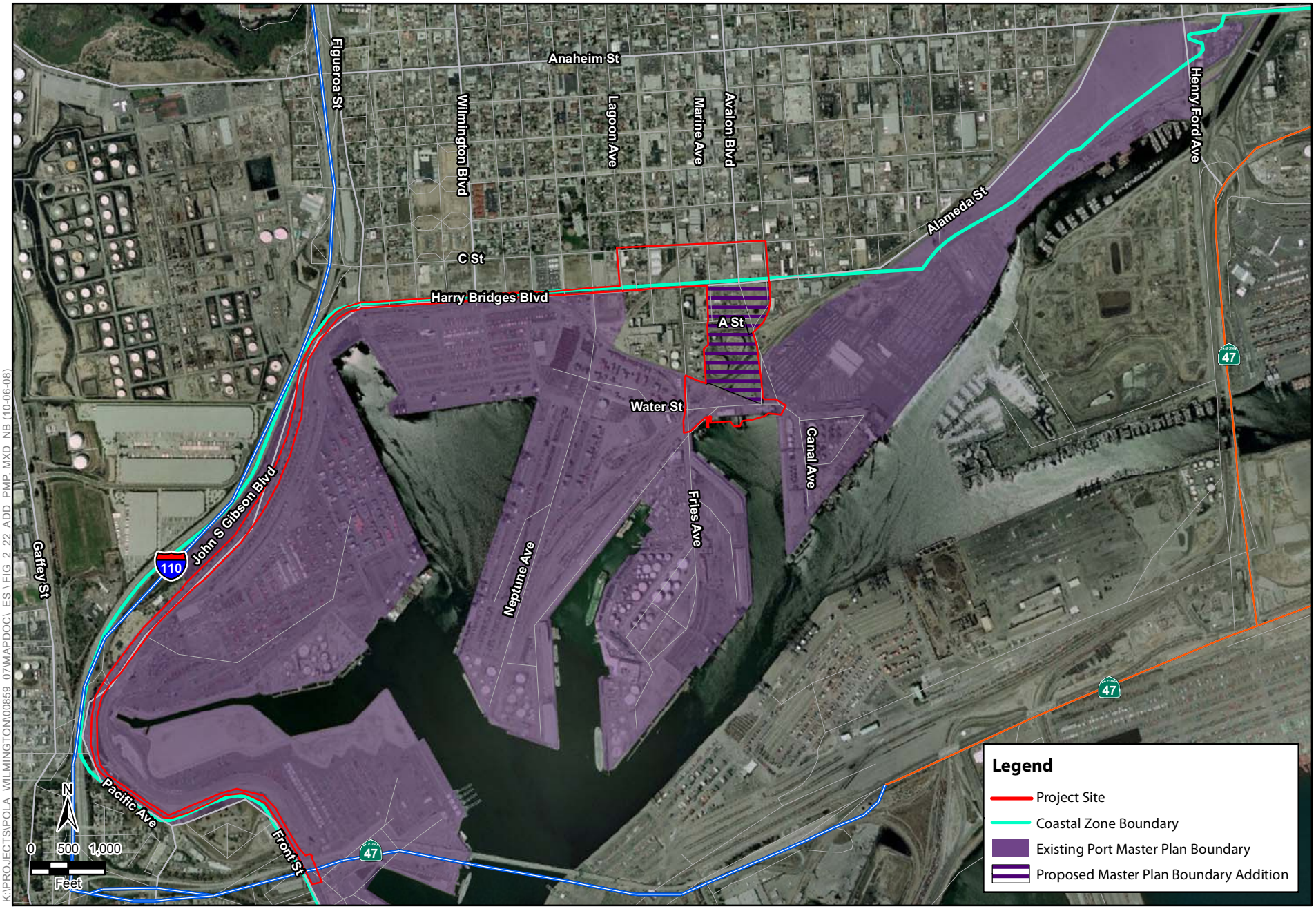


K:\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC_ES_\REVISED\FIG3.8-6_LAND_USE_MXD_NB (11-24-08)

SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

Figure ES-21
Proposed Project Wilmington-Harbor City CP and Port Plan Land Use/Zoning Change
Wilmington Waterfront Development Project



K:\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC_ES_\FIG_2_22_ADD_PMP_MXD_NB (10-06-08)

SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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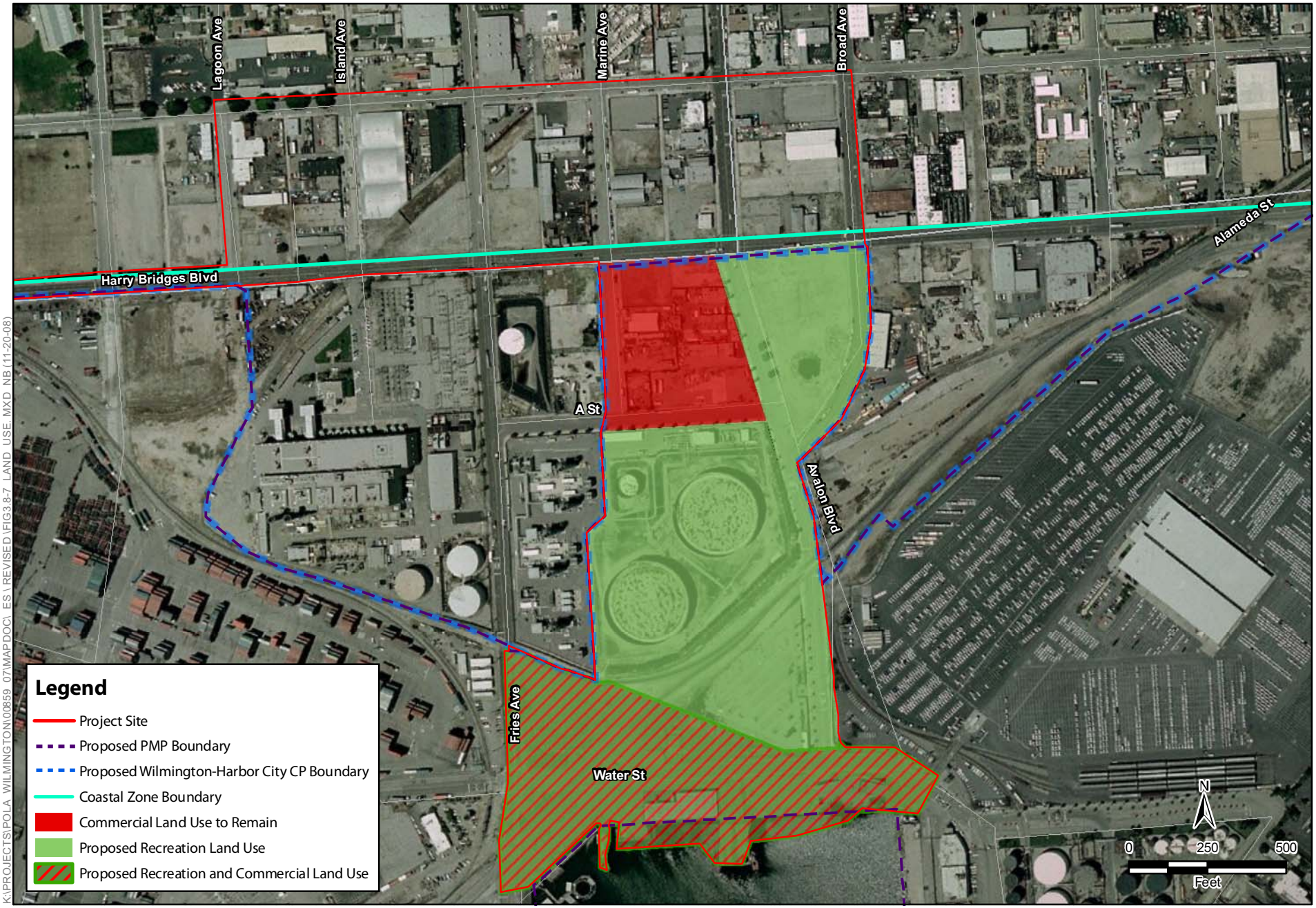
Figure ES-22
Proposed Boundary Adjustment to Port Master Plan
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

ICF Jones & Stokes
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Figure ES-23
Proposed Port Master Plan Land Use Designations
Wilmington Waterfront Development Project

Table ES-4. Level of Analysis of Each Element of the Proposed Project

Elements	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (Full Buildout 2015–2020)*	*Programmatic or Project-level Analysis*
AVALON DEVELOPMENT DISTRICT			
Light Industrial Development	Maximum of 75,000 sf of light industrial development around Avalon Boulevard, in the industrial area between Lagoon and Broad Avenues, north of Harry Bridges Boulevard and south of C Street; school and police trailer to remain.	Potentially develop an additional 75,000 sf of light industrial development	Program
Retail/Commercial Development	58,000 sf of retail/commercial development south of Harry Bridges Boulevard along Avalon Boulevard.	N/A	Project
Acquisition of Private Property	Dockside Ship & Machine Repair		Project
Waterfront Red Car Museum	Adaptive reuse of the 14,500-sf building located on Bekins Storage Property as Waterfront Red Car Museum consistent with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings	N/A	Project
Railroad Green	Approximately 1-acre passive recreation park crossing diagonally from Harry Bridges Boulevard (at Island Avenue) to C Street (east of Fries Avenue)	N/A	Project
Vacating Avalon Boulevard	Vacation Avalon Boulevard south of A Street	N/A	Project
Realignment of Broad Avenue	Realignment of Broad Avenue to continue to the waterfront	N/A	Project
Streetscape Improvements	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District	Project
Demolition			
Demolish Dockside Ship & Machine Repair Structures	Demolish all structures		Project

Elements	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (Full Buildout 2015–2020)*	*Programmatic or Project-level Analysis*
and Unknown Underutilized Adjacent Structure			
Relocation			
Potential Relocation of Dockside Ship & Repair Structures to 141 and 211 N. Marine Avenue	N/A	N/A	Program
AVALON WATERFRONT DISTRICT			
Waterfront Promenade & Replacing Existing Bulkhead	Waterfront promenade with landscaping which includes 61,100 sf of new viewing piers (1,155 concrete pilings, 24 inches in diameter), replacement of approximately 17,880 sf of existing piers (478 concrete piles), and two floating docks measuring 5,870 sf for transient boats	N/A	Project
Land Bridge (total 10 acres)	Land bridge extending from the waterfront to the LADWP tanks over the existing rail lines and the realigned Water Street	Completion of remaining section of land bridge to total 10 acres; sloped open lawn, ornamental gardens, and terraces with decomposed granite would landscape this portion of the land bridge	Project
Pedestrian Water Bridge	Pedestrian "Water" Bridge from Entry Plaza to the waterfront promenade and Observation Tower.	N/A	Project
Entry Plaza	1-acre Entry Plaza located at the southeast corner of Harry Bridges and Avalon Boulevards adjacent to Avalon Triangle Park	N/A	Project
Observation Tower	200-foot-tall Observation Tower with a 2,144-sf footprint and a pedestrian walkway.	N/A	Project
Restaurant Development	N/A	12,000 sf of restaurant development at the waterfront	Project

Elements	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (Full Buildout 2015–2020)*	*Programmatic or Project-level Analysis*
Realignment of Water Street			Project
Landscaping Improvements	Landscaping improvements to the existing National Polytechnic University parking lot and area surroundings	N/A	Project
Passenger Drop	Passenger drop-off east of Banning's Landing Community Center along Broad Avenue		Project
Demolition			
Demolish Catalina Freight	Demolish entire building	N/A	Project
Demolish National Polytechnic College of Science Hyperbaric Chamber Building	Demolish entire building	N/A	Project
Demolish National Polytechnic College of Science Welding Pier	Demolish entire building	N/A	Project
LADWP Marine Tank Site	Acquisition and demolition of all tanks and associated infrastructure	N/A	Project
Relocation			
Relocation of LADWP bulk storage tank capacity to Olympic Tank Site	After the LADWP tanks are demolished a potential feasible relocation of the reduction of bulk storage capacity due to the demolition of the LADWP tanks is the Olympic Tank Site	N/A	Program

Elements	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (Full Buildout 2015–2020)*	*Programmatic or Project-level Analysis*
Parking			
Fries Avenue	51 spaces off of Fries Avenue	N/A	Project
North of Banning's Landing	71 spaces north of Banning's Landing under the pedestrian water bridge	N/A	Project
West of Land Bridge, East of Peaker Plants	N/A	A 148-space surface parking area with landscaping accessible from A Street adjacent to the bridge	Project
WATERFRONT RED CAR LINE AND CALIFORNIA COASTAL TRAIL			
Extension of Waterfront Red Car Line	N/A	The Waterfront Red Car Line would begin at the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard	Program
California Coastal Trail (CCT)	N/A	The CCT would follow the existing sidewalk/public right-of-way route from Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then Harry Bridges Boulevard terminating at Avalon Boulevard	Project

1

ES.4.5 Proposed Project Phasing and Demolition and Construction Plan

The proposed Project assumes demolition and relocation of the existing and operational LADWP Marine Tank Farm liquid bulk storage tanks. This demolition would allow the construction of the Land Bridge and elevated park that would connect to the Avalon Development District. As stated above, the proposed Project is split into two phases. A large number of the proposed project elements would be constructed under the Phase I: Interim Plan, which would commence construction in 2009 and terminate around 2015. The remaining elements would be constructed under Phase II: Full Buildout Plan, which would commence in approximately 2015 and terminate in 2020. The proposed project elements associated with each phase are discussed in further detail below. See Table ES-1 for a summary of each element and the appropriate phasing.

ES.4.5.1 Phase I: Interim Plan (2009–2015)

The elements or actions which would be constructed and operated under Phase I: Interim Plan are described below and illustrated in Figure ES-24.

Avalon Development District (Areas A and B)

Area A

- Infrastructure improvements (including stormwater improvements, dry utility lines, potable waterlines, and wastewater lines) within the Avalon Development District to support the development of up to 75,000 square feet of green technology light industrial uses during Phase I
- Development of the Railroad Green, a 1-acre passive open space within an existing abandoned railroad right-of-way
- Development of a Waterfront Red Car Museum in the 14,500-square-foot Bekins Building through adaptive reuse of this historic structure consistent with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings
- Pedestrian sidewalk and street improvements along Lagoon, Island, Fries, Marine, and Broad Avenues, along Avalon and Harry Bridges Boulevards, and along C Street.

Area B

- Demolition of Dockside Machine & Ship Repair and other structures listed described in Table ES-2, followed by development of up to 58,000 square feet of commercial uses, south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue and the realignment of Avalon Boulevard

- Vacation of Avalon Boulevard south of A Street, realignment and continuation of Broad Avenue to the waterfront, and realignment of Water Street to provide more waterfront area for the promenade and pedestrian open space

Avalon Waterfront District

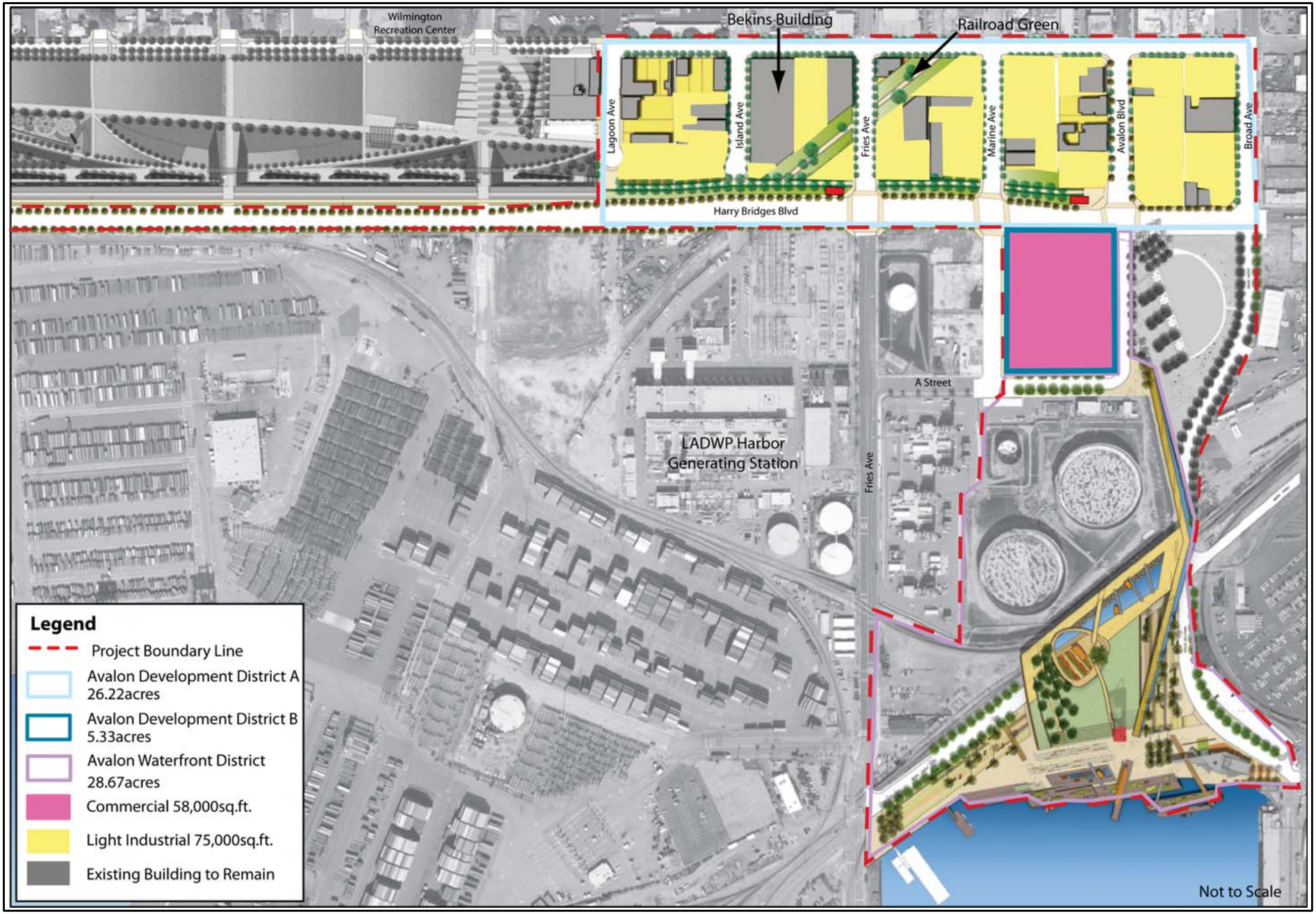
- Development of pedestrian-oriented features such as parks, plazas, sidewalk enhancements and landscaping, a water bridge, and a 200-foot-tall Observation Tower with an associated walkway
- Development of a waterfront promenade, new viewing piers (43,220 square feet) and replacement viewing piers (17,880 square feet), and two small floating docks for visiting vessels (for a total of 5,870 square feet)
- Initiation of the development of a 10-acre elevated park space on an expansive Land Bridge over active railroad lines and the proposed realigned Water Street
- Construction of the 1-acre Entry Plaza located at the southeast corner of Harry Bridges and Avalon Boulevards at the entrance to the pedestrian water bridge
- Construction of two off-street surface parking areas at the waterfront promenade (71 and 51 spaces, respectively)
- Construction of a passenger drop-off east of Banning's Landing Community Center
- Demolition of the Catalina Freight structures (30,860 square feet), National Polytechnic College of Science Hyperbaric Chamber Building (2,370 square feet) and associated Welding Pier (1,800 square feet)
- Dedication of the LADWP Marine Tank site north of Water Street and south of A Street between Fries Avenue and Avalon Boulevard for park and recreation use (initiated in 2011)
- Demolition and removal of the existing LADWP Marine Tank Farm 450,000 bbls liquid bulk storage tanks (58,965 square feet each), the 30,000 bbl tank, and the associated LADWP structures (6 structures totaling 18,500 square feet) listed in Table ES-3, followed by soil and groundwater remediation as necessary

ES.4.5.2 Phase II: Full Buildout (2015–2020)

The elements or actions, which would be constructed and operated under Phase II: Full Buildout, are described below and illustrated in Figure ES-25.

Avalon Development District (Area A)

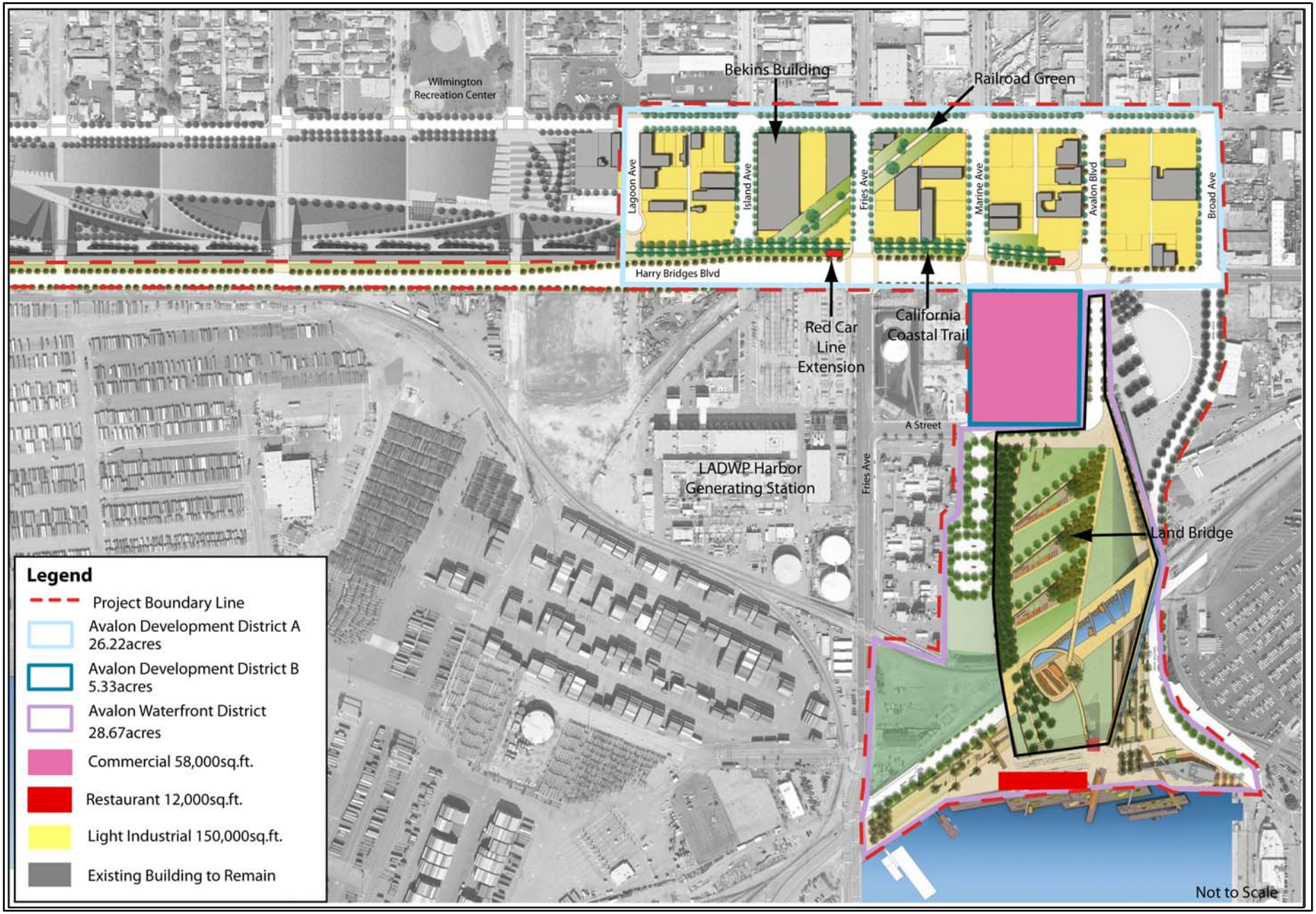
- Continued enhancement of the Avalon Development District (Area A) to support the construction of an additional 75,000 square feet of green technology light industrial development during Phase II, for a total of 150,000 square feet



SOURCE: Sasaki (2008)

Figure ES-24
Interim Phase
Wilmington Waterfront Development Project

ICF Jones & Stokes
an ICF International Company



SOURCE: Sasaki (2008)

Figure ES-25
Full Build Out
Wilmington Waterfront Development Project

ICF Jones & Stokes
an ICF International Company

Avalon Waterfront District

- Completion of the 10-acre Land Bridge located on the LADWP Marine Tank site
- Construction of 12,000 square feet of restaurant/visitor-serving retail uses at the waterfront promenade
- Construction of 1 surface parking area with 148 spaces on the LADWP Marine Tank site west of the Land Bridge (access from A Street)

Waterfront Red Car Line and Multi-Modal California Coastal Trail

- Extension of the Waterfront Red Car Line and CCT along John S. Gibson and Harry Bridges Boulevards from the intersection of Swinford Street and Harbor Boulevard to the intersection of Harry Bridges and Avalon Boulevards

ES.5 Alternatives to the Proposed Project

ES.5.1 Basis of Alternatives Selection and Analysis

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a proposed project, or to the location of a proposed project that could feasibly attain most of the basic objectives of the proposed project but would avoid or substantially lessen any significant environmental impacts. According to CEQA Guidelines, the EIR should compare merits of the alternatives and determine an environmentally superior alternative. CEQA requires that an EIR present a range of reasonable alternatives to the proposed Project. LAHD defines a reasonable range of alternatives in light of its legal mandates under the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Sec. 601), the California Coastal Act (PRC Div 20 S30700 et seq.), and LAHD's leasing policy (LAHD 2006).

The lead agencies may make an initial determination as to which alternatives are feasible and therefore merit in-depth consideration, and which alternatives are infeasible. The range of alternatives need not be beyond a reasonable range necessary to permit a reasoned choice between the alternatives and the proposed Project.

According to CEQA regulations, the alternatives section of an EIR is required to:

- rigorously explore and objectively evaluate a reasonable range of alternatives;
- include reasonable alternatives not within the lead agency's jurisdiction or congressional mandate, if applicable;
- include a "no project" alternative;
- develop substantial treatment to each alternative, including the proposed action, so that reviewers may evaluate their comparative merits;

- identify the environmentally superior alternative;
- include appropriate mitigation measures (when not already part of the proposed action or alternatives); and
- present the alternatives that were eliminated from detailed study and briefly discuss the reasons for elimination.

In addition to the No Project alternative, alternatives for an EIR usually take the form of a reduced project size, different project design, or suitable alternative project sites. The range of alternatives discussed in an EIR is governed by the "rule of reason" that requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed Project. An EIR need not consider an alternative that would be infeasible. CEQA Guidelines Section 15126.6 explains that the evaluation of project alternative feasibility can consider "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." The EIR is also not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation, and that would not achieve the basic proposed project objectives.

This section provides a description of alternatives considered, including those analyzed within this EIR, as well as those considered but withdrawn from further discussion, including the rationale for eliminating the other alternatives from detailed analysis.

ES.5.2 Alternatives Considered

This document presents a reasonable range of alternatives pursuant to CEQA. LAHD must define alternatives in light of the requirements of the Los Angeles City Charter, the Los Angeles Tidelands Trust Grant, the Public Trust Doctrine, and the California Coastal Act. These legal mandates demand that LAHD use the Port for the purposes of promoting and accommodating waterborne commerce, navigation, fishery, and related purposes.

Eight alternatives, including the proposed Project and the No Project Alternative, were considered and evaluated in regards to how well each met the objectives for the proposed Project. Four of these alternatives were eliminated from detailed consideration for various reasons, as discussed in Section ES.5.4 and Section 2.9.3. Two of the alternatives met most of the proposed project objectives and are presented in Section ES.5.3 below. In addition, the No Project Alternative was considered as required by CEQA. Chapter 5 compares the proposed Project and the alternatives and identifies the environmentally superior alternative.

The following alternatives were considered:

- Proposed Project

- Alternative 1—Alternative Development Scenario 1(Reduced Development)
- Alternative 2—Alternative Development Scenario 2 (Reduced Construction and Demolition)
- Alternative 3—No Project Alternative

The following alternatives were considered, but eliminated from further analysis:

- Alternative Project Designs—Avalon Pier Project Design
- No In-Water Construction
- No Street Vacation of Avalon Boulevard or Realignment of Broad Avenue
- Other Sites within the Port Boundaries and LAHD Jurisdiction

ES.5.3 Alternatives Analyzed in this EIR

The proposed Project and three other alternatives meet most of the proposed project objectives. The alternatives that were considered during preparation of this draft EIR include the

- Proposed Project
- Alternative 1—Alternative Development Scenario 1 (Reduced Development)
- Alternative 2—Alternative Development Scenario 2 (Reduced Construction and Demolition)
- Alternative 3—No Project Alternative

Each of the three alternative development scenarios has been carried forward for detailed analysis in Chapter 5, "Project Alternatives," and is summarized below.

ES.5.3.1 Alternative 1—Alternative Development Scenario 1 (Reduced Development)

As compared to the proposed Project, Alternative 1 would only develop the Avalon Waterfront District, CCT, and provide program-level planning for the Waterfront Red Car Line. Since all of the proposed Project elements associated with the Avalon Waterfront District are the same under this alternative as the proposed Project, each feature is noted and the reader can refer back to the description under the proposed Project.

Alternative 1 would reduce the development footprint by not improving the Avalon Development District (Area A) generally north of Harry Bridges Boulevard as well as one block south of Harry Bridges Boulevard between Marine Avenue and Avalon Boulevard (Area B). For those elements that differ between the proposed Project and Alternative 1, the differences are described in detail below.

Alternative 1 would not include streetscape and pedestrian enhancements along portions of Harry Bridges Boulevard, C Street, portions of Avalon Boulevard, Lagoon Avenue, Island Avenue, portions of Fries Avenue, Marine Avenue, and portions of Broad Avenue. Nor would it develop the infrastructure (including stormwater improvements, dry utility lines, potable waterlines, and wastewater lines) to support approximately 150,000 square feet of development for light industrial uses (for green technology businesses) or the 58,000 square feet of commercial uses. In addition, Alternative 1 would not include implementation of the Waterfront Red Car Museum and rehabilitation of the 14,500-square-foot Bekins Property, or development and landscaping of the 1-acre Railroad Green.

The Avalon Development District would remain underdeveloped in its existing condition. This area would have the potential to undergo redevelopment in the future, but it would not be in combination or coordination with the Wilmington Waterfront Development Program. Under this alternative, development of the infrastructure within the Avalon Development District would not be assured, and it is reasonably foreseeable that the land would remain vacant for an extended period of time.

The following Avalon Waterfront District elements for Alternative 1 are the same as those described for the proposed Project.

- Waterfront Promenade and Visitor Serving Amenities including:
  - Demolition of Catalina Freight, National Polytechnic College of Science Hyperbaric Chamber Building, and National Polytechnic College of Science Welding Pier
  - Construction and operation of waterfront promenade
  - Construction and operation of Observation Tower
  - Construction and operation of a restaurant
- Land Bridge and LADWP Marine Tank Site, including:
  - 1-acre Entry Plaza
  - Pedestrian water bridge
  - Dedication of LADWP property for park and recreation use and demolition of LADWP Marine Tank Site
  - Construction and operation of the 10-acre Land Bridge elevated park
- Three Surface Parking Areas
- Landscaping improvements to the existing National Polytechnic University (College of Oceaneering) parking area and surroundings
- Traffic Improvements including:
  - Downgrade of Avalon Boulevard
  - Realignment of Avalon Boulevard and Broad Avenue

- Realignment of Water Street to increase the area of the waterfront promenade and allow the construction of the Land Bridge as proposed
- Construction of a passenger drop-off east of Banning's Landing Community Center

- Extension of the Waterfront Red Car Line and California Coastal Trail, beginning at Swinford Street and ending at Avalon Boulevard
- Extension of the Port Plan and Port Master Plan jurisdictional boundaries and corresponding retraction of Wilmington-Harbor City Community Plan jurisdictional boundary and the redesignation of land uses to allow for recreation and park uses consistent with the Tidelands Grant

ES.5.3.2 Alternative 2—Alternative Development Scenario 2 (Reduced Construction and Demolition)

Alternative 2 would leave the LADWP Marine Tanks in place and reduce the size of the Land Bridge elevated park space by only constructing the Phase 1 portion (see Figure ES-24 for Interim Phase Plan). No site remediation would occur at the LADWP Marine Tank site, and the complete Land Bridge would not connect to the Avalon Development District. Access to the waterfront would still be provided by the proposed pedestrian water bridge, but the Land Bridge would terminate at the LADWP Marine Tank site boundary. This would result in an approximately 4-acre Land Bridge park, roughly 6 fewer acres than the proposed Project.

Other than not including the Phase II portion of the Land Bridge and not removing the LADWP Marine Tank Farm, Alternative 2 would propose the same project elements as the proposed Project, including realigning Water Street. As with the proposed Project, development and infrastructure improvements would occur at the Avalon Development District and CCT, program-level planning would occur for the Waterfront Red Car Line, and the Port Plan and PMP jurisdictional boundary extensions and land use designations would occur except at the LADWP Marine Tank Farm site.

ES.5.3.3 Alternative 3—No Project Alternative

Pursuant to CEQA Guidelines Section 15126.6(e)(3)(A), Alternative 3 describes what would reasonably be expected to occur on the site if no LAHD action would occur. This alternative would not allow implementation of the proposed Project or other physical improvements associated with the proposed Project. Under this alternative, no construction impacts associated with a discretionary permit would occur. In this case, Alternative 3 involves continued operations of the existing uses within the proposed project area, with no new development or expansion.

The following existing conditions, onsite tenants, resident companies, and public facilities, along with associated foreseeable actions, would occur, or continue to operate, if the No Project Alternative was selected:

- LADWP would continue lease the Marine Tank Farm liquid bulk storage tanks (3) and accessory structures to the Valero Energy Corporation and may renew the lease prior to its expiration set for 2012; remediation of the LADWP site would not occur.
- Light industrial and heavy commercial uses would continue to exist and operate north of A Street and north of Harry Bridges Boulevard, along the Avalon Development District; however, no area-wide development plan would be implemented, and many buildings would remain in a blighted or underused condition and many parcels would remain vacant.
- The historic Bekins Property buildings would not undergo adaptive reuse or reconditioning, but instead would remain on site in their existing condition.
- Banning's Landing Community Center would continue to operate, and its associated parking lot would remain in place.
- The waterfront area and bulkhead would remain in their existing condition.
- Relocation of Catalina Freight and demolition of the onsite office and warehouse building located at the waterfront could still occur as the tenant is being relocated independently of the proposed Project and would not necessarily require a discretionary action.
- The National Polytechnic University would continue to operate as with the proposed Project, but no improvements would be made to the surface parking area and landscaping.
- The National Polytechnic College of Science Hyperbaric Chamber Building and National Polytechnic College of Science Welding Pier would not be demolished.
- Avalon Boulevard would continue through to the waterfront; Broad Avenue would terminate at Avalon Boulevard; Water Street would not be realigned.
- Movement of goods would continue by truck and rail operations using the exiting transportation corridors and street network.
- The Port Plan, Wilmington-Harbor City Community Plan, and the Port Master Plan would remain unchanged.
- Development of the Avalon Triangle Park site would still proceed independently.

ES.5.4 Alternatives Eliminated from Further Consideration

As discussed in Section ES.5.1 above, CEQA requires an EIR to present a range of reasonable alternatives to the proposed Project, or to the location of the project, that could feasibly attain a majority of the basic project objectives, but would avoid or

substantially lessen one or more significant environmental impacts of the project. CEQA also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that would be infeasible, would not reduce any identified significant impact, or would not meet a majority of the project objectives. Additional details regarding these alternatives and the reasons for rejecting them are included in Chapter 5, "Project Alternatives."

The following proposed project alternatives were considered in the selection process, but were rejected due to one or more of the following:

- determined infeasible due to physical, legal, or technical factors;
- inability to meet a majority of the project objectives; or
- inability to reduce one or more identified significant impact(s).

The alternatives below were considered, but eliminated from further analysis:

- Alternative Project Designs—Avalon Pier Project Design
- No In-Water Development
- No Street Vacation of Avalon Boulevard or Realignment of Broad Avenue
- Other Sites within the Port Boundaries and LAHD Jurisdiction

ES.6 Environmental Impacts

ES.6.1 Scope of Analysis and Impacts Considered in this Draft EIR

The scope of this draft EIR was established based on the Initial Study (IS) prepared pursuant to CEQA (see Appendix A) and comments received during the NOP review process. The breadth of the analysis and technical work plans developed during the preparation of this draft EIR were designed to ensure that comments received from regulatory agencies and the public during this review process would be addressed. The NOP scoping period lasted from March 14, 2008, until April 14, 2008, and included one scoping meeting on Tuesday, March 25, 2008. Public and agency comments received during this period were considered in the scope of the analysis for this EIR.

This draft EIR focuses on the significant environmental effects of the proposed Project and their relevance to the decision-making process. The CEQA Guidelines (Section 15360) define the *environment* as follows:

> The physical conditions which exist within the areas which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Based on the Initial Study, the following issues have been determined to be potentially significant and are therefore evaluated in this draft EIR:

- Aesthetics
- Air Quality and Meteorology
- Biological Resources
- Cultural Resources
- Geology
- Groundwater and Soils
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Population and Housing
- Transportation and Circulation (Ground and Marine)
- Utilities
- Public Services
- Water Quality, Sediments, and Oceanography.

It should be noted that originally biological resources was not identified as a resource with potentially significant impacts in the IS Checklist; however, due to comments received during the scoping period and the required addition of the bulkhead wall replacement, an analysis of biological resources is included in this draft EIR.

Chapter 3, "Environmental Analysis," discusses the issues that would be significantly affected by the proposed Project. The criteria for determining the significance of environmental impacts in this draft EIR analysis are described in the "Thresholds of Significance" sections for each resource topic in Chapter 3. Mitigation measures to reduce impacts to less-than-significant levels are proposed whenever feasible.

ES.6.2 Impacts Not Considered in this Draft EIR

The scope of this draft EIR was established based on the NOP, which identified potential impact areas of the proposed Project. The NOP also determined that agricultural resources, mineral resources, and recreational resources would not be affected by the proposed Project. In accordance with CEQA, issues found in the NOP/Initial Study that would have no impact or less-than-significant impact would not require further evaluation in the EIR.

ES.6.3 Impacts of the Proposed Project

Sections 3.1 through 3.14 discuss the anticipated potential environmental effects of the proposed Project. The 14 issues listed above are discussed in these sections, and mitigation measures to avoid impacts or reduce impacts to less-than-significant levels are proposed whenever possible. Chapter 5, "Project Alternatives," discusses the anticipated potential environmental effects of the alternatives. Chapter 6, "Environmental Justice," evaluates the potential for the proposed Project to result in serious and adverse impacts that disproportionately affect low-income and/or minority populations. Summary descriptions of the significant impacts, mitigation measures, and residual impacts for the proposed Project are presented in Table ES-5 at the end of this chapter. This table also presents significant cumulative impact results and environmental justice impact determinations.

For each of the 14 environmental resources analyzed in this draft EIR, Chapter 3 identifies significant impacts associated with the proposed Project. The following sections describe the significant and less-than-significant impacts.

ES.6.3.1 Summary of Significant and Unavoidable Impacts

Table ES-5 identifies significant unavoidable impacts associated with the proposed Project. This draft EIR has determined that implementation of the proposed Project would result in significant and unavoidable impacts on

- Air Quality
- Geology
- Noise

ES.6.3.2 Summary of Significant Impacts that Can Be Mitigated, Avoided, or Substantially Lessened

Table ES-5 identifies significant impacts associated with the proposed Project that can be mitigated, avoided, or substantially lessened. This draft EIR has determined that implementation of the proposed Project would result in significant impacts that can be mitigated to less than significant on

- Biological Resources
- Cultural Resources
- Groundwater and Soils
- Transportation (Ground and Marine)
- Utilities

Table ES-5. Summary of Impact Determinations

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.1 Aesthetics			
AES-1: Construction and operation of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.	No impact would occur	No mitigation is required	No impact would occur
AES-2: Construction and operation of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.	Less than significant	No mitigation is required	Less than significant
AES-3: Construction and operation of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required	Less than significant
AES-4: Construction and operation of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.	No impact would occur	No mitigation is required	No impact would occur
AES-5: Construction and operation of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.2. Air Quality and Meteorology			
Construction			
AQ-1: The proposed Project would result in construction-related emissions that exceed a SCAQMD threshold of significance.	Significant	**MM AQ-1: Harbor Craft Engine Standards.** All harbor craft used during the construction phase of the proposed Project will, at a minimum, be repowered to meet the cleanest existing marine engine emission standards or EPA Tier 2. Additionally, where available, harbor craft will meet the proposed EPA Tier 3 (which are proposed to be phased-in beginning of 2009) or cleaner marine engine emission standards. **MM AQ-2: Dredging Equipment Electrification.** All dredging equipment will be electric. **MM AQ-3: Fleet Modernization for Onroad Trucks**. 1. Trucks hauling materials such as debris or fill will be fully covered while operating off Port property. 2. Idling will be restricted to a maximum of 5 minutes when not in use. 3. EPA Standards: a. Prior to December 31, 2011: All onroad heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2004 onroad emission standards for PM_{10} and NO_X (0.10 g/bhp-hr and 2.0 g/bhp-hr, respectively). In addition, all onroad heavy heavy-duty trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will be equipped with a CARB-verified Level 3 device.	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		b. From January 1, 2012 on: All onroad heavy-duty diesel trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2007 onroad emission standards for PM_{10} and NO_X (0.01 g/bhp-hr and 0.20 g/bhp-hr, respectively). A copy of each unit's certified, USEPA rating and each unit's CARB or SCAQMD operating permit, shall be provided at the time of mobilization of each applicable unit of equipment **MM AQ-4: Fleet Modernization for Construction Equipment.** 1. Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards. 2. Idling will be restricted to a maximum of 5 minutes when not in use. 3. Tier Specifications: ■ Prior to December 31, 2011: All offroad diesel-powered construction equipment greater than 50 horsepower (hp) will meet Tier-2 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device. ■ From January 1, 2012, to December 31, 2014: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-3 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		retrofitted with a CARB-certified Level 3 diesel emissions control device. ■ From January 1, 2015 on: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-4 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device. **MM AQ-5: Additional Fugitive Dust Controls.** The calculation of fugitive dust (PM_{10}) from proposed project earth-moving activities assumes a 61% reduction from uncontrolled levels to simulate rigorous watering of the site and use of other measures (listed below) to ensure compliance with SCAQMD Rule 403. The construction contractor will further reduce fugitive dust emissions to 90% from uncontrolled levels. The construction contractor will designate personnel to monitor the dust control program and to order increased watering, as necessary, to ensure a 90% control level. Their duties will include holiday and weekend periods when work may not be in progress. The following measures, at minimum, must be part of the contractor Rule 403 dust control plan: ■ Active grading sites will be watered 1 additional time per day beyond that required by Rule 403. ■ Contractors will apply approved nontoxic chemical soil stabilizers to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more). ■ Construction contractors will provide temporary wind	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		fencing around sites being graded or cleared. ■ Trucks hauling dirt, sand, or gravel will be covered or will maintain at least 2 feet of freeboard in accordance with Section 23114 of the California Vehicle Code. ■ Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site. Pave road and road shoulders. ■ The use of clean-fueled sweepers will be required pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on site or roads adjacent to the site to reduce fugitive dust emissions. ■ A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity including resolution of issues related to PM10 generation. ■ Traffic speeds on all unpaved roads will be reduced to 15 mph or less. ■ Temporary traffic controls such as a flag person will be provided during all phases of construction to maintain smooth traffic flow. ■ Construction activities that affect traffic flow on the arterial system will be conducted during off-peak hours to the extent practicable. ■ The use of electrified truck spaces for all truck parking or queuing areas will be required.	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		MM AQ-6: Best Management Practices. The following types of measures are required on construction equipment (including onroad trucks): 1. Use diesel oxidation catalysts and catalyzed diesel particulate traps 2. Maintain equipment according to manufacturers' specifications 3. Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use 4. Install high-pressure fuel injectors on construction equipment vehicles 5. Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors 6. Improve traffic flow by signal synchronization 7. Enforce truck parking restrictions 8. Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc. 9. Re-route construction trucks away from congested streets or sensitive receptor areas LAHD will implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD will determine the BMPs once the contractor identifies and secures a final equipment list and project scope. The LAHD will then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs will be based on Best Available Control Technology (BACT) guidelines and may also include changes to construction practices and	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		design to reduce or eliminate environmental impacts. **MM AQ-7: General Mitigation Measure.** For any of the above mitigation measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port. **MM AQ-8: Special Precautions near Sensitive Sites.** All construction activities located within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals), will notify each of these sites in writing at least 30 days prior to construction activity. **MM AQ-9: Construction Recycling.** Demolition and/or excess construction materials will be separated on-site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of construction materials will be provided on site. Materials with recycled content will be used in project construction. Chippers on site during construction will be used to further reduce excess wood for landscaping cover.	
AQ-2: The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a SCAQMD threshold of significance.	Significant	Implement Mitigation Measures MM AQ-1 through MM AQ-9.	Significant and unavoidable
Operations			
AQ-3: The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.	Significant	Implement Mitigation Measures MM AQ-1 through MM AQ-9.	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
AQ-4: The proposed Project would not result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance	Less than significant	No mitigation is required	Less than significant
AQ-5: The proposed Project would not generate onroad traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.	Less than significant	No mitigation is required	Less than significant
AQ-6: The proposed Project would not create an objectionable odor at the nearest sensitive receptor.	Less than significant	No mitigation is required	Less than significant
AQ-7: The proposed Project would expose receptors to significant levels of TACs.	Significant	No mitigation is available.	Significant and unavoidable
AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable AQMP.	Less than significant	No mitigation is required	Less than significant
AQ-9: The proposed Project would produce GHG emissions that would exceed CEQA baseline levels.	Significant	Implement Mitigation Measures MM AQ-1 through MM AQ-9. **MM AQ-10: 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	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		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 outdoor lighting. ■ Limit the hours of operation of outdoor lighting. ■ Provide education on energy efficiency. **MM AQ-11: Renewable Energy.** ■ Require the installation of solar and/or wind power systems, solar and tankless hot water heaters, and energy efficient heating ventilation and air conditioning by Port tenants, where feasible. Educate Port tenants about existing incentives. ■ Use combined heat and power in appropriate applications. **MM AQ-12: 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. Install the infrastructure to deliver and use reclaimed water.	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		■ Design buildings to be water-efficient. Install water-efficient fixtures and appliances. ■ 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 proposed Project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate. ■ Provide education about water conservation and available programs and incentives. **MM AQ-13: 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 in public areas. ■ Provide education and publicity about reducing waste and available recycling services.	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		MM AQ-14: Land Use Measures. ■ Incorporate public transit into project design. ■ Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio. ■ Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling, or walking. **MM AQ-15: 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 (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides). ■ Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations). ■ Increase the cost of driving and parking private vehicles by, for example, imposing tolls and parking fees. ■ Promote "least polluting" ways to connect people and goods to their destinations. ■ Incorporate bicycle lanes and routes into street systems. ■ Incorporate bicycle-friendly intersections into street	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		design. ■ Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. ■ Create bicycle lanes and walking paths.	
3.3 Biological Resources			
Construction			
BIO-1a: Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern, or the loss of federally listed critical habitat.	Less than significant	No mitigation is required	Less than significant
BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	Significant	**MM BIO 1. Debit Inner Harbor Mitigation Bank.** The loss of 2,200 square feet (0.05 acres) of Inner Harbor marine habitat will be mitigated by debiting the required credits from the Inner Harbor Mitigation Bank, per the terms and conditions established in the MOU between LAHD, CDFG, NMFS, and USFWS (City of Los Angeles 1984). The MOU provides that for each acre of marine habitat impacted within the Inner Harbor the mitigation bank will be debited 0.5 credit. Thus the 0.05 acre of marine habitat impacted in the Inner Harbor will result in a debit from the mitigation bank of 0.025 credit.	Less than significant
BIO-3a: Construction activities would not result in the interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
BIO-4a: Construction activities would not result in substantial disruption of local biological communities (e.g., from construction impacts or the introduction of noise, light, or invasive species).	Less than significant	No mitigation is required	Less than significant
BIO-5a: Construction of the proposed Project would not result in a permanent loss of marine habitat.	Significant	Implement Mitigation Measure MM BIO-1.	Less than significant
Operations			
BIO-1b: Operational activities associated with the proposed Project would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern, or the loss of federally listed critical habitat.	Less than significant	No mitigation is required	Less than significant
BIO-2b: Operational activities associated with the proposed Project would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	No impact would occur	No mitigation is required	No impact would occur
BIO-3b: Operational activities associated with the proposed Project would not interfere with wildlife movement/migration corridors that may diminish the	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
chances for long-term survival of a species.			
BIO-4b: Operational activities associated with the proposed Project would not substantially disrupt local biological communities (e.g, from construction impacts or the introduction of noise, light, or invasive species).	Less than significant	No mitigation is required	Less than significant
BIO-5b: Operational activities associated with the proposed Project would not result in a permanent loss of marine habitat.	No impact would occur	No mitigation is required	No impact would occur
3.4 Cultural Resources			
CR-1: Construction of the proposed Project would not disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.	Significant	**MM CR-1: Conduct Future Cultural Resources Studies along the Waterfront Red Car Line Once Determined** Archival research indicates that archaeological resources may be located within the Waterfront Red Car Line proposed project area. According to the records search, **t**wo prehistoric sites (CA-LAn-150 and CA-LAn -283) are located adjacent to the proposed Waterfront Red Car Line location and one archaeological site, CA-LAn-2135H, is located less than ⅛th of a mile from the proposed approximate alignment. In addition, archival and historic map research has indicated the potential for subsurface archaeological deposits associated with the early development of Wilmington within the Avalon Development District and the Waterfront Red Car Line. The LAHD will ensure that, prior to final design approval for affected parcels, a qualified archaeologist will be retained to perform additional Phase I level archaeological surveys and research to determine the potential for prehistoric and	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		historical archaeological deposits within these portions of the proposed project area in accordance with professional standards and guidelines. **MM CR-2: Incorporate the Tracks into the Design Plan** The proposed Project will incorporate the Pacific Electric Railway tracks into the project design in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Weeks and Grimmer 1995). **MM CR-3: Generate Monitoring/Treatment Plan Prior to Demolition and/or Ground Disturbing Activities** A phased approach to mitigation would reduce any potential impacts to archaeological resources to less-than-significant. Prior to any ground-disturbing activities and/or demolition, a treatment/monitoring plan would be generated. This document would address areas where potentially significant historical archaeological deposits are likely to be located within the proposed commercial portion of the project area. The research design/treatment plan would also include methods for: (1) archaeological monitoring during demolition of existing buildings (2) subsurface testing after demolition and (3) data recovery of archaeological deposits. A detailed historic context that clearly demonstrates the themes under which any identified subsurface deposits would be determined significant would be included in the document as well as anticipated artifact types, artifact analysis, report writing, repatriation of human remains and associated grave goods, and curation.	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		MM CR-4: Monitor in Vicinity of Government Depot Portion of the Wilmington Waterfront District Because the Phase I historical resources study (ICF Jones & Stokes 2008) has identified a low potential for historical archaeological deposits associated with a Civil War era Government Depot within a portion of the *Wilmington Waterfront District* and because ground-disturbing activities a could impact potentially CRHR and/or NRHP-eligible historical archaeological deposits , prior to any ground-disturbing activities: ■ A monitoring plan be generated that would address areas where potentially significant archaeological deposits are likely to be located within this portion of the project area and clearly demonstrates the themes under which any deposits would be determined significant. ■ LAHD will require at least one pre-field meeting with environmental management staff, project engineers, construction contractors, and construction inspectors to discuss the monitoring protocols and issues related to treatment of identified archaeological resources. ■ A qualified archaeologist shall monitor all ground-disturbing activities in the vicinity of the Government Depot within the *Wilmington Waterfront District* portion of the project area. The qualified archaeological monitor will have demonstrated knowledge of, and experience with the treatment of historical archaeological resources. ■ Due to potentially hazardous soil conditions associated with the DWP facility (as included in the project description), a safety plan will be generated in	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		conjunction with the LAHD that addresses all issues associated with contamination and remediation. It is further recommended that the qualified archaeological monitor also be 40-hour Hazwoper certified. ■ In the event that subsurface deposits are identified during monitoring, ground disturbing activities will halt within 100 feet of the find to allow the qualified archaeologist can assess the find(s) and determine if treatment of the resource(s) is required	
CR-2: Construction of the proposed Project would not disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.	Significant	**MM CR-1** and **MM CR-5: Stop Work if Previously Unidentified Resources Are Encountered during Ground Disturbing Activities** In the event that any artifact or an unusual amount of bone, shell, or nonnative stone is encountered during construction, work will be immediately stopped and relocated to another area. The contractor will stop construction within 100 feet of the exposed resource until a qualified archaeologist can be retained by the Port to evaluate the find (see 36 CFR 800.11.1 and CCR, Title 14, Section 15064.5(f)). Examples of such cultural materials might include concentrations of ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; historic trash pits containing bottles and/or ceramics; or structural remains. If the resources are found to be significant, they will be avoided or will be mitigated consistent with SHPO Guidelines. All construction equipment operators will attend a preconstruction meeting presented by a professional archaeologist retained by the Port that will review types of cultural resources and artifacts that would be considered potentially significant, to ensure operator	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		recognition of these materials during construction. Prior to beginning construction, the Port will meet with applicable Native American Groups, including the Gabrieliño/Tongva Tribal Council to identify areas of concern. In addition to monitoring, a treatment plan will be developed in conjunction with the Native American Groups to establish the proper way of extracting and handling all artifacts in the event of an archaeological discovery.	
CR-3: Construction of the proposed Project would not disturb, damage, or degrade unknown human remains.	Significant	Implement **MM CR-1, MM CR-3,** and **MM CR-5**	Less than significant
CR-4: The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.	Significant	**MM CR-6: Develop a Program to Mitigate Impacts on Nonrenewable Paleontologic Resources prior to Excavation or Construction of any Proposed Project Components** This mitigation program will be conducted by a qualified vertebrate paleontologist and will be consistent with the provisions of CEQA, as well as the proposed guidelines of the Society of Vertebrate Paleontology. This program will include, but not be limited to: 1. Assessment of site-specific excavation plans to determine areas that will be designated for paleontological monitoring during initial ground disturbance. 2. Development of monitoring protocols for these designated areas. Areas consisting of artificial fill materials will not require monitoring. Paleontologic monitors qualified to Society of Vertebrate Paleontology standards will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if some of the potentially fossiliferous units described herein are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources. 3. Preparation of all recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts on the resources. 4. Identification and curation of all specimens into an established, accredited museum repository with permanent retrievable paleontologic storage. These procedures are also essential steps in effective paleontologic mitigation and CEQA compliance (Scott and Springer 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts on significant paleontologic resources is not considered complete until such curation into an established museum repository has been fully completed and documented. 5. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts on paleontologic resources.	
CR-5: The proposed Project would not result in a substantial adverse change in the significance	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.			
3.5 Geology			
Construction			
GEO-1a: Construction of the proposed Project would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	Significant	**MM GEO-1: Seismic Design.** A site-specific geotechnical investigation will be completed by a California-licensed geotechnical engineer and/or engineering geologist. The design and construction recommendations will be incorporated into the structural design of proposed project components.	Significant and unavoidable
GEO-2a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.	Less than significant	No mitigation is required	Less than significant
GEO-3a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soil.	Less than significant	No mitigation is required	Less than significant
GEO-4a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
landslides or mudslides**.**			
GEO-5a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill**.**	Less than significant	No mitigation is required	Less than significant
GEO-6a: Construction of the proposed Project would not result in one or more distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified.	No impact would occur	No mitigation is required	No impact would occur
Operations			
GEO-1b: Operation of the proposed Project would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	Significant and unavoidable	No mitigation measures are available to reduce below significance	Significant and unavoidable
GEO-2b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.	Less than significant	No mitigation is required	Less than significant
GEO-3b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
to substantial risk of injury from expansive soils.			
GEO-4b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.	No impact would occur	No mitigation is required	No impact would occur
GEO-5b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.	No impact would occur	No mitigation is required	No impact would occur
GEO-6b: Operation of the proposed Project would not result in one or more distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified.	No impact would occur	No mitigation is required	No impact would occur
3.6 Groundwater and Soils			
Construction			
GW-1a: Proposed project construction activities may result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	Significant	**MM GW-1. Preparation of a Soil Management Plan or Phase II Environmental Site Assessment.** LAHD will prepare a soil management plan prior to construction and will implement it during all phases of construction. Disturbed soils will be monitored for visual evidence of contamination (e.g., staining or discoloration). Soil will also be monitored for the presence of VOCs using appropriate field instruments such as organic vapor measurement with photoionization detectors or flame ionization detectors. If the monitoring procedures indicate the possible	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		presence of contaminated soil, a contaminated soil contingency plan will be implemented and will include procedures for segregation, sampling, and chemical analysis of soil. Contaminated soil will be profiled for disposal and will be transported to an appropriate hazardous or non-hazardous waste or recycling facility licensed to accept and treat the type of waste indicated by the profiling process. The contaminated soil contingency plan will be developed and in place during all construction activities. If these processes generate any contaminated groundwater that must be disposed of outside of the dewatering/NPDES process, the groundwater will be profiled, manifested, hauled, and disposed of in the same manner. Alternatively, preparation of a Phase II ESA will be prepared. In general, the Phase II ESA will include the following: ■ A work plan that includes the number and locations of proposed soil/monitoring wells, sampling intervals, drilling and sampling methods, analytical methods, sampling rationale, site geohydrology, field screening methods, quality control/quality assurance, and reporting methods. Where appropriate, the work plan is approved by a regulatory agency such as the LAFD or the RWQCB. ■ A site-specific health and safety plan signed by a Certified Industrial Hygienist. ■ Necessary permits for encroachment, boring completion, and well installation. ■ A traffic safety plan. ■ Sampling program (fieldwork) in accordance with the work plan and health and safety plan. Fieldwork is completed under the supervision of a State of California registered geologist. ■ Hazardous materials testing through a state-certified	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		laboratory. ■ Documentation including a description of filed procedures, boring logs/well construction diagrams, tabulations of analytical results, cross-sections, an evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the environmental condition of the site and the need for further assessment. Recommendations may include additional assessment or handling of the contaminants found though the contaminated soil contingency plan. If the contaminated soil contingency plan is inadequate for the contamination found, a remedial action plan will be developed. Contaminated groundwater will generally be handled through the NPDES/dewatering process. ■ Disposal process including transport by a state-certified hazardous material hauler to a state-certified disposal or recycling facility licensed to accept and treat the identified type of waste. **MM GW-2: Site Remediation.** Unless otherwise authorized by the lead regulatory agency for any given site, LAHD will remediate all contaminated soils within proposed project boundaries prior to or during demolition and grading activities. Remediation will occur in compliance with local, state, and federal regulations as described in Section 3.6.3 and as directed by the LACFD, DTSC, and/or RWQCB. Soil remediation will be completed such that contamination levels are below health screening levels established by OEHHA of CalEPA and/or applicable action levels established by the lead regulatory agency with jurisdiction over the site. Soil contamination waivers may be acceptable as a result of encapsulation (i.e., paving) in upland areas and/or risk-based soil assessments, but would be subject to the discretion of the lead regulatory agency. Existing groundwater contamination throughout the proposed	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		project boundary will continue to be monitored and remediated, simultaneous and/or subsequent to site redevelopment, in accordance with direction provided by the RWQCB. Unless otherwise authorized by the lead regulatory agency for any given site, areas of soil contamination that will be remediated prior to or in conjunction with proposed project demolition, grading, and construction will include, but not be limited to, the properties within and adjacent to the proposed Project as listed in the HMA and filed as Appendix F of this EIR. **MM GW-2a: Remediate Former Oil Wells in the Industrial District (Area A), Waterfront District (Area B), and within the Immediate Vicinity of the Waterfront Red Car Line/CCT (Area C).** Locate the well using geophysical or other methods. Contact the Division of Oil, Gas, and Geothermal Resources (DOGGR) to review abandonment records and inquire whether re-abandonment is necessary prior to any future construction related to the proposed project. Implement corrective measures as directed by DOGGR. Successful site remediation will require compliance with MM GW-2. **MM GW-2b: Remediate Soil along Existing and Former Rail Lines.** Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum hydrocarbons, and metals. Successful site remediation will require compliance with MM GW-2. **MM GW-2c: Health Based Risk Assessment for the Marine Tank Farm.** LAHD will prepare a HBRA to determine whether remediation of soil and/or groundwater is needed at the Marine Tank Farm site and, if so, determine the appropriate work plan to ensure the site would comply with applicable local, state, and federal laws. Successful site remediation will require compliance with MM GW-2. **MM GW-3: Contamination Contingency Plan for Non-**	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		Specific Facilities and Unidentified Sources of Hazardous Materials. LAHD will prepare a hazardous materials contingency plan addressing the potential for discovery of unidentified USTs, hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes encountered during construction. The following will be implemented to address previously unknown contamination during demolition, grading, and construction: a) All trench excavation and filling operations will be observed for the presence of free petroleum products, chemicals, or contaminated soil. Deeply discolored soil or suspected contaminated soil will be segregated from light colored soil. In the event unexpected suspected chemically impacted material (soil or water) is encountered during construction, the contractor will notify LAHD's Chief Harbor Engineer, the Director of Environmental Management, and Risk Management's Industrial Hygienist. LAHD will confirm the presence of the suspect material; direct the contractor to remove, stockpile, or contain the material; and characterize the suspect material identified within the boundaries of the construction area. Continued work at a contaminated site will require the approval of the Chief Harbor Engineer. b) A photoionization detector (or other similar devices) will be present during grading and excavation of suspected chemically impacted soil. c) Excavation of VOC-impacted soil will require obtaining and complying with a SCAQMD Rule 1166 permit. d) The remedial option(s) selected will be dependent upon a number of criteria (including but not limited to types of chemical constituents, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and will be determined on a site-specific basis. Both off-site and onsite remedial options will be evaluated. e) The extent of removal actions will be determined on a site-specific basis. At a minimum, the chemically impacted	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		area(s) within the boundaries of the construction area will be remediated to the satisfaction of the lead regulatory agency for the site. The LAHD Project Manager overseeing removal actions will inform the contractor when the removal action is complete. f) Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials will be submitted to the Chief Harbor Engineer within 30 days of project completion. g) In the event that contaminated soil is encountered, all onsite personnel handling or working in the vicinity of the contaminated material will be trained in accordance with Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that "general site workers" will receive a minimum of 40 hours of classroom training and a minimum of 3 days of field training. This training provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place. h) In cases where potential chemically impacted soil is encountered, a real-time aerosol monitor will be placed on the prevailing downwind side of the impacted soil area to monitor for airborne particulate emissions during soil excavation and handling activities. i) All excavations will be filled with structurally suitable fill material that is free from contamination. j) Prior to dewatering activities, LAHD will obtain a NPDES permit. In areas of suspected contaminated groundwater, special conditions will apply with regard to acquisition of the NPDES permit, including testing and monitoring, as well as discharge limitations under the NPDES permits. k) Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		hydrocarbons, and metals. l) Demolition of chemical/fuel storage facilities will include decommissioning and removal of USTs and ASTs in accordance with local and state regulatory agencies. These agencies will likely require soil and groundwater sampling. This sampling will be conducted in accordance with local and state regulatory agency requirements. m) Prior to construction activities, LAHD, or its contractors, will conduct an evaluation of all buildings (built prior to 1980) to be demolished to evaluate the presence of asbestos-containing building materials and lead-based paint. Remediation will be implemented in accordance with the recommendations of these evaluations. n) Upon discovery of soil or groundwater contamination, the lead agency responsible for site remediation will determine if the identified contaminants pose a health risk to the general public, operation personnel, or other possible human receptors present at Phase 1 operational locations. If it is determined that an adverse risk to the general public, operation personnel, or other human receptors is present, Phase 1 Project elements in operation will be closed as a precaution to prevent human exposure to toxic substances.	
GW-2a: Proposed project construction would not result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans.	Significant	Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.	Less than significant
GW-3a: Construction activities for the proposed Project would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity nor	No impact would occur	Mitigation not required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
would construction result in a change in potable water levels.			
GW-4a: Construction activities for the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact would occur	Mitigation not required	No impact would occur
Operations			
GW-1b: Proposed project operations would not result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	Significant	Implement Mitigation Measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.	Less than significant
GW-2b: Proposed project operations would not result changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination which would increase risk of harm to humans.	Significant	Implement Mitigation Measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.	Less than significant
GW-3b: Proposed project operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity and would not	No impact would occur	Mitigation not required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
result in a change to potable water levels.			
GW-4b: Proposed project operations would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact would occur	Mitigation not required	No impact would occur
3.7 Hazards and Hazardous Material			
Construction			
RISK-1a: Construction of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.	Less than significant	No mitigation is required	Less than significant
RISK-2a: Construction of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required	Less than significant
RISK-3a: Construction of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
RISK-4a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications**.**	Less than significant	No mitigation is required	Less than significant
Operations			
RISK-1b: Operation of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.	No impact would occur	No mitigation is required	No impact would occur
RISK-2b: Operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required	Less than significant
RISK-3b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.	Less than significant	No mitigation is required	Less than significant
RISK-4b: Operation of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
project–related modifications.			
RISK-5: Operation of the proposed Project would not introduce the general public to hazard(s) defined by the EPA and Port RMP associated with offsite facilities.	Less than significant	No mitigation is required	Less than significant
3.8 Land Use and Planning			
LU-1: The proposed Project would be consistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.	Less than significant	No mitigation is required	Less than significant
LU-2: The proposed Project would be consistent with the General Plan or adopted environmental goals or policies contained in other applicable plans.	Less than significant	No mitigation is required	Less than significant
3.9 Noise			
Construction			
NOI-1: The proposed Project would last more than 1 day and exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.	Significant	**MM NOI-1:** The following procedures will help reduce noise impacts from construction activities: a) **Temporary Noise Barriers**. When construction occurs within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) will be located between noise-generating construction activities and sensitive receptors. b) **Construction Hours**. Construction will be limited to between 7:00 a.m. and 9:00 p.m. on	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		weekdays; between 8:00 a.m. and 6:00 p.m. on Saturdays; and there will be no construction equipment noise anytime on Sundays as prescribed by the City of Los Angeles Noise Ordinance. c) **Construction Days.** Noise-generating construction activities will not occur on weekends or holidays unless critical to a particular activity (e.g., concrete work). d) **Construction Equipment.** All construction equipment powered by internal combustion engines will be properly muffled and maintained. e) **Idling Prohibitions.** Unnecessary idling of internal combustion engines near noise sensitive areas will be prohibited. f) **Equipment Location.** All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise sensitive land uses. g) **Quiet Equipment Selection.** Quiet construction equipment will be selected whenever possible. Where feasible, noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with. h) **Notification.** Sensitive receptors including residences within 2,000 feet of the proposed project site will be notified of the construction schedule in writing prior to the beginning of construction.	
NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise sensitive	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.			
NOI-3: The proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.	Less than significant	No mitigation is required	Less than significant
Operations			
NOI-4: Operations would not result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more.	Less than significant	No mitigation is required	Less than significant
NOI-5: Existing land uses surrounding the proposed Project area would generate noise levels in excess of a published standard, but would not substantially inhibit the usability of the proposed project site.	Less than significant	No mitigation is required	Less than significant
3.10 Population and Housing			
POP-1. The proposed Project would not induce 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	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
POP-2. The proposed Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.	No impact would occur	No mitigation is required	No impact would occur
POP-3. The proposed Project would not displace substantial numbers of existing people, necessitating the construction of replacement housing elsewhere.	No impact would occur	No mitigation is required	No impact would occur
3.11 Transportation and Circulation—Ground and Marine			
Ground Construction			
TC-1a: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and nonmotorized travel	Significant	**MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction**. In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City and County engineers) before construction. The traffic control plan will include: ■ a street layout showing the location of construction activity and surrounding streets to be used as detour routes, including special signage; ■ a tentative start date and construction duration period for each phase of construction; ■ the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and ■ written approval to implement traffic control from other agencies, as needed. Additionally, the traffic control plan will include the	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		following stipulations: ■ provide access for emergency vehicles at all times; ■ avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day; ■ maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified; ■ provide adequate off-street parking areas at designated staging areas for construction-related vehicles; ■ maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway; ■ utilize flag persons wearing OSHA–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity; ■ maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured; ■ post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area; ■ post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		construction area; ■ during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff's and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary; ■ provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and ■ repair or restore the road right-of-way to its original condition or better upon completion of the work.	
Ground Operations			
TC-2a: Proposed project operations would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.	Significant	**MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim Street.** Prior to the initiation of Phase II construction, LAHD will add a right-turn lane in the southbound direction. Currently the southbound approach consists of one through/left-turn lane and one through/right-turn lane. The mitigation will result in one right-turn lane, one through lane, and one through/left-turn lane. This proposed mitigation will require the removal of two metered parking spaces along Avalon Boulevard to allow for the right-turn lane and the restriping of the northbound approach to properly align with the reconfigured southbound approach. A conceptual drawing illustrating the feasibility of this mitigation is provided in Figure 12 of the traffic report prepared for this project (Appendix I).	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
TC-2b: Proposed project operations would not significantly increase traffic volumes or degrade operations on neighborhood streets within the proposed project vicinity beyond adopted thresholds.	Less than significant	No mitigation is required	Less than significant
TC-2c: Proposed project operations would not significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds.	Less than significant	No mitigation is required	Less than significant
TC-3: Proposed project operations would not cause increases in demand for transit service beyond the supply of such services.	Less than significant	No mitigation is required	Less than significant
TC-4: Proposed project operations would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.	Less than significant	No mitigation is required	Less than significant
TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic.	Less than significant	No mitigation is required	Less than significant
Marine Construction			
VT-1a: Construction of the proposed Project would not	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.			
VT-1b: Operation of the proposed Project would not interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.	Less than significant	No mitigation is required	Less than significant
3.12 Utilities			
UT-1: The proposed Project would not require or result in the construction or expansion of utility lines or facilities, the construction of which would cause significant environmental effects.	Significant	**MM UT-1: Secondary Sewer Line Installation.** Once the design and utility connections are finalized, the LAHD will build a secondary sewer line of sufficient capacity to support the nearest, largest sewer line. The construction of the secondary sewer line would be carried out within public right-of-way or existing City streets. This line will comply with the City's municipal code, and will be built under permit by the City Bureau of Engineering.	Less than significant
UT-2: The proposed Project would not exceed existing water supply, wastewater treatment, or landfill capacities.	Less than significant	**MM UT-2: Water Conservation and Wastewater Reduction.** The LAHD and Port tenants will implement the following water conservation and wastewater reduction measures to further reduce impacts on water demand and wastewater flows. a. The landscape irrigation system will be designed, installed, and tested to provide uniform irrigation coverage for each zone. Sprinkler head patterns will be adjusted to minimize over spray onto walkways and streets. Each zone (sprinkler valve) will water plants having similar watering needs (do not mix shrubs, flowers and turf in the same watering zone).	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		Automatic irrigation timers will be set to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Irrigation run times for all zones will be adjusted seasonally, reducing watering times and frequency in the cooler months (fall, winter, spring). Sprinkler timer run time will be adjusted to avoid water runoff, especially when irrigating sloped property. Sprinkler times will be reduced once drought-tolerant plants have been established. b. Selection of drought-tolerant, low-water-consuming plant varieties will be used to reduce irrigation water consumption. For a list of these plant varieties, refer to *Sunset Magazine*, October 1988, "The Unthirsty 100," pp. 74–83, or consult a landscape architect. c. The availability of recycled water will be investigated as a source to irrigate large landscaped areas. d. Ultra-low-flush water closets, ultra-low-flush urinals, and water-saving showerheads must be installed in both new construction and when remodeling. Low flow faucet aerators will be installed on all sink faucets. e. Significant opportunities for water savings exist in air conditioning systems that utilize evaporative cooling (i.e., employ cooling towers). LADWP will be contacted for specific information of appropriate measures. f. Recirculating or point-of-use hot water systems will be installed to reduce water waste in long piping systems where water must be run for a considerable period before heated water reaches the outlet. **MM UT-3: Recycling of Construction Materials**. Demolition and/or excess construction materials will be separated on site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of construction materials will be provided on site.	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		MM UT-4: Recycled Content Materials Use. Materials with recycled content, such as recycled steel from framing and recycled concrete and asphalt from roadway construction, will be used in project construction. Wood chippers registered through the California Air Resources Board's Portable Equipment Registration Program will be used on site during construction, using wood from tree removal, not from demolished structures, to further reduce excess wood for landscaping cover. **MM UT-5: AB 939 Compliance**. The LAHD and Port tenants will implement a Solid Waste Management Program including the following measures to achieve a 50% reduction of current waste generation percentages by the build out year of 2020 and ensure compliance with the California Solid Waste Management Act (AB 939). a. Provide space and/or bins for storage of recyclable materials within the proposed project site. All garbage and recycle bin storage space will be enclosed and plans will show equal area availability for both garbage and recycle bins within storage spaces. b. Establish a recyclable material pick-up area for commercial buildings. c. Participate in a curbside recycling program to serve the new development. d. Develop a plan for accessible collection of materials on a regular basis. e. Develop source reduction measures that indicate the method and amount of expected reduction. f. Implement a program to purchase materials that have recycled content for project construction and operation (i.e., lumber, plastic, office supplies). g. Provide a resident-tenant/employee education pamphlet to be used in conjunction with available Los Angeles County	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		and federal source reduction educational materials. The pamphlet will be provided to all commercial tenants by the leasing/property management agency. h. Include lease language requiring tenant participation in recycling/waste reduction programs, including specification that janitorial contracts support recycling.	
UT-3: The proposed Project would not require new, off-site energy supply and distribution infrastructure, or require additions to existing facilities that are not anticipated by adopted plans or programs.	Less than significant	No mitigation is required	Less than significant
3.13 Public Services			
PS-1: Construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.	Less than significant	No mitigation is required	Less than significant
PS-2: The proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effect**s.**	Less than significant	No mitigation is required	Less than significant
PS-3: The proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
service.			
PS-4: The proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than significant	No mitigation is required	Less than significant
3.14 Water Quality, Sediments, and Oceanography			
Construction			
WQ-1a: Construction of the proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	Less than significant	No mitigation is required	Less than significant
WQ-2a: Construction of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	Less than significant	No mitigation is required	Less than significant
WQ-3a: Construction of the proposed Project would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	Less than significant	No mitigation is required	Less than significant
WQ-4a-1: In-water and over-water construction for the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.			
WQ-4a-2: Stormwater discharged during construction of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	Less than significant	No mitigation is required	Less than significant
WQ-4a-3: Construction and operation of the proposed Project would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	Less than significant	No mitigation is required	Less than significant
Operations			
WQ-1b: Operation of the proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
WQ-2b: Operation of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	No impacts would occur.	No mitigation is required	No impacts would occur.
WQ-3b: Operation of the proposed Project would result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	Less than significant	No mitigation is required	Less than significant
Impact WQ-4b: Operation of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	Less than significant	No mitigation is required	Less than significant

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ES.6.3.3 Summary of Less-than-Significant or No Impacts

Based on the environmental review in this draft EIR, as summarized in Table ES-5, either less-than-significant impacts or no significant impacts are expected under CEQA from the proposed Project in the following environmental issue areas:

- Aesthetics
- Land Use and Planning
- Population and Housing
- Public Services
- Hazards and Hazardous Materials
- Water Quality, Sediments, and Oceanography

ES.6.3.4 Cumulative Impacts

The proposed Project was analyzed in conjunction with other related projects in the area for potential to contribute to significant cumulative impacts. The proposed Project's incremental contribution would result in cumulatively considerable impacts for the following resource areas:

- Air Quality
- Biological Resources
- Geology
- Noise
- Water Quality, Sediment, and Oceanography

The proposed Project would either not result in cumulatively considerable impacts or not result in cumulatively considerable impacts after applicable mitigation is applied for the following resource areas:

- Aesthetics
- Cultural Resources
- Groundwater and Soils
- Hazards and Hazardous Materials
- Land Use
- Population and Housing
- Transportation
- Utilities

- Public Services

Cumulative impact evaluations for each resource are included in Chapter 4, "Cumulative Effects," of this draft EIR.

ES.6.3.5 Environmental Justice

CEQA is only concerned with the disclosure and mitigation of significant physical environmental effects related to the construction and operation of a proposed project. However, LAHD is committed to disclosing any disproportionate impacts a proposed Project may have on minority and low-income residents.

The potential for the proposed Project to cause disproportionately serious and adverse human health and environmental effects on low-income and minority populations is discussed in the Environmental Justice analysis (Chapter 6).

The proposed Project would result in disproportionate effects on minority and low-income populations as a result of significant impacts related to construction noise and air quality (ambient concentrations of criteria pollutants during construction). Other potentially significant impacts of the proposed Project would either be reduced to less than significant or less than cumulatively considerable through implementation of mitigation measures, or would not have disproportionate effects on minority and low-income populations.

ES.6.3.6 Socioeconomic Impacts

As mentioned above, CEQA is only concerned with the disclosure and mitigation of significant physical environmental effects related to the construction and operation of a proposed project. For the purposes of information disclosure, however, socioeconomics and environmental quality issues are analyzed in Chapter 7 of this EIR. Socioeconomics encompasses a number of topical areas, including employment and income, population, and housing.

The proposed Project would not involve acquisitions or relocations of housing. The proposed Project would not result in significant impacts related to business displacement. LAHD would attempt to voluntarily acquire the parcels listed in Tables ES-2 and ES-3 and would provide relocation sites within the proposed Project boundaries. If negotiations fail, however, LAHD would reserve the right to acquire the parcels through eminent domain.

The proposed Project would lead to increased tax revenues by expanding the tax base of the area through introducing new commercial developments and new restaurants. The construction of Avalon Waterfront District, with new public open spaces that consist of promenade areas, plazas, parks, and landscape and hardscape areas, would make the waterfront more attractive to visitors. Hence, there would be an overall beneficial effect of the proposed Project on the local business revenue.

The proposed Project would lead to an increase in temporary construction jobs and more permanent employment upon buildout. The proposed Project would generate 1,186 direct construction jobs (based on the 8.5 construction jobs/million dollars of construction cost; estimate is from the U.S. Bureau of Economic Analysis). Construction of the proposed Project is expected to take place over the next 11 years, through 2020. The number of construction workers employed and working on site would vary over the course of the construction period. The direct construction jobs would also further result in 2,846 indirect jobs (based on 2.4 jobs for every construction job, given by U.S. Bureau of Economic Analysis). These secondary increases in employment are related to purchases from materials' supply firms and their suppliers and household expenditures by workers, referred to, when combined, as "indirect employment." Once built out, the proposed Project would support 336 permanent jobs.

The proposed Project entails a deindustrialization of the waterfront; therefore, a reduction in property value is not expected with the addition of public amenities such as the waterfront promenade and increased open space acreage, aesthetic improvements, and transportation improvements. While proximity to the Port may historically have led to lower residential property values in those communities nearest the Port in comparison to more affluent communities in southern Los Angeles County such as Redondo Beach and Rancho Palos Verdes, residential property values in Port communities have grown in recent years and do not exhibit depreciated or stagnant values. However, the recent housing market slump has led to decreased property values throughout California, a trend mirrored in the study area and nearby communities.

It is not anticipated that the proposed Project would change residential property trends in the areas immediately adjacent to the Port. Median home prices increased at high rates in a number of communities in the South Bay area of Los Angeles County from 1997 to 2006. Home prices increased in all communities regardless of price levels at the beginning of the period. Those communities with the highest growth rates were often communities with the lowest home prices.

ES.6.3.7 Growth-Inducing Impacts

The State of California CEQA Guidelines require an EIR to discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Chapter 8, "Growth-Inducing Impacts," discusses the ways in which the proposed Project could foster growth either indirectly or directly.

The proposed Project would foster economic growth but would not directly induce population growth or the construction of new housing in the Port's region of influence (Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties). Although the proposed Project would lead to development of a currently underutilized industrial area and increase commercial and recreational use, this would not stimulate significant population growth or remove obstacles to population growth.

The proposed Project does not include the development of new housing or population-generating uses or infrastructure that would directly induce population growth. Furthermore, the proposed Project is located in an urban area that has experienced significant development over the past century. Undisturbed areas (greenfield development) are not available for residential development, and any residential development that would occur as a result of the proposed Project's implementation would be infill development in the relatively distant residential areas to the northwest and beyond. Therefore, the proposed Project would not directly trigger new residential development in the proposed project area.

The proposed Project is designed to both improve the Port itself and foster private sector economic investment and growth by making the waterfront more attractive and user-friendly for both residents of the area and visitors. A more attractive and user-friendly waterfront would encourage the development of residential and commercial properties in the nearby community because of the desirability of being located near the improved waterfront.

The streetscape improvements for industrial land uses and the proposed commercial land uses within the Avalon Development District, as well as the land use plan amendments and zone changes allowing the construction of recreational and visitor serving development within the Avalon Waterfront District, could encourage developers to invest in the Wilmington-Harbor City area with new projects. Such additional development within the surrounding area would potentially result in additional environmental impacts such as traffic congestion, air quality issues, increased noise levels, and aesthetics/visual changes. Whether the impacts of such future development would be significant would depend upon the specific uses proposed, as well as their density and intensity.

As discussed in Section 3.12, "Utilities," implementation of the proposed Project would generate increased demand for water, natural gas, and electricity. However, the proposed Project would not require upgrades or new construction of major water, natural gas, or power infrastructure. The proposed Project would require an upgrade to the existing sewer system and an addition to the existing reclaimed water system so that the proposed Project could use existing reclaimed water sources. These improvements would accommodate expected growth associated with the proposed Project.

ES.6.3.8 Significant Irreversible Changes to the Environment

Pursuant to Section 15126.2(c) of the CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by the proposed Project should it be implemented.

The proposed Project would require the use of non-renewable resources, such as waterfront, fossil fuels, and non-renewable construction materials. Operation of individual facilities proposed under the proposed Project would result in an irreversible commitment of non-renewable resources, including fossil fuels and

natural gas. Use of these resources, however, would not substantially deplete existing supplies.

Fossil fuels and energy would be consumed during construction and operation activities. Fossil fuels in the form of diesel oil and gasoline would be used for construction equipment and vehicles. During operations, diesel oil and gasoline would be used by ships, port terminal equipment (e.g., cargo handling), and vehicles. Electrical energy and natural gas would also be consumed during construction and operation. These energy resources would be irretrievable and irreversible.

Construction activities would not irreversibly harm cultural resources or biological resources. Non-recoverable materials and energy would be used during construction and operational activities, but the amounts needed would be accommodated by existing supplies. Although the increase in the amount of materials and energy used would be limited, they would nevertheless be unavailable for other uses.

Construction activities that result in physical changes to the environment have the most potential to result in irreversible changes. However, none of the proposed project elements would result in irreversible environmental damage. The area is already developed for Port use and the land use would not significantly change. The creation of the new harbors would not result in the loss of significant environmental resources, or result in irreversible changes that could not be returned to pre-project conditions. The proposed Project would also not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

Impacts associated with operation of the proposed Project would occur as described in Chapter 3, "Environmental Analysis." However, such impacts would cease to exist or change in some fashion should the proposed Project, or portions thereof, cease to operate, change operations, or otherwise be redeveloped and reused.

ES.7 Public Involvement

Public involvement and outreach was a chief component of the environmental review process for the proposed Wilmington Waterfront Development Project.

The NOP was issued on March 14, 2008, and mailed to all stakeholders, including elected officials, residents, businesses, Port of Los Angeles tenants, and other community based organizations. The NOP scoping period occurred between March 14, 2008, and April 14, 2008. A public scoping meeting was held on Tuesday, March 25, 2008.

The following is a timeline of the noticing and public involvement that has happened to date within the environmental review process for the proposed Project:

- **January 8, 2008**. LAHD staff and Sasaki Associates provide an update on the planning design for the proposed Project to the PCAC Wilmington Waterfront Development Subcommittee.
- **February 12, 2008**. LAHD staff provided an updated on the progress and impending release of the NOP to the PCAC Wilmington Waterfront Development Subcommittee.
- **March 14, 2008**. The CEQA NOP and IS were released and distributed to over 600 agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The State Clearinghouse assigned the following State Clearinghouse Number to the proposed Project: 2008031065. An Executive Summary of the NOP was translated into Spanish and included in the distribution. Over 70,000 postcards were distributed notifying the public of the date of the scoping meeting and the term of the comment period. Notice of the comment period and meeting was also posted in five local newspapers and 2000 flyers were distributed.
- **March 14, 2008.** The NOP was also filed with the Los Angeles City Clerk and the Los Angeles County Clerk.
- **March 25, 2008**. A public scoping meeting was held at Banning's Landing Community Center in Wilmington, CA. Thirteen people at the meeting provided written or oral comments on the proposed Project. Spanish translation services were made available at the meeting. A transcript of the meeting was posted on the LAHD's website.
- **April 8, 2008.** LAHD staff provided an update to the PCAC Wilmington Waterfront Development Subcommittee regarding the level of public outreach in distributing the NOP, comments heard at the public scoping meeting, and the next steps in preparing the draft EIR.
- **April 14, 2008**. The comment period ended. Fourteen comment letters were received during the scoping period. Copies of the letters were posted on the LAHD's website.
- **July 7, 2008**. LAHD staff provided an update to the PCAC Wilmington Waterfront Development Subcommittee regarding the progress of the draft EIR. The traffic, hazards, land use, and air quality analysis were still in process.
- **August 12, 2008.** LAHD staff provided an update on the proposed project design and progress of the draft EIR to the PCAC Wilmington Waterfront Development Subcommittee. The air quality and traffic analysis was complete, but there were still some outstanding issues related to land use and hazards. Sustainable project design components were also discussed.
- **October 14, 2008.** LAHD staff announced to the PCAC Wilmington Waterfront Development Subcommittee plans to release the draft EIR in November. Public art for the Wilmington Waterfront Development Program was also discussed.

ES.7.1 Project Planning History and Community Involvement

The planning effort for the Avalon Boulevard commercial corridor began in the 1980s for the area on both sides of Avalon Boulevard, beginning at the waterfront and up to C Street (and in some cases F Street) as depicted below in Exhibit A.

Exhibit A: Extent of 1980 Planning Effort

In 1987, the Wilmington/Port Area Planning Study (Calvin Hamilton) was commissioned by Councilwoman Joan Milke Flores. It proposed commercial development at the waterfront at the top of Slip 5 and north along Avalon Boulevard into Wilmington's commercial district, as depicted below in Exhibit B. It also made a number of recommendations for transportation improvements in the Wilmington area. This was followed in 1989 by the Avalon Boulevard Waterfront Access Study (RTKL 1989) which proposed developments at the Slip 5 waterfront, including berthing for historic ships and a water taxi, and Port-focused visitor-serving facilities along Avalon Boulevard to serve as an anchor for future commercial development. The only component of this plan that was constructed was the Banning's Landing Community Center, which was completed in 1996.

Exhibit B: Extent of 1987 Planning Effort

In 2001, the Foot of Avalon Refined Concept Plan (RRM) was drafted, as depicted in Exhibit C below. The planning firm RRM proposed a broadly similar development scheme to the Calvin Hamilton study at the waterfront and along Avalon Boulevard north to Harry Bridges Boulevard. This plan sought to construct improvements on property owned by the LAHD and immediately available. This area became part of the focus of the PCAC Subcommittee in December 2002, when Mayor James Hahn declared that the area known as the Avalon Corridor, from C Street south to the waterfront, would be used for community-serving development. The Wilmington Parkway subcommittee was asked to provide input on possible projects in this area as well, and was renamed the Wilmington Waterfront Development Subcommittee.

Exhibit C: Foot of Avalon Refined Concept Plan

In 2003, the planning firm SMWM worked with the Wilmington Waterfront Development Subcommittee on planning for the Avalon Boulevard Corridor area and the Wilmington Parkway (later to become the Harry Bridges Buffer Project), a nearby project to buffer the community from Port operations. The extent of the 2003 planning effort and the location of the Avalon Boulevard Corridor area and Wilmington Parkway (Harry Bridges Buffer Project) is depicted in Exhibit D below. SMWM and the LAHD conducted several workshops, and the resulting document was the Wilmington Waterfront Development Subcommittee—Final Plan (SMWM 2004). This plan called for commercial development areas around the intersection of Harry Bridges and Avalon Boulevards, a promenade and other visitor-serving development at the waterfront, and an open space connection between the two. This plan was adopted in concept by the Board of Harbor Commissioners in October of 2004, which directed staff to hire a consultant to provide the further planning and design necessary to implement the plan.

Exhibit D: Extent of 2003 Planning Effort

In October 2005, LAHD staff presented a schedule to the Board of Harbor Commissioners for implementing the Wilmington Waterfront Development Program, which included the Harry Bridges Buffer Project and the Avalon Boulevard Corridor area. The two project areas were at different stages of planning and development, and had independent utility and did not rely on each other for implementation. The Harry Bridges Buffer Project, already defined as an open space buffer from Port operations, did not require additional planning and was analyzed and approved under the TraPac EIS/EIR. This project started construction in November 2008. It was decided that the Avalon Boulevard Corridor (now the Wilmington Waterfront Project), providing a linkage to the waterfront, would proceed with a master planning study, and then continue through its own environmental document and into design and construction. That project, as it has evolved, is the subject of this EIR.

Exhibit E: Extent of Avalon Boulevard Corridor
(Wilmington Waterfront Development Project)

In 2006, The LAHD and Sasaki Associates undertook a public outreach and collaborative community planning effort for the Wilmington Waterfront Project. Planning work focused on land use, circulation, and other master planning level concerns. Four community workshops were held, with comments solicited relative to community access to the waterfront and commercial development. The final

workshop concluded in December 2007, and scoping for the environmental review started in March 2008.

The design and function of the Wilmington Waterfront Project (Avalon Development District and Avalon Waterfront District constitute approximately 60 acres) are consistent with the vision of the 95-acre Wilmington Waterfront Development Program, which was the end result of the planning history described above. This effort involved close collaboration between LAHD staff; a consultant team of planners, designers, engineers, economists, public outreach consultants, and other specialists; and the PCAC Wilmington Waterfront Development Subcommittee, a planning group recognized by the Harbor Board of Commissioners and composed of community representatives and the general public.

Specifically, the following steps were taken in developing the Program:

10. Starting with and building upon the Wilmington Waterfront Development Final Plan, a conceptual vision plan for the area was prepared in 2004 (SMWM), with the participation of the PCAC Wilmington Waterfront Development Subcommittee and approval of the Harbor Board of Commissioners.
11. A master plan was crafted based upon a good understanding of baseline conditions in the proposed project area, including the physical, regulatory, environmental, land use, transportation, historical, cultural, market characteristics, and existing plans and projects.
12. Improvements, including public art and street furnishings, were considered in nearby San Pedro to bring consistency in quality and character to Port-wide public improvements to LA's waterfront.
13. Master Plan alternatives were developed and evaluated for the Wilmington area based on site characteristics and established goals and objectives identified early in the planning process.
14. Four community workshops were conducted in 2006 at critical milestones to garner community input, review, and comment; more than 1,000 people attended the final meeting on December 2, 2006.

In addition, the following guiding principles were identified for the proposed Project through a series of community workshops and meetings:

- Enhance the livability of the Wilmington community
- Enhance the economic viability of the Wilmington community by promoting sustainable economic development and technologies
- Establish a world-class design with a regional draw for the Wilmington waterfront area by enhancing Wilmington's image while maintaining its identity and attracting visitors to the waterfront
- Create an environmentally responsible project
- Celebrate the Port and Wilmington's significance—past, present, and future

- Create a unified Los Angeles waterfront through the integration of publicly oriented improvements, from Leeward Bay Marina to the breakwater
- Promote a sense of ownership in the proposed Project and its results by engaging the whole of the community throughout the planning and design process and by creating opportunities for residents and school children to contribute to the design through program specifications, public art programs, and other elements

These principles heavily influenced the drafting of the proposed Project's objectives, which guided the decision-making process for selecting the best project design. The proposed Project has been designed in harmony with the community planning guidance and goals reflected in the Wilmington Waterfront Master Plan and Development Program to promote connectivity, continuity, and improved functionality of the Wilmington Waterfront.

ES.7.2 Scoping Activities

On March 14, 2008, the NOP was released and distributed to over 600 agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The NOP was also available in Spanish. Copies of the NOP were posted on the LAHD website:

http://www.portoflosangeles.org/environment/public_notices.asp

Hardcopies and CD ROMs were also available at the Waterfront Information Center and at public scoping meetings.

An Executive Summary of the NOP was translated into Spanish and included in the distribution. Over 70,000 postcards were distributed notifying the public of the date of the scoping meeting and the term of the comment period.

Notice of the comment period and public scoping meetings was also posted in five local newspapers: *Los Angeles Times, Long Beach Press-Telegram, Daily Breeze, Random Lengths News,* and *La Opinión*. These newspapers were selected for their circulation and audience. The *Los Angeles Times* is circulated daily throughout the region and country. The *Long Beach Press-Telegram* is a daily, local newspaper distributed throughout Los Angeles County. The *Daily Breeze* is a daily newspaper distributed in South Los Angeles County. *Random Lengths N*ews is a free biweekly publication circulated in the communities of San Pedro, Palos Verdes Peninsula, Long Beach, Carson, Harbor City, Lomita, and Wilmington on Thursdays. *La Opinión* is the largest Spanish-language newspaper in the United States and is circulated daily throughout the region.

The public scoping meeting was held at Banning's Landing Community Center in Wilmington, California, on March 25, 2008, and took place from 6:00 to 8:30 p.m. Thirteen people at the meeting provided written or oral comments on the proposed Project. A court reporter was available for attendees to have their comments transcribed during the open house session and the hearing. The meetings were

staffed by LAHD and the proposed Project's consultant team. Spanish interpreters were available to accommodate Spanish-speakers. A transcript of the meeting was posted on the LAHD website.

The first half hour included an open house viewing of proposed project displays, followed by a 20-minute proposed project presentation and a 90-minute public hearing to gather testimony. The display boards included maps of the proposed Project, various versions of the proposed project stages, and various project components for attendees to view while interacting with proposed project representatives.

The public scoping meeting informational materials were available in English and Spanish. The materials included a welcome sheet to explain the purpose and format of the meeting, a public participation guide to summarize how the public could get involved and provide input, comment sheets, speaker cards, and the NOP/Project Description.

ES.7.3 Issues Raised

A summary of the comments received on the NOP during the scoping period can be found in Table ES-6. This list includes issues identified in comment letters and at the public meeting, along with the relevant sections of this EIR where they are addressed.

ES.7.4 Issues to be Resolved

Section 15123(b)(3) of the State CEQA Guidelines requires that an EIR contain issues to be resolved; this includes whether or how to mitigate significant impacts. The major issues to be resolved include decisions by the lead agencies as to whether:

- this EIR adequately describes the environmental impacts of the proposed Project and alternatives,
- the recommended mitigation measures should be adopted or modified,
- additional mitigation measures need to be applied to the project, or
- the project should or should not be approved for implementation.

ES.7.5 Port Community Advisory Committee Issues Raised/Resolution

The PCAC was established in 2001 as a standing committee of the Port of Los Angeles Board of Harbor Commissioners (Board). The PCAC provides a public forum to discuss Port-related quality of life issues through a series of subcommittees.

These subcommittees provide guidance on environmental issues, review of EIRs, master planning, and Port redevelopment.

PCAC members commented on the proposed Project during the NOP period. Their comments are included with other members of the public in Table ES-6.

Table ES-6. Summary of Public Comments and Section Where Addressed in the EIR

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
PROPOSED PROJECT DESCRIPTION AND PURPOSE		
Ann Wysocki	Define and describe the kind/type of light industrial uses in the proposed project and why it is included in the proposed project.	2.0 Project Description
Ann Wysocki	Provide details about relocation of LADWP tanks.	2.0 Project Description[4] 3.6 Groundwater and Soils 3.7 Hazards and Hazardous Materials
Ann Wysocki	Describe the hours of operation and the security arrangements for the proposed recreation facilities and observation tower.	2.0 Project Description [2] 3.13 Public Services
Richard Pawlowski Dick Pawlowski & Associates	Include plans for Mariners Garden at Banning Village in the proposed Project.	2.0 Project Description [1, 3]
Gail Newton, Chief Evironmental Planning & Management Division California State Lands Commission	Address Public Trust Doctrine Aspects of the project.	1.0 Introduction 2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Provide more specific details about the planned commercial/industrial areas and uses which constitute the actual bulk of the project.	2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Provide specific project details to be included in the project description of the DEIR including the following: "sustainable economic development and technologies" of the project; activities to be permitted in the industrial redevelopment area without further	2.0 Project Description[1, 4]

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
	environmental studies; what could be allowed absent any further discretionary approval; if there is an actual increase or decrease in publicly accessible waterfront (include length of waterfront currently accessible to public in Wilmington and the length of waterfront with public access in Wilmington after the project); use and square footage of each use in the structures being removed under the project; how commercial/retail developments are contemplated in that area don't actually further block the public's access to the water.	
John G. Miller. Chairman PCAC EIR Subcommittee	Discuss why the Harry bridges Blvd Buffer project, South Wilmington Grade Separation and the proposed Project are being analyzed separately.	2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Provide details about Waterfront Red Car Museum and how the property would be used under the proposed project.	2.0 Project Description
Maria Elena Enriquez	Concern regarding the security arrangements, maintenance and cleanliness of the project.	2.0 Project Description 3.13 Public Services
Maria Elena Enriquez	Provide restroom facilities in the proposed project.	2.0 Project Description 3.12 Utilities
Ann Wysocki	Identify the location of the Olympic tank site.	2.0 Project Description 3.6 Groundwater and Soils 3.7 Hazards and Hazardous Materials
Ann Wysocki	Discuss the hours, the limits of the public to the facilities such as the tower.	2.0 Project Description [2]
PROJECT DESCRIPTION—DESIGN		
Ann Wysocki	Include square footage of commercial within industrial square footage	2.0 Project Description [1]
Donald Compton, J.D. Independent	Opposes the Waterfront Red Car Line extension and would prefer Metro rail project from Downtown Los Angeles to Wilmington and	2.0 Project Description [1]

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
Public Advocate	local Electric Trolley System.	
Richard Pawlowski Dick Pawlowski & Associates	Discuss the rational and purpose for the closure and renewal of Avalon Blvd. from "C" Street to "G" Street as an integral part of the Project.	2.0 Project Description[5]
John G. Miller Chairman PCAC EIR Subcommittee	Discuss why out of 58 acres only, 15 acres devated to open space and rest of the space being developed as commercial/ industrial development.	2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Concern regarding the effect of the proposed project on rail activity.	2.0 Project Description 3.9 Noise 3.11 Transportation and Circulation
John G. Miller. Chairman PCAC EIR Subcommittee	Include elevations and sections for the landscaped bridge and more renderings of the proposed project in the DEIR.	2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Provide details regarding the relocation of LADWP tanks and what would happen if they are not relocated.	2.0 Project Description
Jessie Marquez	Recommends using coastal marine motifs into the design. Does not like the square flat form on top that goes up the observation tower, but rather wants to see a boat sail, round mast, crows nest, etc. Discuss the lighting of the tower and ensure it will not look like the LAX lighted towers. Include indoor gardens. Incorporate as many California native species as possible and make sure there are trash bins and recycling capability.	2.0 Project Description[3, 4]
Jessie Marquez	Add solar roof to the observation tower.	2.0 Project Description
Aurther Hernandez Wilmington Waterfront Development Committee and Wilmington Property Owner's Association	Concerned that bringing in the rail element would slow the process down and recommends that it should be independent because of the problem with getting funding to the rail system.	2.0 Project Description
Sal Pardo	Highlight the integration of the community bike paths and show some dedicated lane sharing with the road vehicles. This integration needs to be specialized to children's recreational lives as	2.0 Project Description

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
	they are very limited during the teen years and don't have a lot to do in Wilmington.	
	PROJECT DESCRIPTION—PHASING SCHEDULE	
Ann Wysocki	Provide information regarding the timing of LADWP tanks demolition and the phase of the project is it included in?	2.0 Project Description
Ann Wysocki	Identify the construction schedule.	2.0 Project Description
	AIR QUALITY	
Steve Smith, Ph.D. Program Supervisor CEQA Section SCAQMD	Recommended procedures, models, and resources for assessing project-related impacts on air quality for different criteria pollutants and lists applicable mitigation measures.	3.2 Air Quality
Dave Hall	Discuss impacts of project on air quality.	3.2 Air Quality
Susan Nakamura, SCAQMD	Quantify cancer risks of the project at the proposed location for identifying health risk impact.	3.2 Air Quality
Susan Nakamura, SCAQMD	Review and incorporate suggested implementation measures to reduce Diesel PM to coincide with the proposed project to ensure public health.	3.2 Air Quality
	BIOLOGICAL RESOURCES	
Gail Newton, Chief Evironmental Planning & Management Division California State Lands Commission	Evaluate noise impacts of promenade construction on fishes and marine animals.	3.3 Biological Resources
Dave Hall	Discuss impacts of the project on endangered species of San Pedro Bay Area.	3.3 Biological Resources
Gail Newton, Chief Evironmental Planning & Management Division California State Lands Commission	Perform database search of CDFG natural diversity fdatabase and USFWS special-status species database for potential presence of special-stauts species in project area.	3.3 Biological Resources
Gail Newton, Chief	Consider timing of construction of the project to account for any	3.3 Biological

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
Evironmental Planning & Management Division California State Lands Commission	state or federally listed endangered species, migratory birds and nesting period.	Resources
Gail Newton, Chief Evironmental Planning & Management Division California State Lands Commission	Evaluate traffic impacts from the proposed project on biological resources.	3.3 Biological Resources
	CULTURAL RESOURCES	
Mr. Dave Singleton Program Analyst Native American Heritage Commission	Review and incorporate the recommended procedures for assessing project-related impacts on cultural resource.	3.4 Cultural Resources
John G. Miller. Chairman PCAC EIR Subcommittee	Concern regarding the demolition of historic buildings.	2.0 Project Description 3.4 Cultural Resources
	GROUNDWATER & SOILS	
Ann Wysocki	Discuss the remediation of land where the restaurant will be placed.	3.6 Groundwater and Soils 3.7 Hazards and Hazardous Materials
Ann Wysocki	Provide details on the demolition of the LADWP tanks.	2.0 Project Description 3.6 Groundwater and Soils 3.7 Hazards and Hazardous Materials
	LAND USE AND PLANNING	

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
Christine Fernandez Asst.Reg.Planner SCAG	DEIR analysis to include discussion on how project is consistent, not consistent or is not applicable to SCAG policies of RCPG, RTP and Compass Growth Vision.	3.8 Land Use and Planning
Christine Fernandez Asst.Reg.Planner SCAG	Project is determined to be regionally significant per SCAG Intergovernmental Review (IGR) criteria and CEQA guidelines.	3.8 Land Use and Planning
TRANSPORTATION & CIRCULATION (GROUND, MARINE, AND AIR)		
Ann Wysocki	Discuss the rationale behind shifting primary access of the waterfront from Avalon Blvd to Broad Ave	3.11 Transportation and Circulation (Ground)
Susan Chapman Program Manager Long Range Planning Metro CEQA Review Coordination	Use a Traffic Impacts Analysis (TIA) for highway, freeways, and traffic components under State Congestion Management Plan, minimum components of a TIA, and required steps of TIA.	3.11 Transportation and Circulation (Ground)
Richard Pawlowski Dick Pawlowski & Associates	Address the truck traffic entering commercial and residential districts immediately north of C Street.	3.11 Transportation and Circulation (Ground)
Richard Pawlowski Dick Pawlowski & Associates	Make marine Avenue and Broad Avenue as alternate one-way streets to include parking and traffic flow and discourage truck traffic in residential areas.	3.11 Transportation and Circulation (Ground)
Elmer Alvarez, IGR/CEQA Prog. Mgr. California Department of Transportation	Discuss construction impacts of traffic like permit requirement for oversize or overweight vehicles using state facilities during construction, methods to avoid carvan of traffic on interchange due to construction, avoiding substantial number of large vehicles during high traffic period.	3.11 Transportation and Circulation (Ground)
John G. Miller. Chairman PCAC EIR Subcommittee	Discuss the specific roadway improvements in the porject and if they are accomodating more trucks. Discuss if the project increase truck trips and how would they impact road consitions. Discuss whether trucks be prohibited from any streets near proposed project.	3.11 Transportation and Circulation (Ground)
John G. Miller. Chairman PCAC EIR Subcommittee	Concerned regarding South Wilmington Grade Separation project bringing in more truck traffic near public use.	3.11 Transportation and Circulation (Ground)
John G. Miller. Chairman PCAC EIR Subcommittee	Concern regarding changes on Auto terminal on east including the ingress and egress point of the terminal.	3.11 Transportation and Circulation (Ground) [1]

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
Mary Grant	Address the traffic coming of f the 110 freeway to this site.	3.11 Transportation and Circulation (Ground)
Mary Grant	Address handicap access to all the proposed project features	3.11 Transportation and Circulation (Ground)
Risa Sher	Expressed concern over the environment in the whole L.A. basin. Identifed the need for plans to L.A. metro expansion but unsure of whether it is included in this project. Questions how anyone in the whole basin would get to this area and that if the City does plan to bring the metro down to the Port she is in support of it.	3.11 Transportation and Circulation (Ground) [1]
Sal Pardo	The community access to the project should be a priority, first for the local residents and then for the tourists.	3.11 Transportation and Circulation (Ground)
	Parking	
Ann Wysocki	Provide details regarding the 445 parking spaces (i.e. does it include street parking?)	2.0 Project Description 3.11 Transportation and Circulation (Ground)
Ann Wysocki	Identify whether parking is free.	2.0 Project Description[3]
Ann Wysocki	Concern regarding parking for handicapped and or buses.	2.0 Project Description 3.11 Transportation and Circulation (Ground)
Socorro Firrrares	Discuss compact parking.	2.0 Project Description[3]
John G. Miller. Chairman PCAC EIR Subcommittee	Concerned regarding adequate public parking and the proposed parking areas being far away from Banning's Landing.	3.11 Transportation and Circulation (Ground)
	WATER QUALITY AND HYDROLOGY	
Dave Hall	Discuss impacts of project on water quality.	3.14 Water Quality and Hydrology

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
	SOCIOECONOMIC	
Richard Pawlowski Dick Pawlowski & Associates	Discuss downtown Wilmington Redevelopment	2.0 Project Description[1] 7.0 Socioeconomic
	CUMULATIVE IMPACTS	
Elmer Alvarez, IGR/CEQA Prog. Mgr. California Department of Transportation	Discuss cumulative traffic impacts to the local freeways.	4.0 Water Quality and Hydrology
	PROCESS	
Ann Wysocki	Identify when the California Coastal Commission becomes involved, when the document is approved, and how it is approved by this Commission.	1.0 Introduction 2.0 Project Description
State Clearing House	Recognized receipt of NOP/IS Checklist and addressed to the reviewing agencies to provide their comments within 30 days of receipt.	2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Concern regarding EIR process as the Lead Agency, the Sponsoring Agency, the Reviewing Agency, and the Approving Agency (via BOHC) are all the same. Questions if POLA also function as a "Responsible or Trustee Agency" in this matter.	1.0 Introduction 2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Considers the separate analysis of Harry bridges Blvd Buffer project, South Wilmington Grade Separation and the proposed Project as peicemealing of a large project.	2.0 Project Description
John G. Miller. Chairman PCAC EIR Subcommittee	Concern regarding the absence of involvement of ACOE for floating docks and promenades of the proposed project.	1.0 Introduction 2.0 Project Description[3] The USACOE is currently involved with the proposed project and leading the NEPA review.

Notes:

[1] Not within the scope of the proposed Project or alternatives under consideration.
[2] Not relevant with respect to CEQA environmental considerations.
[3] Not appropriate in the context of CEQA environmental review.
[4] Details of the proposed Project and Alternatives are not yet fully developed at this level.

1

1.0

INTRODUCTION

This chapter presents background and introductory information for the Wilmington Waterfront Development Project (proposed Project), located within the Port of Los Angeles (Port) and the Wilmington Community of the City of Los Angeles (City). This chapter includes discussion of the:

- proposed Project background and the Los Angeles Waterfront Development Program,
- proposed project location and a brief overview of the proposed Project,
- purpose of this draft Environmental Impact Report (EIR),
- authority of the lead agency—the Los Angeles Harbor Department (LAHD)—preparing this draft EIR,
- scope and content of the draft EIR,
- key principles guiding the preparation of this document; and
- public outreach for the proposed Project.

This Draft EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act of 1970 (CEQA Guidelines) (14 California Code of Regulations [CCR] Section 15000 et seq.) and will be used to inform decision-makers and the general public about the environmental effects of the construction and operation of the proposed Project; to consider feasible alternatives to the proposed Project; and to propose mitigation measures that would avoid or reduce the significant environmental impacts from construction and operation of the proposed Project.

1.1 Project Background

1.1.1 Role of the Los Angeles Harbor Department

LAHD operates the Port of Los Angeles under the legal mandates of the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Sec. 601; California Tidelands Trust Act of 1911) and the California Coastal Act (PRC Div 20 S30700 et seq.), which identify the Port and its facilities as a primary economic resource of the state and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, and harbor operations. Activities should be water dependent and give highest priority to navigation, shipping, and necessary support and access facilities to accommodate the demands of foreign and domestic waterborne commerce. LAHD is chartered to develop and operate the Port to benefit maritime uses and functions as a landlord by leasing Port properties to more than 300 tenants. The Port of Los Angeles is the nation's busiest container port, handling 8.6 million twenty-foot units (TEUs) of cargo containers in 2007.

In addition to moving containerized cargo, the Port's diverse maritime operations include shipping dry bulk items such as scrap metal, steel, and food; cruise vessel terminals, marinas, retail, and tourist shops; and commercial fishing, sport fishing, and a recreational beach area. In 2003 the State Tidelands Trust was amended by Assembly Bill (AB) 2769 to allow funds in the Port to be spent on education, recreation, culture, and tourism. This legislation allows LAHD to further expend funds on non-maritime uses, such as the revitalization of a visitor-serving waterfront for Los Angeles County.

1.1.2 Los Angeles Waterfront Development Program

The design and function of the Avalon Development District and Avalon Waterfront District (approximately 60 acres combined) were the vision of the 95-acre Program, which is the result of a planning process involving close collaboration between Port staff; a consultant team of planners, designers, engineers, economists, public outreach consultants, and other specialists; as well as the Wilmington Waterfront Development Subcommittee of the PCAC, a planning group recognized by the Harbor Board of Commissioners and composed of community representatives and the general public.

The following steps were taken in developing the Program:

1. Starting with and building upon the Wilmington Waterfront Development Final Plan, a conceptual vision plan for the area was prepared in 2004 (SMWM), with the participation of the Wilmington Waterfront Development Subcommittee and approval of the Harbor Board of Commissioners.
2. A visionary master plan was crafted based upon a good understanding of baseline conditions in the proposed project area, including the physical, regulatory,

environmental, land use, transportation, historical, cultural, market characteristics, and existing plans and projects.

3. Improvements, including public art and street furnishings, were considered in nearby San Pedro to bring consistency in quality and character to Port-wide public improvements.
4. Master Plan alternatives were developed and evaluated for the Wilmington area based on site characteristics and established goals and objectives identified early in the planning process.
5. Four community workshops were conducted in 2006 at critical milestones to garner community input, review, and comment; more than 1,000 people attended the final meeting on December 2, 2006.

In addition, the following guiding principles were identified for the proposed Project through a series of community workshops and meetings:

- Enhance the livability of the Wilmington community
- Enhance the economic viability of the Wilmington community by promoting sustainable economic development and technologies
- Establish a world-class design with a regional draw for the Wilmington waterfront area by enhancing Wilmington's image while maintaining its identity and attracting visitors to the waterfront
- Create an environmentally responsible project
- Celebrate the Port and Wilmington's significance—past, present, and future
- Create a unified Los Angeles waterfront through the integration of publicly oriented improvements, from Leeward Bay Marina to the breakwater
- Promote a sense of ownership in the proposed Project and its results by engaging the whole of the community throughout the planning and design process and by creating opportunities for residents and school children to contribute to the design through program specifications, public art programs, and other elements

The Wilmington Waterfront Master Plan and Development Program is the guiding planning document for several separate components that would be designed in harmony with one another in order to promote connectivity, continuity, and improved functionality. Elements covered in the Program include the proposed Project, which is made up of the Avalon Development District (referred to as the Industrial District/Avalon Corridor in the development program), most of the Avalon Waterfront District (Avalon Triangle Park is a separate development project), and the Harry Bridges Buffer Area, which is part of the TraPac container terminal expansion project. While the proposed Project is intended to connect the Wilmington community with the waterfront as well as enhance industrial and commercial land uses and economic viability, the purpose of the Harry Bridges Buffer Area is to separate the residential land uses within the Wilmington community from the industrial land uses of the Port. The recent approval of the Harry Bridges Buffer Area and its future implementation, development of Avalon Triangle Park, and the

proposed Project would all proceed separately, and any one project would be implemented and would sustain itself without the implementation of the others.

1.2 Proposed Project

1.2.1 Project Site Location

The proposed project site is located approximately 20 miles south of downtown Los Angeles, within the Port and Wilmington community boundaries. Regional access to the site is provided by Interstate 110 (I-110) with local access provided by Harry Bridges and Avalon Boulevards. The San Pedro Community lies to the west and the Port of Long Beach to the east. The proposed project site is surrounded by industrial land uses, shipping and container operations, and liquid and dry bulk facilities along its southern portions, and by industrial and commercial uses in the northern areas.

The proposed project site is generally bounded by Lagoon Avenue to the west, Broad Avenue to the east, C Street to the north, and Banning's Landing and the Slip 5 waterfront to the south. The site includes the Waterfront Red Car Line and Coastal Coast Trail (CCT) linkages beginning in the west at Swinford Street, moving along Front Street to John S. Gibson Boulevard, and then along Harry Bridges Boulevard until it reaches Avalon Boulevard in the east.

1.2.2 Project Overview

The proposed Project involves development of a variety of land uses within the three distinct areas of the proposed project site: (1) the Avalon Development District, (2) the Avalon Waterfront District, and (3) the Waterfront Red Car Line Extension and multi-modal CCT linkage area. The draft EIR describes the environmental resources that would be affected by the proposed Project. The draft EIR will address elements of the proposed Project in these three areas on both the program and project level. A program-level analysis is prepared when the lead agency has a proposed program or series of actions that can be characterized as one large project, and some specific design information may be uncertain. A program-level analysis generally analyzes broad environmental effects of the program with the understanding that additional site-specific environmental review may be required for particular aspects of the program when those aspects are proposed for implementation and construction. Below highlights the major elements of each of the three areas, except where indicated all elements will be analyzed at a project-level analysis.

1.2.2.1 Avalon Development District (Areas A and B)

Proposed Project elements in this area include (1) infrastructure improvements to support up to 150,000 square feet of light industrial development analyzed at a

program level; (2) development of up to 58,000 square feet of commercial uses; (3) sidewalk and pedestrian-oriented enhancements along Island, Fries, and Marine Avenues, Harry Bridges and Avalon Boulevards, and C street; (4) a 1-acre passive park located on the vacant Railroad Green; and (5) adaptive reuse of the historic 14,500-square-foot Bekins Storage property for a Waterfront Red Car Museum.

1.2.2.2 Avalon Waterfront District

Proposed Project actions or elements in this area include:

- Constructing pedestrian-oriented features and improvements such as a waterfront promenade with 12,000 square feet of restaurant/visitor-serving retail development, a 200-foot Observation Tower with a pedestrian ramp, a 10-acre Land Bridge with an elevated park, and a pedestrian "water" bridge enhanced by an integrated water feature that would provide the surrounding Community with open space and improved pedestrian access to the waterfront;
- Demolishing the Los Angeles Department of Water and Power (LADWP) Marine Tank site and associated pipe conveyance infrastructure, and remediating the site;
- Programmatically evaluating the feasible relocation of the Marine Tank Farm liquid bulk storage tanks to an existing liquid bulk storage tank facility (the Olympic Tank Farm) located 1.5 miles northeast of the proposed project site on the southeastern corner of Alameda and Robidoux Streets; and
- Vacating Avalon Boulevard south of A Street, realigning Broad Avenue to the waterfront, and realigning Water Street to run adjacent to the Pacific Harbor Rail Line, which would travel under the Land Bridge to improve pedestrian circulation and provide space for the waterfront promenade.

1.2.2.3 Waterfront Red Car Line/Multi-Modal California Coastal Trail Extension

The proposed Project includes a program-level analysis to extend the Waterfront Red Car Line from Swinford Street in the west to Avalon Boulevard in the east, connecting the communities of San Pedro and Wilmington. The proposed Project would also extend the Multi-Modal California Coastal Trail (CCT) in the San Pedro Community from Swinford Street in the west to the Wilmington Community at Avalon Boulevard in the east.

1.2.2.4 Sustainable Design Project Features

The Wilmington Waterfront Project is intended to showcase the LAHD's commitment to sustainability. The proposed Project would incorporate a number of sustainable elements focusing on the effort of LAHD to create a green Port. These

are analyzed as part of the proposed Project within this draft EIR. Additionally, the proposed Project would incorporate several features to enhance the final design of the proposed Project. While not required to mitigate a significant impact, these design measures also serve to further minimize the proposed Project's effect on surrounding uses and environmental resources. The following proposed project elements and design measures are consistent with the LAHD's Sustainability Program and policies:

- use recycled water from the existing 24-inch recycled water main under Harry Bridges Boulevard for all landscaping and water feature purposes to decrease the proposed Project's use of potable water;
- include drought-tolerant plants and shade trees in the planting palette;
- increase permeable surfaces and improve stormwater runoff quality by installing bioswales and permeable pavement at the surface parking locations to reduce stormwater runoff and provide natural filtration of pollutants;
- install approximately 20,000 square feet of solar panels on the shade pavilions on the Land Bridge and waterfront piers with a goal of achieving up to 12.5% of the proposed Project's energy needs;
- provide incentives for green incubator technologies and businesses to locate within the 150,000 square feet of proposed light and limited industrial within the Avalon Development District;
- require LEED™ certification for all new buildings as feasible by implementing and ensuring consistency with the LAHD's Green Building Policy, Leadership in Energy and Environmental Design (LEED) Certification (minimum Silver) is required for all new development over 7,500 square feet;
- follow LAHD sustainable engineering design guidelines in the siting and design of new development; and,
- employ LAHD sustainability measures during construction and operation and use recycled and locally derived materials for proposed project construction, while achieving recycling goals for construction and demolition debris.
- implement energy efficient design features in the final design to help ensure energy needs are minimized to the extent feasible during construction and operation of the proposed Project (as specified in Chapter 3.2, "Air Quality," and Chapter 3.12, "Utilities").
- implement water quality and conservation design features in the final design to help ensure water quality impacts are minimized during construction at the water's edge and in the water and operationally through the use of construction BMPs and bioswales (as specified in Chapter 3.14, "Water Quality, Sediments, and Oceanography"). Additionally, the proposed Project's use of potable water would be reduced through the use of reclaimed water for irrigation and water features (as specified in Chapter 3.12 "Utilities").
- implement noise design features. Site commercial uses at the waterfront (i.e., 12,000 square feet of restaurant/visitor-serving retail) would be located more than 100 feet from the heavily used San Pedro Branch Line and TraPac ICTF lead (as specified in Chapter 3.9, "Noise").

- implement aesthetic design features. Public art, consistent with the Wilmington Waterfront Development Program Public Art Master Plan, would be integrated into the project area and would include up to two major sculptural pieces. Views of the waterfront and Wilmington community would be created through the construction of the elevated park, pedestrian bridge, and observation tower. The proposed Project would also implement the Wilmington Waterfront Development Program Lighting Design Guidelines to improve efficiency and reduce glare (as specified in Chapter 3.1, "Aesthetics").
- implement pedestrian access and public docking design features. Pedestrian access to the waterfront and throughout the proposed project site would be improved through the extension of the California Coastal Trail and Waterfront Red Car Line, pedestrian water bridge, elevated park/Land Bridge, and waterfront promenade. Additionally, the proposed Project would create more public docking opportunities and improve waterside access to the Wilmington Waterfront. A water taxi service stop could also be accommodated.

1.2.2.5 Proposed Planning/Land Use Changes

The proposed Project would also include amendments to the City of Los Angeles General Plan, the Port of Los Angeles Plan (Port Plan), the Wilmington-Harbor City Community Plan (CP), and the Port Master Plan (PMP) as listed below:

- extend the Port Plan jurisdictional boundary from Water Street north to Harry Bridges Boulevard and from Broad Avenue in the east to Marine Avenue in the west, to include the single block of the Avalon Development District south of Harry Bridges Boulevard, the Avalon Triangle Park development site, and the Avalon Waterfront District, resulting in a corresponding retraction of the Wilmington-Harbor City CP jurisdictional boundary;
- extend the PMP jurisdictional boundary to match the Port Plan adjustment, which would include the single block of the Avalon Development District south of Harry Bridges Boulevard, the Avalon Triangle Park development site, and the Avalon Waterfront District to be consistent with the Port Plan jurisdictional boundary change
- amend the City of Los Angeles General Plan to downgrade existing streets including Avalon Boulevard. This would include the downgrade of Avalon Boulevard from collector street to a local street from Harry Bridges Boulevard south to its terminus at Water Street.
- amend existing land use designation of General/Bulk Cargo & Commercial/Industrial Uses non-hazardous in PA 5 to add Recreation (this would include the waterfront area and the area where Triangle Park would be located);
- amend Port Master Plan's existing land use designations for PA 5 (General Cargo, Liquid Bulk, Dry Bulk, Commercial Fishing, Industrial, Institutional, Other) to add Recreation and Commercial (non-fishing related) land uses; and

- amend the Los Angeles Municipal Zoning Code (including previous and expanded boundary) to add Recreation and Commercial, consistent with the Tidelands Trust to accommodate proposed project components (e.g., waterfront promenade, Land Bridge, Observation Tower). The Triangle Park area would be rezoned to Open Space.

1.3 CEQA and the Purpose of an EIR

CEQA was enacted by the California legislature in 1970 and requires public agency decision-makers to consider the environmental effects of their actions. When a state or local agency determines that a proposed project has the potential to significantly affect the environment, an EIR is prepared. The purpose of an EIR is to identify significant effects of a proposed project on the environment, to identify alternatives to the project that would avoid or substantially lessen a significant effect, and to indicate the manner in which those significant effects can be mitigated or avoided. A public agency must mitigate or avoid significant environmental impacts of projects it carries out or approves whenever it is feasible to do so. In instances where significant impacts cannot be avoided or mitigated, the project may nonetheless be carried out or approved if the approving agency finds that economic, legal, social, technological, or other benefits outweigh the unavoidable significant environmental impacts.

1.4 Lead, Responsible, and Trustee Agencies

LAHD is the lead agency for evaluating potential impacts and proposing mitigation measures under CEQA. Section 15367 of the CEQA Guidelines defines the Lead Agency as:

> …the public agency which has the principal responsibility for carrying out or approving a project. The lead agency will decide whether an EIR or negative declaration will be required for the project and will cause the document to be prepared…

Several other agencies have special roles with respect to the proposed Project and may use this EIR as the basis for their decisions to issue any approvals and/or permits that might be required. Section 15381 of the CEQA Guidelines defines a "responsible agency" as:

> …a public agency which proposes to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or negative declaration. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the lead agency which have discretionary approval power over the project.

Additionally, Section 15386 of the CEQA Guidelines defines a "trustee agency" as:

> …a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California.

Table 1-1 lists responsible and trustee federal, state, and local agencies that may rely on this draft EIR in a review capacity or as a basis for issuance of a permit for the proposed Project or for related actions.

Table 1-1. Agencies Expected to Use this EIR

Agency	*Responsibilities, Permits, and Approvals*
FEDERAL AGENCIES	
U.S. Army Corps of Engineers (USACE)	Responsible for navigational improvements in waters of the United States. Permitting authority for work and structures in navigable waters and the discharge of dredged or fill material in waters of the United States.
National Oceanographic and Atmospheric Association (NOAA) Fisheries/National Marine Fisheries Service (NMFS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act. Also responsible for Essential Fish Habitat (EFH) under the Magnuson Stevens Act. Provides EFH information, reviews federal action potential effects on EFH, and provides conservation recommendations to USACE through consultation.
U.S. Coast Guard (USCG)	Has jurisdiction over marine facilities, bridges, and vessel transportation in harbor waters. Responsible for ensuring safe navigation and for preventing and responding to oil or hazardous materials releases in the marine environment. Responsible for enforcement of the Maritime Transportation Security Act (MTSA) and the International Ship and Port Facility Security (ISPS) Code standards for security at cruise terminals.
U.S. Environmental Protection Agency (EPA)	Has primary responsibility for implementing the Clean Air Act (CAA) and works with other federal agencies to implement conformity requirements. Reviews and submits recommendations for spill prevention control and countermeasure plans for non-transportation-related onshore and offshore facilities engaged in storing, processing, refining, transferring, distributing, or consuming oil and gas products. Regulatory authority for determining suitability of dredged sediments for ocean disposal in accordance with Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA). Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits.
U.S. Fish and Wildlife Service (USFWS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act and consultations pursuant to Section 7 of the Endangered Species Act (ESA).
STATE AGENCIES	
California Coastal Commission (CCC)	Reviews environmental document to ensure compliance with the Coastal Zone Management Act and consistency with the California Coastal Act. Performs a federal consistency determination. Reviews and must approve Coastal Development Permit (CDP) applications and Port Master Plan (PMP) amendments. The proposed Project would require an amendment to the PMP to

Agency	*Responsibilities, Permits, and Approvals*
	expand the PMP boundary and to allow park land uses consistent with the Tidelands Trust within portions of the proposed project site.
California Department of Fish and Game (CDFG)	Reviews and submits recommendations in accordance with CEQA. Consultation in accordance with the Fish and Wildlife Coordination Act.
California Department of Transportation (Caltrans)	Permitting authority for highway improvements and rail trackage, connections, and signage during construction operations.
California Office of Historic Preservation	Consultation under Section 106 of the National Historic Preservation Act (NHPA) regarding impacts on cultural resources (i.e., demolition of buildings and structures) that are either listed or eligible for listing on the National Register of Historic Places (NRHP).
California Public Utilities Commission (CPUC)	Permitting authority for rail trackage, connections, and signage during construction operations.
The California Waste Management Board	Statutory and regulatory authority to control the handling and disposal of solid nonhazardous waste in a manner that protects public safety, health, and the environment. State law assigns responsibility for solid waste management to local governments.
Regional Water Quality Control Board (RWQCB), Los Angeles Region	Permitting authority for Clean Water Act (CWA) Section 401 water quality certifications subject to Section 404 of the CWA. Permitting authority for California waste discharge requirements pursuant to the state Porter-Cologne Water Quality Control Act. Responsible for issuance of both construction and industrial National Pollutant Discharge Elimination System (NPDES) stormwater permits.
California State Lands Commission (CSLC)	The CSLC has oversight responsibility for tidal and submerged lands legislatively granted in trust to local jurisdictions and has adopted regulations for the inspection and monitoring of marine terminals. The CSLC inspects and monitors all marine facilities for effects on public health, safety, and the environment.
California Department of Toxic Substance Control (DTSC)	Regulatory jurisdiction over underground tanks containing hazardous materials. Implements groundwater monitoring provision of the Resource Conservation and Recovery Act. Responsible for general site cleanup outside of underground storage tanks (state superfund sites, etc.).
REGIONAL AGENCIES	
Los Angeles County Fire Department (LACFD)	Licensing and inspection authority for all hazardous waste generation in the City. Provides regulation and oversight of site remediation projects involving hazardous waste generators where surface and subsurface soils are contaminated with hazardous substances.
South Coast Air Quality Management District (SCAQMD)	Permitting authority for construction of landfill and operation of pump stations, storage tanks, and terminal facilities; activities involving hydrocarbon-containing soils (Rule 1166); and new or modified sources of air emissions (new source review).
Southern California Association of Government (SCAG)	Responsible for developing regional plans for transportation and federal conformity as well as developing the growth factors used in forecasting air emissions in the South Coast Air Basin (SCAB).
LOCAL AGENCIES	
City of Los Angeles City	City Council legislative body that would review any appeal to certification of the

Agency	*Responsibilities, Permits, and Approvals*
Council	EIR by the LAHD and would have approval authority over the proposed amendments to the General Plan Land Use Element to permit adjustments to the Wilmington-Harbor City and Port of Los Angeles Plan boundaries and land use designations; reviews and approves leases, permits, and other approvals.
City of Los Angeles Harbor Department (LAHD)	LAHD is the lead agency for CEQA and the California Coastal Act (via the certified PMP). Other City departments have various approval and permitting responsibilities, and are listed separately below for the sake of clarity. Pursuant to its authority, LAHD may approve permits and other approvals (e.g., coastal development permits; leases for occupancy; and approval of operating, joint venture, or other types of agreements for the operation of the facilities) for the projects evaluated in this EIR. Leasing authority for the Port's land. Permitting authority for engineering construction. Responsible for general regulatory compliance. Responsible for master plan amendment and map change and issuance of coastal development permits. Responsible for activities of other City departments for the proposed Project.
City of Los Angeles Building and Safety Department	Responsible agency with permitting authority for building and grading permits.
City of Los Angeles Bureau of Engineering	Responsible agency with permitting authority for storm drain connections and stormwater discharges, permits for water discharges to the wastewater collection system, and approval of street vacations.
City of Los Angeles Bureau of Sanitation	Responsible agency with permitting authority for industrial waste permit for discharges of industrial wastewater to the City sewer system.
City of Los Angeles Fire Department (LAFD)	Responsible agency that reviews facilities' Hazardous Materials Business Plan and Inventory and Risk Management and Prevention Programs. Reviews and submits recommendations regarding design for building permit.
City of Los Angeles Department of Transportation (LADOT)	Responsible agency that reviews and approves changes in City street design, construction, signalization, signage, traffic counts, as well as traffic impact analysis methodology and the study area.
City of Los Angeles Department of Water and Power (LADWP)	Responsible agency that provides a water supply assessment and approves the facilities' new water service connection and meters. LADWP may also provide assistance or even lead efforts for the remediation of the LADWP Marine Tank Farm site if determined applicable to the site.
City of Los Angeles Planning Department	Responsible agency that reviews zone changes or amendments, general plan amendments, variances for zoning or parking code requirements. The proposed Project would require a General Plan amendment to extend the boundary of the Port of Los Angeles Plan, retract the Wilmington Harbor City CP boundary, and re-designate industrial/commercial land uses to open space and park uses. A rezone is required to allow parks consistent with the Tidelands Trust in current industrial/commercial zones.

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1.5 Scope and Content of the Draft EIR

The scope of this draft EIR was established based on the initial study prepared pursuant to CEQA (see Appendix A) and comments received during the notice of preparation (NOP) review process.

1.5.1 Scope of Analysis

This draft EIR has been prepared in conformance with CEQA (PRC Section 21000 et seq.), the CEQA Guidelines (14 CCR Section 15000 et seq.), and the Port Guidelines for the Implementation of CEQA. It includes all of the sections required by CEQA.

The criteria for determining the significance of environmental impacts in this draft EIR analysis are described in each "Thresholds of Significance" subsection within the 14 resource topic sections in Chapter 3, "Environmental Analysis." The threshold of significance for a given environmental effect is the level at which LAHD finds the effect on an environmental resource resulting from the construction and operation of the proposed Project to be significant. "Threshold of significance" can be defined as a "quantitative or qualitative standard, or set of criteria, pursuant to which significance of a given environmental effect may be determined" (CEQA Guidelines, Section 15064.7 [a]). Except as noted in particular sections of the document, LAHD has adopted the *L.A. CEQA Thresholds* (City of Los Angeles 2006) for purposes of this draft EIR, although some criteria were adapted to the specific circumstances of the proposed Project.

The following is a timeline of the noticing and public involvement that has happened to date within the environmental review process for the proposed Project:

- **March 14, 2008**. The CEQA Notice of Preparation (NOP) and Initial Study (IS) were released and distributed to over 600 agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The State Clearinghouse assigned the following State Clearinghouse Number to the proposed Project: 2008031065. An executive summary of the NOP was translated into Spanish and included in the distribution. Over 70,000 postcards were distributed notifying the public of the date of the scoping meeting and the term of the comment period. Notice of the comment period and meeting was also posted in five local newspapers.
- **March 14, 2008.** The NOP was also filed with the Los Angeles City Clerk and the Los Angeles County Clerk.
- **March 25, 2008**. A public scoping meeting was held at Banning's Landing Community Center in Wilmington, CA. Thirteen people at the meeting provided written or oral comments on the proposed Project. Spanish translation services were made available at the meeting.
- **April 14, 2008**. The comment period ended. Fourteen comment letters were received during the scoping period.

- **July 7, 2008**. LAHD staff provided an update to the PCAC Wilmington Waterfront Development Subcommittee regarding the progress of the draft EIR. The traffic, hazards, land use, and air quality analysis were still in process.
- **August 12, 2008.** LAHD staff provided an update on the project design and progress of the draft EIR to the PCAC Wilmington Waterfront Development Subcommittee. The air quality and traffic analysis was complete, but there were still some outstanding issues related to land use and hazards. Sustainable project design components were also discussed.
- **October 14, 2008.** LAHD staff announced to the PCAC Wilmington Waterfront Development Subcommittee plans to release the draft EIR in November. Public art for the Wilmington Waterfront Development Program was also discussed.

The scope of analysis and technical work plans developed as part of preparing this draft EIR were designed to ensure that the comments received from regulatory agencies and the public during the NOP review process would be addressed.

Based on the Initial Study, the following issues were determined to be potentially significant and are therefore evaluated in this draft EIR:

- Aesthetics
- Air Quality and Meteorology
- Cultural Resources
- Geology
- Groundwater and Soils
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Population and Housing
- Transportation and Circulation—Ground and Marine
- Utilities
- Public Services
- Water Quality, Sediments, and Oceanography

As identified in the Initial Study, impacts on biological resources would be less-than-significant; however, as stated in the analysis contained therein, additional discussion is provided in this EIR. Additionally, some revisions to the proposed Project that occurred after the issuance of the NOP, including the construction and enhancement of the bulkhead wall at Banning's Landing, required additional analysis of the potential impacts related to biological resources.

There are no agricultural resources or mineral resources in the area as determined during the Initial Study and discussed therein; therefore, agricultural and mineral resources are not evaluated in this draft EIR.

Chapter 3, "Environmental Analysis," discusses the issues that would have the potential to be significantly affected by the proposed Project. Mitigation measures to reduce impacts to a less-than-significant level are proposed whenever feasible.

This draft EIR has been prepared by ICF Jones & Stokes under contract to LAHD and has been independently reviewed by LAHD staff. The scope of the document, methods of analysis and conclusions represent the independent judgment of LAHD. Staff members from LAHD and ICF Jones & Stokes who helped prepare this draft EIR are identified in Chapter 11, "List of Preparers and Contributors."

1.5.2 Intended Uses of this Draft EIR

This draft EIR has been prepared in accordance with applicable state environmental regulations, policies, and laws to inform federal, state, and local decision-makers regarding the potential environmental impacts of the proposed Project and its alternatives. As an informational document, an EIR does not recommend approval or denial of a project. This draft EIR is being provided to the public for review, comment, and participation in the planning process. After public review and comment, a final EIR will be prepared. The final EIR will include responses to comments on the draft EIR received from agencies, organizations, and individuals. It will be distributed to provide the basis for decision making by the lead agency, as described below, and other concerned agencies.

1.5.2.1 Lead Agency Use—LAHD

LAHD has jurisdictional authority over the proposed Project pursuant to the Port of Los Angeles Tidelands Trust, the California Coastal Act, and CEQA. This EIR will be used by LAHD, as the lead agency under CEQA, in making a decision with regard to the construction and operation of the proposed Project and to inform agencies considering permit applications and other actions required to construct, lease, and operate the proposed Project. LAHD's certification of the EIR, notice of completion, findings of fact, and statement of overriding considerations (if necessary) will document LAHD's decision as to the adequacy of the EIR and inform subsequent decisions by LAHD whether to approve and construct the proposed Project.

Actions that could be undertaken by LAHD following preparation of the final EIR include the following:

- Certification of the EIR
- Project Approval
- Lease Approvals

- Land Condemnation
- General Plan Amendment (Wilmington Harbor-City CP and Port Plan)
- PMP Amendments
- Issuance of Coastal Development Permits
- Completion of Final Design
- Approval of Engineering Permits
- Obtaining other Agency Permits and Approvals (e.g., dredge and fill, grading, construction, occupancy, and fire safety)
- Approval of Construction Contracts

1.5.2.2 Other Uses

Other agencies (federal, state, regional, and local) that have jurisdiction over some part of the proposed Project or a resource area affected by the proposed Project are expected to use this EIR as part of their approval or permit process as set forth in Table 1-1 above. Specific approvals that could be required for this proposed Project include but are not limited to:

- California Coastal Commission approval of a Coastal Development Permit and PMP Amendment to extend the PMP boundary and designate land uses not currently within the PMP to industrial, commercial, and recreational land uses.
- City of Los Angeles Building and Safety Permits,
- City of Los Angeles Planning Commission and City Council approval of a General Plan Amendment to extend the Port Plan boundary, retract the Wilmington Harbor City boundary, and re-designate land uses currently under the Wilmington Harbor-City CP to land uses allowed by the Port Plan,
- City Council approval of the rezone under the City of Los Angeles zoning ordinance to allow for Parks consistent with the Tidelands trust in Planning Area 5,
- USACE permit—pursuant to Section 404 of the CWA, Section 10 of the Rivers and Harbors Act (RHA), and Section 103 of the Marine Protection, Research and Sanctuaries Act (MPRSA),
- Water Quality permits (CWA Section 401 water quality certification and NPDES permits), and
- Construction contracts.

1.5.3 Draft EIR Organization

The content and format of this draft EIR are designed to meet the current requirements of CEQA and the State CEQA Guidelines. Table 1-2 summarizes the organization and content of the draft EIR.

Table 1-2. Organization and Contents of the Draft EIR

Draft EIR Chapter	*Description*
Executive Summary	Summarizes the proposed Project and alternatives, potential significant impacts and mitigation measures, the environmentally superior alternative (in accordance with CEQA), public comments and concerns, and unresolved issues and areas of controversy.
Chapter 1 "Introduction"	Provides the proposed Project background and overview; describes the purpose of the EIR, the intended uses of the document and authorizing actions, including the necessary project approvals, and the relationship to previous CEQA documents, the scope and content of the document, and the organization of the document.
Chapter 2 "Project Description"	Describes the general environmental setting, lists the Project's objectives, describes the proposed Project focusing on major elements, lists a general Project phasing plan, and summarizes the relationship to existing plans and policies.
Chapter 3 "Environmental Analysis"	Describes, for each environmental resource area, the baseline conditions as of March 2008, criteria for judging whether an impact is significant, impact assessment methodology, impacts that would result from the proposed Project, applicable mitigation measures that would eliminate or reduce significant impacts, and the mitigation and monitoring aspects.
Chapter 4 "Cumulative Effects"	Analyzes the incremental contribution of the proposed Project when combined with past, present, and reasonably foreseeable future development project impacts and proposes mitigation to reduce the proposed Project's incremental contribution to identified cumulative impacts to less than significant.
Chapter 5 "Project Alternatives"	Compares and contrasts the significant environmental impacts of alternatives to the Project and identifies the environmentally superior alternative.
Chapter 6 "Environmental Justice"	Addresses the potential effects of the proposed Project on minority populations and low-income communities within and adjacent to the proposed Project site.
Chapter 7 "Socioeconomics and Environmental Quality"	Identifies the proposed Project's socioeconomic effects.
Chapter 8 "Growth-Inducing Impacts"	Discusses whether or not the proposed Project would result in growth-inducing impacts.
Chapter 9 "Significant Irreversible Changes"	Describes the significant irreversible changes associated with the proposed Project.
Chapter 10 "References"	Identifies the documents and persons consulted in preparing this draft EIR.
Chapter 11	Lists the individuals involved in preparing this draft EIR.

Draft EIR Chapter	*Description*
"List of Preparers and Contributors"	
Chapter 12 "Acronyms and Abbreviations"	Provides the full names for acronyms and abbreviations used in this document.
Appendices	Present additional background information and technical detail for several of the resource areas.

1.6 Key Principles Guiding Preparation of this Draft EIR

1.6.1 Emphasis on Significant Environmental Effects

This draft EIR focuses on the significant environmental impacts of the proposed Project and alternatives and their relevance to the decision-making process.

Environmental impacts, as defined by CEQA, include physical effects on the environment. The CEQA Guidelines (Section 15360) define the *environment* as follows:

> The physical conditions which exist within the areas which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Environmental impacts required to be analyzed under CEQA do not include strictly economic impacts (e.g., changes in property values) or social impacts (e.g., a particular group of persons moving into an area). The CEQA Guidelines (Section 15131[a]) state, "economic or social effects of a project shall not be treated as significant effects on the environment." However, economic or social effects are relevant to physical effects in two situations. In the first, according to Section 15131(a) of the CEQA Guidelines, "an EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes to physical changes caused in turn by the economic or social changes." In other words, if the implementation of the proposed Project leads to an economic impact, which could then lead to a physical impact, the physical impact must be evaluated in the EIR. In the second instance, according to Section 15131(b) of the CEQA Guidelines, "economic or social effects of a project may be used to determine the significance of a physical change caused by a project." For example, the closure and demolition of a fully occupied commercial building could be considered more significant than the demolition of a similar vacant building, even though the physical effects are the same.

As with economic or social impacts, psychological impacts are outside the definition of the term "environmental." While not specifically discussed in the CEQA Guidelines, the exclusion of psychological impacts was specifically affirmed in a court decision (National Parks and Conservation Association v. County of Riverside 71 Cal. App. 4th 1341, 1364 [1999]).

In view of these legal precedents, LAHD is not required to treat economic, social, or psychological impacts as significant environmental impacts absent a related physical effect on the environment. Therefore, such impacts are only discussed to the extent necessary to determine the significance of the physical impacts of the proposed Project and alternatives. However, in an effort to fully disclose all of the reasonably foreseeable effects the proposed Project would have on the surrounding community, including those related to economic and social conditions that lie beyond the requirements of CEQA, this Draft EIR has included chapters on Socioeconomics and Environmental Justice.

1.6.2 Proposed Project Impact Analysis

The draft EIR will address elements of the proposed Project at both the program and project level. A program-level analysis is prepared when the lead agency has a proposed program or series of actions that can be characterized as one large project and specific construction information is unavailable. A program-level analysis generally analyzes broad environmental effects of the program with the understanding that additional site-specific environmental review may be required for particular aspects of the program at the time those aspects are proposed for implementation and construction. A project-level analysis generally has access to all the necessary construction information and is able to analyze the specific details of environmental effects of proposed elements. However, it is possible that a program-level analysis would identify and address all the potential environmental impacts and an additional environmental document would not be required if no additional impacts are identified once all the project-level details are known.

The following elements of the proposed Project will be analyzed programmatically:

- 150,000 square feet of light industrial development in Avalon Development District Area A because the proposed Project provides locations for industrial uses and those uses would be constructed per the underlying zone; however, there are not any specific development proposals at the time of this draft EIR (75,000 square feet in Phase I and the remaining in Phase II);
- Potential relocation of removed LADWP bulk storage capacity to the Olympic Tank Site, because, while the relocation would be conducted and analyzed at a later date by a different lead agency, in removing a currently operating industrial use it is logical to presume the use would be relocated and operated on a feasible site elsewhere even if it is not proposed at the time of this draft EIR (Phase I and Phase II); and

- Extension of the Waterfront Red Car Line, because the exact engineering details of the alignment and operation are not known at the time of preparing this draft EIR (Phase II).

All other proposed project elements (including the Multi-Modal CCT along Harry Bridges Boulevard) will be analyzed at a project level within this draft EIR. Table ES-4 and 2-4 identify the proposed project components and the respective level of analysis provided in the draft EIR (i.e., program or project level).

1.6.3 Forecasting vs. Speculation

In this draft EIR, LAHD and its consultants have made their best efforts to predict and evaluate the reasonable, foreseeable, direct, indirect, and cumulative environmental impacts of the proposed Project and the alternatives to the proposed Project. CEQA does not require LAHD to engage in speculation about impacts that are not reasonably foreseeable (CEQA Guidelines Sections 15144, 15145). In these instances, CEQA does not require a worst-case analysis.

1.6.4 Reliance on Environmental Thresholds and Substantial Evidence

The identification of impacts as significant or less than significant is one of the important functions of an EIR. While impacts determined to be less than significant need only be acknowledged as such, an EIR must identify mitigation measures for any impact identified as significant. In preparing this document, LAHD has based its conclusions about the significance of environmental impacts on identifiable thresholds and has supported these conclusions with substantial scientific evidence.

1.6.5 Disagreement among Experts

It is possible that evidence that might raise disagreements will be presented during the public review of the draft EIR. Such disagreements will be noted and will be considered by the decision-makers during the public hearing process. However, to be adequate under CEQA, the draft EIR need not resolve all such disagreements.

In accordance with the provisions of the CEQA Guidelines, conflict of evidence and expert opinions on an issue concerning the environmental impacts of the proposed Project—when LAHD knows of these controversies in advance—has been identified in this draft EIR. The draft EIR has summarized the conflicting opinions and has included sufficient information to allow the public and decision-makers to take intelligent account of the environmental consequences of their actions.

In rendering a decision on a project where there is a disagreement among experts, the decision-makers are not obligated to select the most conservative, environmentally

protective, or liberal viewpoint. They may give more weight to the views of one expert than to those of another and need not resolve a dispute among experts. In their proceedings, they must consider the comments received and address objections, but need not follow said comments or objections so long as they state the basis for their decision and that decision is supported by substantial evidence.

1.6.6 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a proposed project that exist at the time of the issuance of the NOP. For some resource areas, such as Aesthetics or Geology, the baseline conditions are defined by what was present at the time the NOP was circulated for review (March 2008). Assessment of other resource areas such as Air Quality, Biology, or Water Quality may also include information from prior years in order to provide a more reliable and representative characterization of baseline conditions by accounting for fluctuations at any one point in time. This approach is more conservative because avoids a "snap shot" of the existing conditions, which does not always account for temporary fluctuations. A description of the baseline conditions is included in Chapter 2, "Project Description," and, when special circumstances are present, details are provided in the respective sections of Chapter 3, "Environmental Analysis," prior to the impact analysis. These environmental conditions constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact would be significant.

The CEQA baseline represents the setting at a fixed point in time, with no project growth over time, and differs from the No Project Alternative in that the No Project Alternative addresses what is likely to happen at the site over time without discretionary approvals, starting from the existing conditions. The No Project Alternative allows for growth at the proposed project site that would occur without additional approvals.

1.6.7 Duty to Mitigate

According to CEQA Guidelines Section 15126.4(a), each significant impact identified in an EIR must also include a discussion of feasible mitigation measures that would avoid or substantially reduce the significant environmental effect. To reduce significant effects, mitigation measures must avoid, minimize, rectify, reduce, eliminate, or compensate for a given impact of a proposed project.

Mitigation measures must meet certain requirements in order to be considered adequate. Mitigation should be specific, define feasible actions that would actually improve adverse environmental conditions, and be measurable to allow monitoring of their implementation. Mitigation measures that only require further studies or consultation with regulatory agencies that are not tied to a specific action that would directly reduce impacts, or those that defer mitigation until some future time, should be avoided. Accordingly, effective mitigation measures clearly explain objectives,

how a given measure should be implemented, who is responsible for its implementation, and where and when the mitigation would occur. Finally, mitigation measures must be enforceable, meaning that the lead agency must ensure that the measures will be imposed through appropriate permit conditions, agreements, or other legally binding instruments.

CEQA Guidelines Section 15041 grants a public agency the authority to require feasible changes (mitigation) that would substantially lessen or avoid significant effect on the environment associated with all activities involved in a project. However, public agencies do not have unlimited authority to impose mitigation. An agency may exercise only those express or implied powers provided by law, aside from those provided by CEQA. However, where another law grants an agency discretionary power, CEQA authorizes its use (CEQA Guidelines Section 15040).

In addition to limitations imposed by CEQA, the U.S. Constitution also limits the authority of regulatory agencies. The Constitution limits an agency's authority to impose conditions to those situations where there is a clear and direct connection (*nexus* in legal terms) between a project impact and the mitigation measure. Finally, there must be a proportional balance between the impact caused by a proposed project and the mitigation measure imposed upon the project applicant (in this case, LAHD). A project applicant cannot be forced to pay more than its fair share of the mitigation, which should be roughly proportional to the impacts caused by a proposed project.

1.6.8 Requirements to Evaluate Alternatives

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a proposed project, or to the location of a proposed project that could feasibly attain most of the basic objectives of the proposed project but would avoid or substantially lessen any significant environmental impacts. According to CEQA Guidelines, the EIR should compare merits of the alternatives and determine an environmentally superior alternative. Chapter 5, "Project Alternatives," of this draft EIR sets forth potential alternatives to the proposed Project and evaluates their suitability, as required by CEQA Guidelines (Section 15126.6).

Alternatives for an EIR usually take the form of No Project, reduced project size, different project design, or suitable alternative project sites. The range of alternatives discussed in an EIR is governed by the "rule of reason" that requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. CEQA Guidelines Section 15126.6 explains that the evaluation of project alternative feasibility can consider "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." The EIR is also not required to evaluate an alternative that has an effect that cannot be

reasonably identified or that has remote or speculative implementation, and that would not achieve the basic proposed project objectives.

1.7 Port of Los Angeles Environmental Initiatives

1.7.1 Port of Los Angeles Environmental Management Policy

The Port of Los Angeles Environmental Management Policy as described in this section was adopted on April 11, 2005. The purposes of this policy are to provide an introspective, organized approach to environmental management, to further incorporate environmental considerations into day-to-day Port operations, and to achieve continual environmental improvement. The text of the policy reads as follows:

> The Port of Los Angeles is committed to managing resources and conducting Port developments and operations in both an environmentally and fiscally responsible manner. The Port will strive to improve the quality of life and minimize the impacts of its development and operations on the environment and surrounding communities through the continuous improvement of its environmental performance and the implementation of pollution prevention measures, in a feasible and cost effective manner that is consistent with the Port's overall mission and goals, as well as with those of its customers and the community.
>
> To ensure this policy is successfully implemented the Port will develop and maintain an environmental management program that will:
>
> 1. Ensure this environmental policy is communicated to Port staff, its customers, and the community;
> 2. Ensure compliance with all applicable environmental laws and regulations;
> 3. Ensure environmental considerations include feasible and cost effective options for exceeding applicable regulatory requirements;
> 4. Define and establish environmental objectives, targets, and best management practices and monitor performance;
> 5. Ensure the Port maintains a Customer Outreach Program to address common environmental issues; and
> 6. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations through environmental awareness and communication with employees, customers, regulatory agencies, and neighboring communities.

> The Port is committed to the spirit and intent of this policy and the laws, rules and regulations, which give it foundation. (Port of Los Angeles 2005.)

The Port of Los Angeles Environmental Management Policy is exemplified in existing environmental initiatives of the Port and its customers, such as the voluntary Vessel Speed Reduction Program (VSRP), Source Control Program, Least Tern Nesting Site Agreement, Hazardous Materials Management Policy, and the Clean Engines and Fuels Policy. In addition, the environmental management policy will encompass new initiatives, such as the development of an environmental management system (EMS) with LAHD's Construction and Maintenance Division and a Clean Marinas Program. These programs are Port-wide initiatives to reduce environmental pollution. Many of the programs relate to the proposed Project. The following discussion includes details on a number of the programs and their goals.

1.7.2 Environmental Plans and Programs

LAHD has implemented a variety of plans and programs to reduce the environmental effects associated with operations at the Port. These programs range from the San Pedro Bay Ports Clean Air Action Plan (CAAP), to deepening the harbor channels to accommodate larger and more efficient ships, to converting to electric and alternative-fuel vehicles. All of these efforts ultimately reduce environmental effects.

1.7.2.1 Clean Air Action Plan

LAHD has had a Clean Air Program in place since 2001 and began monitoring and measuring air quality in surrounding communities in 2004. Through the 2001 Air Emissions Inventory, LAHD has been able to identify emission sources and relative contributions in order to develop effective emissions reduction strategies. LAHD's Clean Air Program has included progressive programs such as alternative maritime power (AMP), use of emulsified fuel and diesel oxidation catalysts (DOCs) in yard equipment, alternative fuel testing, and the VSRP.

In 2004, LAHD developed a plan to reduce air emissions through a number of near-term measures. The measures were primarily focused on decreasing nitrogen oxide (NO_X), but also diesel particulate matter (PM) and sulfur oxides (SO_X). In August 2004, a policy shift occurred and Mayor James K. Hahn established the No Net Increase Task Force to develop a plan that would achieve the goal of No Net Increase (NNI) in air emissions at the Port relative to 2001 levels. The plan identified 68 measures to be applied over the next 25 years that would reduce PM and NO_X emissions to the baseline year of 2001. The 68 measures included near-term measures; local, state, and federal regulatory efforts; technological innovations; and longer-term measures still in development.

In 2006, in response to a new mayor and the Los Angeles Board of Harbor Commissioners, LAHD—along with the Port of Long Beach and in conjunction with

the SCAQMD, California Air Resources Board (CARB) and EPA—began work on the CAAP, a comprehensive strategy to cut air pollution and reduce health risks from port-related air emissions. The CAAP's goal was to expand upon existing emissions reductions strategies and to develop new ones. The draft CAAP was released as a draft plan for public review on June 28, 2006, and it was approved at a joint meeting of both the Los Angeles and Long Beach Boards of Harbor Commissioners on November 20, 2006.

Through the CAAP, the ports have established uniform air quality standards for the San Pedro Bay. To attain such standards, the ports will leverage a number of implementation mechanisms including, but not limited to, lease requirements, tariff changes, CEQA mitigation, and incentives. Specific strategies to significantly reduce the health risks posed by air pollution from port-related sources include:

- aggressive milestones with measurable goals for air quality improvements,
- specific standards for individual source categories,
- recommendations to eliminate emissions of ultra-fine particulates,
- a technology advancement program to reduce greenhouse gases, and
- a public participation process with environmental organizations and the business communities.

The CAAP focuses primarily on reducing diesel PM, along with NO_X and SO_X, with two main goals: 1) to reduce port-related air emissions in the interest of public health, and 2) to disconnect cargo growth from emissions increases. The CAAP is expected to eliminate more than 47% of diesel PM emissions, 45% of smog-forming NO_X emissions, and 52% of SO_X from port-related sources within the next 5 years.

The CAAP includes near-term measures implemented largely through the CEQA/NEPA process and through new leases at both ports. Port-wide measures at both ports are also part of the plan. This draft EIS/EIR analysis assumes compliance with the CAAP. Proposed project-specific mitigation measures applied to reduce air emissions and public health impacts are consistent with, and in some cases exceed, the emission reduction strategies of the CAAP.

1.7.2.2 Environmental Management System

In December 2003, LAHD was selected by the EPA, the American Association of Port Authorities, and the Global Environment and Technology Foundation to participate in the Port Environmental Management System Assistance Project. One of only 11 U.S. ports to be selected, the Port of Los Angeles is the first California seaport to incorporate the program into its operations.

An EMS is a set of processes and practices that enable an organization to reduce environmental impacts and increase operational efficiency. Participating ports are selected on the basis of existing environmental programs, diverse maritime facilities, and management resources. An EMS weaves environmental decision making into

the fabric of an organization's overall business practices, with a goal of systematically improving environmental performance. An EMS follows the "Plan-Do-Check-Act" model of continual improvement. LAHD has implemented the EMS within its Construction and Maintenance Division facilities, with the goal of expanding the EMS to additional functions over the course of the next several years.

1.7.2.3 Other Environmental Programs

1.7.2.3.1 Air Quality

- **Alternative Maritime Power.** AMP reduces emissions from container vessels docked at the Port and is proposed to be applied to cruise ships as mitigation for the proposed Project. Normally, ships shut off their propulsion engines when at berth but use auxiliary diesel generators to power electrical needs such as lights, pumps, and refrigerator units. These generators emit an array of pollutants, primarily NO_X, SO_X, and particulate matter smaller than or equal to 10 or 2.5 microns in diameter (PM10 or PM2.5). The AMP program dramatically reduces these emissions by allowing ships to "plug in" to shore-side electrical power while at dock instead of using their onboard generators. (This process is also referred to as cold ironing.) Before being used at the Port, AMP was only used commercially by the cruise ship industry in Juneau, Alaska. However, AMP facilities have been installed and are currently in use at the wharf at Berth 100. Additionally, AMP facilities are complete at the Yusen Terminals (the NYK ship Atlas is AMP-capable and has begun plug-in testing at Yusen) with plans for additional facilities at the Evergreen and TraPac Terminals, among others. AMP facilities are being designed for the existing World Cruise Center at Berths 91/21 and 93 and are proposed to be incorporated at Berths 45–50 in the Outer Harbor under the proposed Project.
- **OffPeak Program.** The OffPeak program extends cargo terminal operations by five night and weekend work shifts. It is managed by PierPASS, an organization created by marine terminal operators. This program has been successful in increasing cargo movement, reducing truck waiting time inside Port terminals, and reducing truck traffic during peak daytime commuting periods.
- **On-Dock Rail and the Alameda Corridor.** Use of rail for long-haul cargo is acknowledged as an air quality benefit. Four on-dock railyards at the Port significantly reduce the number of short-distance truck trips (the trips that would normally convey containers to and from offsite rail yards). Combined, these intermodal facilities eliminate an estimated 1.4 million truck trips per year and the emissions and traffic congestion that go along with them. A partner in the Alameda Corridor Project, LAHD is using the corridor to transport cargo to downtown railyards at 10 to 15 miles per hour faster than before. Use of the Alameda Corridor allows cargo to travel the 20 miles to downtown Los Angeles at a faster pace and promotes the use of rail versus truck. In addition, the Alameda Corridor eliminates 200 rail/street crossings and emissions produced by cars waiting on the streets as the trains pass.

- **Tugboat Retrofit Project.** The engines of several tugboats in the Port were replaced with ultra-low-emission diesel engines. This was the first time this technology had been applied to such a large engine. Emissions testing showed a reduction of more than 80 tons of NO_X per year, which is nearly three times better than initial estimates. Under the Carl Moyer Program, the majority of tugboats operating in the Ports of Los Angeles and Long Beach have since been retrofitted.
- **Electric and Alternative Fuel Vehicles.** More than 35% of the Port's fleet has been converted to electric or alternative-fuel vehicles. These include heavy-duty vehicles as well as passenger vehicles. LAHD has proactively embarked on the use of emulsified fuels that are verified by CARB to reduce diesel PM by more than 60% compared to diesel-powered equipment.
- **Electrified Terminal Operating Equipment.** The 57 ship-loading cranes currently in use at the Port run on electric power. In addition, numerous other terminal operations equipment has been fitted with electric motors.
- **Yard Equipment Retrofit Program.** Over the past 5 years, diesel oxidation catalysts have been applied to nearly all yard tractors at the Port. This program has been carried out with Port funds and funding from the Carl Moyer Program**.**
- **Vessel Speed Reduction Program.** Under this voluntary program, oceangoing vessels slow down to 12 knots within 20 miles of the entrance to Los Angeles Harbor, thus reducing emissions from main propulsion engines. Currently, approximately 80% of ships comply with the voluntary program.

1.7.2.3.2 Water Quality

- **Clean Marinas Program.** To help protect water and air quality in Los Angeles Harbor, LAHD is developing a Clean Marinas Program. The program advocates that marina operators and boaters use best management practices (BMPs)—environmentally friendly alternatives to some common boating activities that may cause pollution or contaminate the environment. It also includes several innovative clean water measures unique to the Port. The Clean Marinas Program features both voluntary components and measures required through Port leases; CEQA mitigation requirements; or established federal, state, and local regulations.
- **Water Quality Monitoring.** LAHD has been monitoring water quality at 31 established stations in San Pedro Bay since 1967, and the water quality today at the Port is among the best of any industrialized port in the world. Samples are tested on a monthly basis for dissolved oxygen, biological oxygen demand, and temperature. Other observations are noted, such as odor and color, as well as the presence of oil, grease, and floating solids. The overall results of this long-term monitoring initiative show the tremendous improvement in harbor water quality that has occurred over the last four decades.
- **Cabrillo Beach Water Quality Improvements.** The Port is one of the few industrial ports in the world that also has a swimming beach. Inner Cabrillo Beach provides still water for families with small children. However, bacteria in

shoreline waters frequently exceed water quality standards. LAHD has invested several million dollars in water circulation/quality models and studies to investigate and remediate the problem. Recently, LAHD repaired storm drains and sewer lines in this area and replaced the beach sand as part of its commitment to make sure that Cabrillo Beach continues to be an important regional recreational asset.

1.7.2.3.3 Endangered Species

- **California Least Tern Nesting Site Management.** The endangered California least tern (a species of bird) shares a home with the Port's largest container terminal on Pier 400. LAHD maintains, monitors, and protects 15 acres on Pier 400 for the nesting of these indigenous birds. Reproductive success is evident with the number of nesting pairs and fledglings increasing over the last decade. In recent years, the Port has had the second largest colony in the state, with more than 1,000 nests.

1.7.2.3.4 Port Planning

- **Green Terminal Program.** LAHD is developing a green terminal program that would be applied to the long-term development of Port container facilities. The program would embrace all aspects of terminal construction and operation and include guidance on a suite of environmental measures to minimize the effects of cargo handling on air, water, and land resources.
- **Channel Deepening.** By deepening the main and ancillary channels, the Port can accommodate larger ships. Larger ships would result in fewer ship visits to bring in the same amount of goods, and fewer ships would result in fewer emissions.
- **Green Ports Program.** LAHD and the Port of Shanghai have signed a historic agreement to share technology aimed at improving air quality, improving water quality, and mitigating environmental impacts on the operations of the Ports.
- **Recycling.** LAHD incorporates a variety of innovative environmental ideas into Port construction projects. For example, when building an on-dock rail facility, LAHD saved nearly $1 million and thousands of cubic yards of landfill space by recycling existing asphalt pavement instead of purchasing new pavement. LAHD also maintains an annual contract to crush and recycle broken concrete and asphalt. In addition, LAHD has successfully used recycled plastic products, such as fender piles and protective front-row piles, in many wharf construction projects.

1.7.3 Port of Los Angeles Leasing Policy

On February 1, 2006, the Los Angeles Board of Harbor Commissioners approved a comprehensive leasing policy for the Port that not only establishes a formalized,

transparent process for tenant selection but also includes environmental requirements as a provision in Port leases.

Specific emission-reducing provisions contained in the leasing policy are:

- compliance with VSRPs;
- use of clean AMP (or cold-ironing technology), plugging into shore-side electric power while at dock, where appropriate;
- use of low sulfur fuel in main and auxiliary engines while sailing within the SCAB boundaries;
- for all Cargo Handling Equipment purchases, adherence to one of the following performance standards:
  - cleanest available NO_X alternative-fueled engine, meeting 0.01 gram/brake horsepower-hour (g/bhp-hr) PM, available at time of purchase;
  - cleanest available NO_X diesel-fueled engine, meeting 0.01 g/bhp-hr PM, available at time of purchase; or
  - if no engines meet 0.01 g/bhp-hr PM, then cleanest available engine (either fuel type) and installation of cleanest Verified Diesel Emissions Controls (more commonly known as VDEC) available; and
- use of clean, low-emission trucks within terminal facilities.

1.7.4 Aesthetic Mitigation Projects

For years 2003 through 2007, LAHD deposited $4 million per year into a community aesthetic mitigation account to mitigate the aesthetic impacts of Port operations on the neighboring communities of San Pedro and Wilmington. All projects funded under this program must comply with all applicable laws, rules, and regulations; be Port-related projects on Port land; or be projects not on Port land that have a demonstrable nexus or connection to the environmental, aesthetic, and/or public health impacts of the Port's operations and facilities. Proposed projects to receive funding will fall within the following categories and will be prioritized as follows:

- open space and parks;
- landscaping and beautification; or
- educational, arts, and athletic facilities.

Proposed projects funded under this program are to be divided as evenly as possible between the San Pedro and Wilmington communities. Proposed projects will:

- mitigate existing or future impacts of Port operations on surrounding communities,
- be consistent with the State Tidelands Trust and the public trust doctrine,

- be consistent with the Los Angeles City Charter,
- be consistent with the California Coastal Act, and
- be consistent with any other applicable laws and regulations.

1.7.5 Port Community Advisory Committee

The Port Community Advisory Committee (PCAC) was established in 2001 as a standing committee of the Los Angeles Board of Harbor Commissioners. The purposes of the PCAC are to:

- assess the impacts of Port developments on the harbor area communities and recommend suitable mitigation measures to the Los Angeles Board of Harbor Commissioners for such impacts;
- review past, present, and future environmental documents in an open public process and make recommendations to the Los Angeles Board of Harbor Commissioners to ensure that impacts to the communities are appropriately mitigated in accordance with federal and California law; and
- provide a public forum and make recommendations to the Los Angeles Board of Harbor Commissioners to assist the Port in taking a leadership role in creating balanced communities in Wilmington, Harbor City, and San Pedro so that the quality of life is maintained and enhanced by the presence of the Port.

The role of the PCAC in LAHD environmental documents is described in Appendix B.

1.8 Availability of the Draft EIR

This draft EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 57-day review period, although only 45 days are required to comply with Section 15087 of the CEQA Guidelines. During the public review period, which begins on December 4 and ends on January 30, 2009, the draft EIR is available for general public review at the following locations:

Los Angeles Harbor Department
Environmental Management Division
425 S. Palos Verdes Street
San Pedro, CA 90731

Los Angeles Public Library
Central Branch
630 West 5th Street
Los Angeles, CA 90071

Los Angeles Public Library
Wilmington Branch
1300 North Avalon Boulevard
Wilmington, CA 90744

Los Angeles Public Library
San Pedro Branch
921 South Gaffey Street
San Pedro, CA 90731

In addition to printed copies of the draft EIR, electronic versions are also available. Due to the size of the document, the electronic versions have been prepared as a series of PDF files to facilitate downloading and printing. Members of the public can request a CD containing the EIR. The draft EIR is also available in its entirety on the Port web site at: *www.portoflosangeles.org/environmental/publicnotice.htm*

The executive summary has been translated into Spanish and is available to the public. To request the executive summary in Spanish, or a copy of the CD mentioned above, please call the LAHD Environmental Management Division at (310) 732-3675.

Interested parties may provide written comments on the draft EIR, which must be postmarked by January 30, 2009. Please address comments to:

Dr. Ralph Appy
Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
P.O. Box 151
San Pedro, CA 90733-0151

2.0

PROJECT DESCRIPTION

2.1 Introduction

The proposed Project is located within the Port of Los Angeles (Port) and the Wilmington Community of the City of Los Angeles. As Lead Agency, the Los Angeles Harbor Department (LAHD) is charged with preparing this draft EIR to assess the potential significant physical effects of the proposed Project if implemented; propose measures to reduce any identified significant physical effects to less-than-significant levels; evaluate alternatives to the proposed Project that would meet most of the proposed project objectives, but would reduce or eliminate one or more potentially significant environmental impacts; and make findings of fact for those impacts that cannot be reduced to a level below significant.

Section 2.11 lists the required permits and discretionary approvals required to implement the proposed Project as well as the related environmental review and consultation pursuant to federal, state, and local laws, regulations, and policies. Table 2-6 lists the responsible and trustee federal, state, and local agencies that may rely on this draft EIR in a review capacity or as a basis for issuance of a permit for the proposed Project or for related actions. Table 2-7 lists the applicable statutes, plans, policies, and other regulatory requirements.

2.2 Proposed Project Overview

The proposed Project involves development of a variety of land uses within the three distinct areas of the proposed project site: (1) the Avalon Development District (Areas A and B), (2) the Avalon Waterfront District, and (3) the Waterfront Red Car Line Extension and multi-modal CCT linkage area. See Section 2.6 for greater detail regarding proposed project elements.

2.2.1 Avalon Development District (Areas A and B)

The Avalon Development District is an industrial area located in south Wilmington. The Avalon Boulevard commercial corridor, which bisects the Avalon Development District, is the primary commercial corridor in Wilmington, with the "center of town" located around the intersection of Avalon Boulevard and Anaheim Street about ½ mile from Harry Bridges Boulevard. Avalon Boulevard currently terminates in the proposed project area at the water's edge. The Avalon Development District includes approximately 31.5 acres and has been divided into two areas, A and B, defined by the proposed boundary change of the Port and Wilmington Harbor-City Community Plan areas. The elements or actions associated with the Avalon Development District primarily include:

Area A (within the Wilmington Harbor-City Community Plan area)

- **Light Industrial Development** —conduct a programmatic assessment of infrastructure improvements (including stormwater improvements, dry utility lines, potable waterlines, and wastewater lines) to support up to 150,000 square feet of light industrial development, consistent with current zoning, generally located between Broad Avenue (east) and Lagoon Avenue (west), C Street (north) and Harry Bridges Boulevard (south).
- **Park Development**—a 1-acre passive park located on the vacant Railroad Green located between Island Avenue and Fries Avenue.
- **Waterfront Red Car Museum**—adaptive reuse of the historic 14,500-square-foot Bekins Storage property located at 245 Fries Avenue/312–326 West C Street for a Waterfront Red Car Museum.
- **Pedestrian Enhancements**—sidewalk and pedestrian-oriented enhancements along Lagoon, Island, Fries, Marine Avenues, Harry Bridges and Avalon Boulevards, and along C street..

Area B (within the proposed Port Plan and Port Master Plan areas)

- **Commercial Development**—development of up to 58,000 square feet of maritime visitor-serving commercial uses, such as an open air Mercado, south of Harry Bridges Boulevard, east of Marine Avenue, west of Avalon Boulevard, and north of A Street.
- **Street Realignments and Enhancements**—realign and improve Avalon Boulevard and Broad Avenue (also part of the Avalon Waterfront District).

2.2.2 Avalon Waterfront District

The Avalon Waterfront District is composed of the following elements:

- **Waterfront Promenade**—adding pedestrian-oriented features and improvements such as a waterfront promenade with viewing piers and 12,000 square feet of restaurant/visitor-serving retail development, a 200-foot

Observation Tower with a pedestrian ramp, removing the Los Angeles Department of Water and Power (LADWP) Marine Tank site and associated pipe conveyance infrastructure, and remediating the site; this area is generally defined by the current Water Street alignment and the National Polytechnic University (College of Oceaneering) to the north, Fries Avenue to the west, and the current Avalon Boulevard alignment to the east. The Port harbor and views of the water at Slip 5 are along its southern border.

- **Land Bridge and Elevated Park**—a 10-acre Land Bridge with an elevated park and a pedestrian "water" bridge enhanced by an integrated water feature that would provide the surrounding community with open space and improved pedestrian access to the waterfront; this area is generally bounded by A Street to the north, Avalon Boulevard to the east, the Harbor Generating Station and its associated peaker unit to the west, with the Harbor Rail Line and Slip No. 5 to the south.
- **Avalon Triangle Park**—located south of Harry Bridges Boulevard, between Broad Avenue and Avalon Boulevard. Avalon Triangle Park is not part of the proposed Project, but it would be included within the area that would be encompassed by the proposed Port Plan and PMP boundary expansion.
- **Avalon Boulevard, Broad Avenue, and Water Street Realignment**—downgrade and vacate Avalon Boulevard south of A Street, realign Broad Avenue to the waterfront, and realign Water Street to run adjacent to the Pacific Harbor Rail Line, which is proposed to travel under the proposed Land Bridge to improve pedestrian circulation and provide space for the waterfront promenade.

2.2.3 Waterfront Red Car Line/Multi-Modal California Coastal Trail Extension

The proposed Project includes a program-level plan to extend the Waterfront Red Car Line from Swinford Street in the west to Avalon Boulevard in the east, connecting the communities of San Pedro and Wilmington. The proposed Project would also extend the Multi-Modal California Coastal Trail (CCT) in the San Pedro Community from Swinford Street in the west to the Wilmington Community at Avalon Boulevard in the east.

2.2.4 Project Sustainability and Design Features

The Wilmington Waterfront Project is intended to showcase the LAHD's commitment to sustainability. The proposed Project would incorporate a number of sustainable elements focusing on the effort of LAHD to create a green Port. These are analyzed as part of the proposed Project within this draft EIR. Additionally, the proposed Project would incorporate several features to enhance the final design of the proposed Project. While not required to mitigate a significant impact, these design measures also serve to further minimize the proposed Project's effect on surrounding

uses and environmental resources. The following proposed Project elements and design measures are consistent with the LAHD's Sustainability Program and policies:

- Use recycled water from the existing 24-inch recycled water main under Harry Bridges Boulevard for all landscaping and water feature purposes to decrease the proposed Project's use of potable water.
- Include drought-tolerant plants and shade trees in the planting palette.
- Increase permeable surfaces and improve stormwater runoff quality by installing bioswales and permeable pavement at the surface parking locations to reduce stormwater runoff and provide natural filtration of pollutants.
- Install approximately 20,000 square feet of solar panels on the shade pavilions on the Land Bridge and waterfront piers with a goal of achieving up to 12.5% of the proposed Project's energy needs.
- Provide incentives for green incubator technologies and businesses to locate within the 150,000 square feet of proposed light and limited industrial within the Avalon Development District.
- Require LEED™ certification for all new buildings as feasible by implementing and ensuring consistency with the LAHD's Green Building Policy, Leadership in Energy and Environmental Design (LEED) Certification (minimum Silver) is required for all new development over 7,500 square feet.
- Follow LAHD sustainable engineering design guidelines in the siting and design of new development.
- Employ LAHD sustainability measures during construction and operation and use recycled and locally derived materials for proposed project construction, while achieving recycling goals for construction and demolition debris.
- Implement energy efficient design features to help ensure energy needs are minimized to the extent feasible during construction and operation of the proposed Project (as specified in Chapter 3.2, "Air Quality," and Chapter 3.12, "Utilities");
- Implement water quality and conservation design features to help ensure water quality impacts are minimized during construction at the water's edge and in the water and operationally through the use of construction BMPs and bioswales (as specified in Chapter 3.14, "Water Quality, Sediments, and Oceanography"). Additionally, the proposed project's use of potable water would be reduced through the use of reclaimed water for irrigation and water features (as specified in Chapter 3.12 "Utilities").
- Implement noise design features**.** Site commercial uses at the waterfront (i.e. 12,000 square feet of restaurant/visitor-serving retail) more than 100 feet from the heavily used San Pedro Branch Line and TraPac ICTF lead (as specified in Chapter 3.9, "Noise").
- Implement aesthetic design features. Public art, consistent with the Wilmington Waterfront Development Program Public Art Master Plan, would be integrated into the proposed project area and would include up to two major sculptural pieces. Views of the waterfront and Wilmington community would be created

through the construction of the elevated park, pedestrian bridge, and observation tower. The proposed Project would also implement the Wilmington Waterfront Development Program Lighting Design Guidelines to improve efficiency and reduce glare (as specified in Chapter 3.1, "Aesthetics").

- Implement pedestrian access and public docking design features**.** Pedestrian access to the waterfront and throughout the proposed project site would be improved through the extension of the California Coastal Trail and Waterfront Red Car Line, pedestrian water bridge, elevated park/Land Bridge, and waterfront promenade. Additionally, the proposed Project would create more public docking opportunities and improve waterside access to the Wilmington Waterfront. A water taxi service stop could also be accommodated.

2.2.5 Proposed Planning/Land Use Changes

The proposed Project would also include amendments to the City of Los Angeles General Plan, the Port of Los Angeles Plan (Port Plan), the Wilmington-Harbor City Community Plan (CP), and the Port Master Plan (PMP) as listed below:

- Extend the Port Plan jurisdictional boundary from Water Street north to Harry Bridges Boulevard and from Broad Avenue in the east to Marine Avenue in the west, to include the single block of the Avalon Development District south of Harry Bridges Boulevard, the Avalon Triangle Park development site, and the Avalon Waterfront District, resulting in a corresponding retraction of the Wilmington-Harbor City CP jurisdictional boundary.
- Extend the PMP jurisdictional boundary to match the Port Plan adjustment, which would include the single block of the Avalon Development District south of Harry Bridges Boulevard, the Avalon Triangle Park development site, and the Avalon Waterfront District to be consistent with the Port Plan jurisdictional boundary change.
- Amend the City of Los Angeles General Plan to downgrade existing Avalon Boulevard. This would include the downgrade of Avalon Boulevard from collector street to a local street from Harry Bridges Boulevard south to its terminus at Water Street.
- Amend Port Plan existing land use designation of General/Bulk Cargo & Commercial/Industrial Uses Non-hazardous in PA 5 to add Recreation (this would include the waterfront area and the area where Triangle Park would be located);
- Amend Port Master Plan's existing land use designations for PA 5 (General Cargo, Liquid Bulk, Dry Bulk, Commercial Fishing, Industrial, Institutional, Other) to add Recreation and Commercial (non-fishing related) land uses; and
- Amend the Los Angeles Municipal Zoning Code (including previous and expanded boundary) to add Recreation, consistent with the Tidelands Trust to accommodate proposed project components (e.g., waterfront promenade, Land Bridge, Observation Tower). The Triangle Park area would be rezoned to Open Space.

2.3 Existing Environmental Setting

2.3.1 Regional Setting

The Port is located at the southernmost portion of the City of Los Angeles (City) and comprises 43 miles of waterfront and 7,500 acres of land and water, with approximately 300 commercial berths. The Port is bound by the community of San Pedro to the west, the Wilmington community to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. Figure 2-1 shows the regional location of the proposed project area.

The Port is an area of mixed uses, supporting various maritime-themed activities. Port operations are predominantly centered on shipping activities, including containerized, break-bulk, dry-bulk, liquid-bulk, auto, and intermodal rail shipping. In addition to the large shipping industry at the Port, there is also a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards, and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sportfishing and harbor cruises. The Port has retail shops and restaurants, primarily along the west side of the Main Channel. It also has recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, and the Los Angeles Maritime Museum.

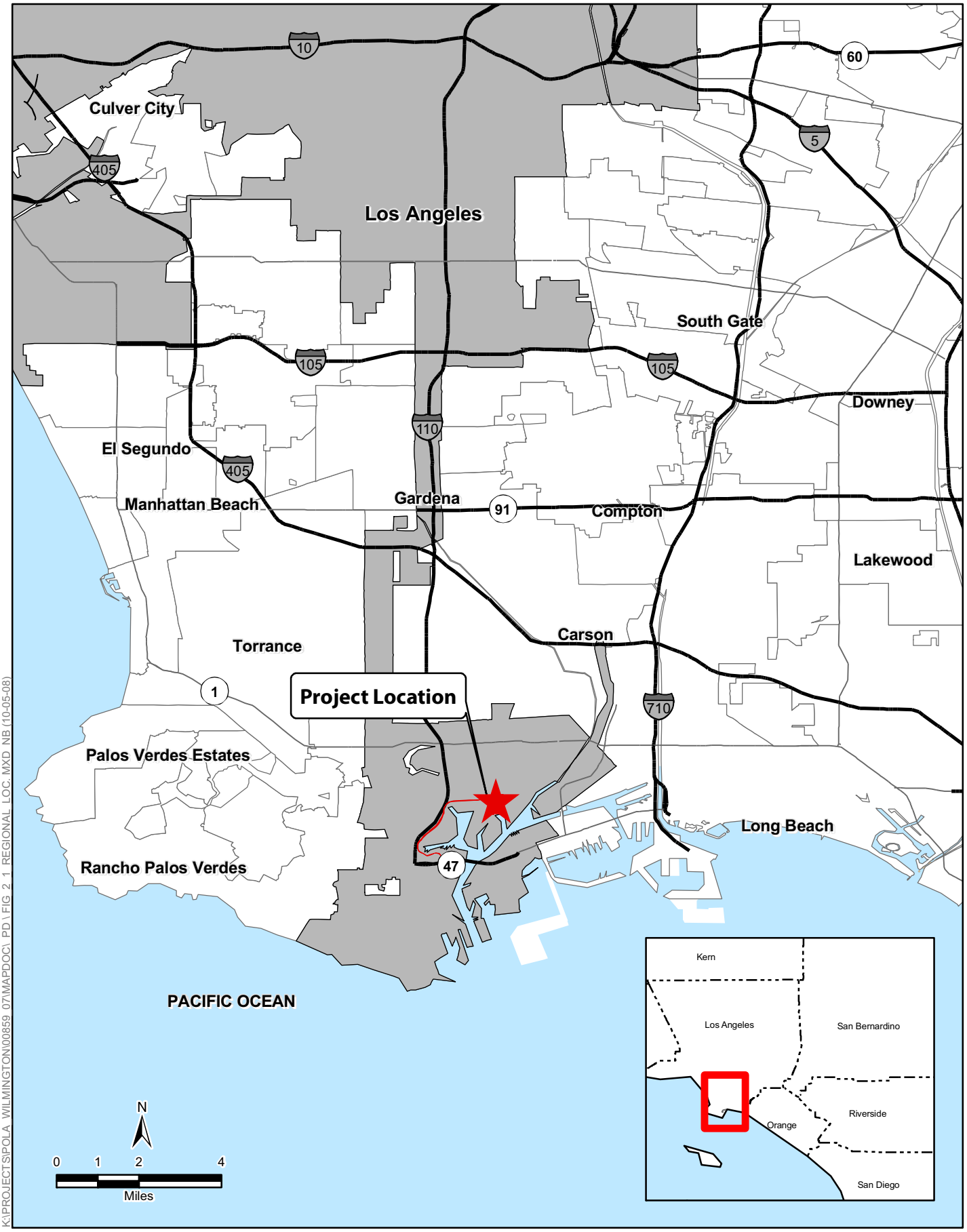
2.3.2 Proposed Project Setting

The proposed project site is generally bounded by Lagoon Avenue to the west, Broad Avenue to the east, C Street to the north, and Slip 5 to the south, where over-water viewing piers and floating docks would be proposed. The site includes the Waterfront Red Car Line and the multi-modal CCT linkages beginning in the west at Swinford Street, moving along Front Street to John S. Gibson Boulevard, and then along Harry Bridges Boulevard until it terminates at Avalon Boulevard in the east (Figure 2-2).

2.3.3 Existing Site Conditions

The intersection of Avalon and Harry Bridges Boulevards serves as the gateway to the center of Wilmington's business district (heading north on Avalon Boulevard) and the gateway to the community's waterfront (heading south on Avalon Boulevard). The corridor in this vicinity contains modest one- and two-story commercial and industrial buildings, with many vacant and/or underutilized lots. The Avalon Triangle Park development is proposed on the southeastern corner of the site.

The Avalon Development District is composed of industrial commercial buildings and vacant lots along the north side of Harry Bridges Boulevard, between Lagoon



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SOURCE: ESRI Streetmap USA (2007)

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Figure 2-1
Regional Location
Wilmington Waterfront Development Project

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SOURCE: ESRI USA Imagery (2006)

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Figure 2-2
Proposed Project Boundary and Surrounding Area
Wilmington Waterfront Development Project

and Broad Avenues south of C Street, as well as a single block located south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue. Existing industrial structures on privately owned, LAHD-leased, and LAHD-owned lots are scattered throughout this district. The historic 14,500-square-foot Bekins building is located at 245 North Fries Avenue/312–326 West C Street. Existing businesses located on private parcels from west to east include Wilmington Iron Works at 432 West C Street; Tenzera, Inc., at 227 North Island Avenue; Harpur's Marine Engines at 502 West C Street; Marine Wholesale & WHSE, CO, at 220 North Fries Avenue, Avalon Rafts at 218 and 221–227 North Avalon Boulevard; LA Bunker Surveyors, Inc, at 214 N. Marine Avenue; Monterey Inn (residential) at 233 North Avalon Boulevard; and Smokey's Cycle Parts at 236 North Avalon Boulevard. Other buildings present in the Avalon Development District, but whose functions are unknown include 414 West C Street, 246 North Fries Avenue, and 229 North Broad Avenue. None of the above privately owned parcels are targeted for modification by the proposed Project with the exception of the historic Bekins buildings, which are planned for rehabilitation in accordance with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings. Figure 2-3 illustrates LAHD-owned and privately owned property.

The Avalon Waterfront District area would include the waterfront promenade area and a Land Bridge with an elevated park. Existing buildings in the waterfront promenade area include the 10,000-square-foot Banning's Landing Community Center built in 1996, the potentially locally significant National Polytechnic University (College of Oceaneering) building (which would remain), the 30,860-square-foot Catalina Freight building (which would be demolished), and the 2,370-square-foot National Polytechnic College of Science Hyperbaric Chamber building and 1,800-square-foot welding pier immediately south of Water Street (both of which would be demolished).

The major land use in the area of the proposed Land Bridge and elevated park is the existing LADWP Marine Tank Farm site, on Lot 35, a 348,865-square-foot parcel north of Pacific Harbor Rail Line and south of A Street (Figure 2-3 illustrates LAHD-owned, LAHD-leased, and privately owned property). Structures on this parcel include two operational 58,965-square-foot liquid bulk storage tanks, which hold up to 450,000 barrels (bbl), one of which contains raw gas oil and the other hydro-treated gas oil; a smaller operational 30,000 bbl containing hydro-treated gas oil; and six other ancillary structures, which total 18,500 square feet. The Marine Tank Farm's liquid bulk storage tanks and ancillary structures are leased and operated by the Valero Corporation. In addition to this large parcel, LADWP owns Lot 36, a vacant 99,775-square-foot parcel south of the rail line, and Lot 34, a vacant 41,389-square-foot site immediately north of A Street. All LADWP-owned land mentioned above would be dedicated to park use, and existing buildings and structures would be demolished.

The Avalon Triangle Park project site is located on a large, paved vacant lot on the southeast corner of Harry Bridges and Avalon Boulevards. The Avalon Triangle Park development project has been planned and processed separately from the proposed Project, but has been designed to complement the planning and design of the proposed Project.

The Avalon Triangle Park site is part of the proposed Project because this site would be within the proposed extension of the Port Plan jurisdictional boundary and would be removed from the Wilmington-Harbor City CP jurisdictional boundary.

The proposed Project includes a programmatic assessment of the relocation of the LADWP Marine Tank Farm to the offsite, Olympic Tank Farm, which currently contains nine existing liquid bulk storage tanks. The land is void of natural vegetation. The two areas large enough to accommodate the Marine Tank Farm storage tanks have previously supported storage tanks. The site is located approximately 1.5 miles northeast of the proposed project site, at the southeastern corner of Alameda and Robidoux Streets.

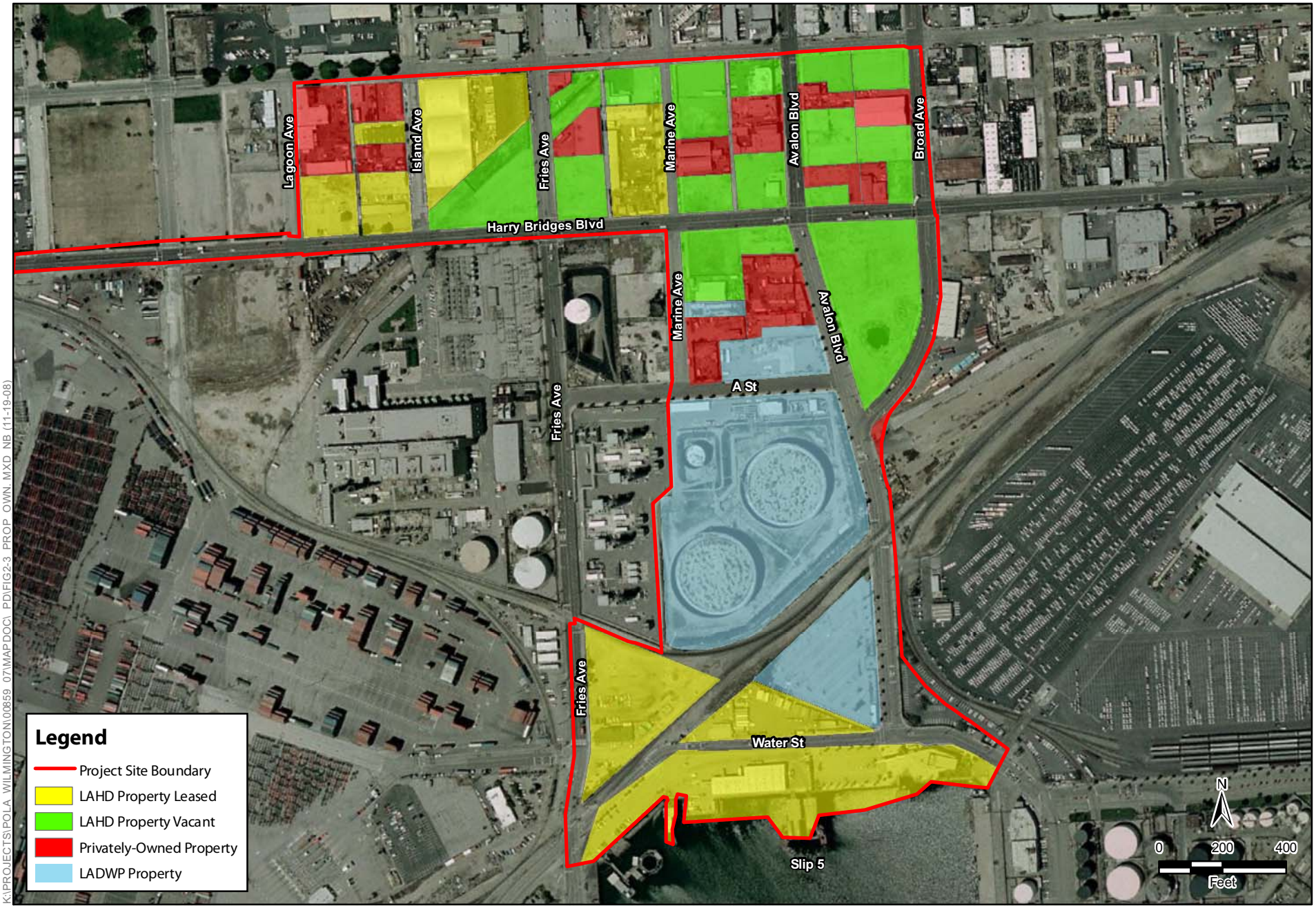
2.3.4 Surrounding Uses

While the proposed project site lies partially within the Wilmington-Harbor City Community Plan, the majority of the Wilmington community lies north of the propose project. Wilmington is approximately 11.40 square miles and is composed of varied land uses. However, the community land uses that surround the proposed project site are almost exclusively light industrial with a small pocket of heavy commercial. The nearest residential area is within 5 miles of the proposed project site.

The Wilmington Industrial Park is located northeast of the proposed project site and is bounded (approximately) by Anaheim Street on the north, Harry Bridges Boulevard on the south, Alameda Street on the east, and Broad Avenue on the west. The industrial park is designated and zoned for light industry, and is developed with a number of industrial uses, as well as some container and truck storage facilities. Some large areas of land remain vacant and available for development. Directly east of the proposed project site is the 85-acre Wallenius Wilhelmsen Lines (WWL) Auto Terminal site. WWL deals mainly in vehicle processing and logistics services, and can store up to 8,000 vehicles on site. An extensive rail yard for loading and unloading auto racks is located on site. WWL customers at this site include Nissan and Infiniti. WWL Auto has been a tenant at the Port since 1969 (LAHD 2008).

The 34.7-acre Vopak site is situated south of WWL Auto Terminal and the proposed Project. The Vopak site stores liquid bulk chemical products in approximately 60 storage tanks with a total holding capacity of 700,000 bbls. Onsite storage includes organic and inorganic chemicals, petroleum, animal fats and vegetable oils, and dry bulk goods. The Vopak site also supports a bulk cement distribution facility with an 86,000-square-foot warehouse.

Immediately west of the proposed project site is the LADWP Harbor Generating Station (HGS). The HGS is located to the west of Fries Avenue at the intersection of Fries Avenue and A Street. In addition, there are five combustion turbines (also known as Peaker Units) associated with the Harbor Generating Station that are located to the east of Fries Avenue. The HGS is owned and operated by LADWP and is located on an 18.3 acre site outside the existing jurisdiction of the Port Plan and the PMP. It was originally constructed in the late 1940s, with the Peaker Units



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SOURCE: ESRI USA Imagery (2006), Port of Los Angeles (2008)

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Figure 2-3
Property Ownership
Wilmington Waterfront Development Project

added in 2001, to provide local in-basin generation, voltage and VAR (Volts Ampere Reactive) support, transmission support, southern system security, and emergency support for the LADWP electrical system. The basic power generation activities and corresponding facility areas are power generation units, electrical switching and receiving, and fuel storage tanks. However, the HGS does have diesel fixed generators to provide emergency power. More detail on the HGS is provided in Chapter 3.7.

Farther west of the proposed project site is the 173-acre Trans Pacific (TraPac) Container site, which has 11 post-Panamax cranes with 100-foot-gauge and 40-long-ton main hoist capacity. The terminal features a 28,000-square-foot maintenance shop, 546 reefer plugs (wheels), 48 grounded plugs, 3 portable generators that maintain an additional 96 plugs, a wash system for the exterior of containers, a wash system for the interior of containers, 10 transtainers, 12 side-handlers, and 4 toplifts. Shipping lines served by TraPac include Mitsui O.S.K., China Shipping, Norasia, Compañia Sudamericana de Vapores, Zim, Wan Hai, APL, Hyundai Merchant Marine Co., and CMA-CGM.

The Los Angeles Board of Harbor Commissioners recently approved the TraPac Container Terminal expansion, located between Berths 136 and 147. The expansion will allow TraPac to expand cargo handling in an efficient manner from 900,000 twenty-foot equivalent units (TEUs) (baseline year 2003) to 2.4 million TEUs by 2025. It is expected that particulate matter of less than 2.5 microns ($PM_{2.5}$) will be reduced by 75% and nitrogen oxides (NO_X) will drop by 55% below baseline levels as a result of mitigation measures applied during proposed project operations. By 2015, total proposed project emissions of volatile organic compounds (VOCs), NO_X, sulphur oxides (SO_X), and particulate matter (PM_{10} and $PM_{2.5}$) will be reduced approximately 50%. The health risks associated with the modernized terminal operations will be well below regulatory standards of significance and will reduce the estimated cancer risk associated with terminal operations to below baseline levels in large parts of Wilmington.

Much of the proposed Project planning is based upon the larger Wilmington Waterfront Master Plan/Development Program (Program), which is described in detail in Section ES.7.1, of the Executive Summary, "Project Planning History and Community Involvement." In addition to the Avalon Development District and the Avalon Waterfront District, the Program encompasses the Harry Bridges Buffer Area project located west of Lagoon Avenue. This area, which lies to the northwest of the proposed project site, is intended to provide an open space buffer and visual screening between the Wilmington community and Port industrial operations. Like the Avalon Triangle Park development project, the construction of the Harry Bridges Buffer Area project is proceeding independently and separate from the proposed Project.

2.4 Proposed Project Purpose

The Port of Los Angeles is specifically recognized in the California Coastal Act of 1976 (PRC §§ 30000 et seq.) as a primary economic and coastal resource, essential to the national maritime industry (PRC § 30701(a)). The State of California granted the tidelands comprising the Port in trust to the City of Los Angeles in 1929 by statute commonly referred to as the "Los Angeles Tidelands Trust Grant" (Chapter 651, Statutes of 1929, as amended). As trustee of the Port, the LAHD operates it in accordance with the Los Angeles City Charter, the Los Angeles Tidelands Trust Grant, the Public Trust Doctrine and the California Coastal Act. These legal mandates require that LAHD use the Port for the purposes of promoting and accommodating waterborne commerce, navigation, fishery and related purposes.

The overall purposes of the proposed Project are to increase public access to the waterfront; improve pedestrian connectivity from Wilmington to the waterfront; allow additional visitor-serving commercial and recreational development at the Waterfront District; improve the local economy and economic sustainability of the community by improving the industrial corridor along Harry Bridges and Avalon Boulevards; and finally to enhance automobile, truck, and rail transportation within and around the immediate area of the Port. The proposed Project seeks to achieve these goals by improving existing infrastructure and providing new infrastructure facilities, providing waterfront linkages and pedestrian enhancements, developing neighborhood and regional recreational open space, and providing increased development and redevelopment opportunities in the Avalon Development District and Avalon Waterfront District.

2.4.1 Proposed Project Objectives

CEQA Guidelines (Section 15124(b)) require that the project description contain a statement of objectives, including the underlying purpose of the proposed Project. The proposed Project is intended to fulfill the overall project purpose of the LAHD. The proposed project objectives were developed based on the community planning process that was briefly described above and that is more thoroughly discussed below. These objectives are to:

- create a project that will serve as a regional draw and attract visitors to the Wilmington Waterfront;
- design and construct a waterfront park, promenade, and dock to enhance the connection of the Wilmington community with the waterfront while integrating design elements related to the Port's and Wilmington's past, present, and future;
- construct an independent project that integrates design elements consistent with other area community development plans to create a unified Los Angeles waterfront through the integration of publicly oriented improvements;
- enhance the livability and economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region by promoting sustainable

economic development and technologies within the existing commercial Avalon Development District; and

- integrate environmental measures into design, construction, and operation to create an environmentally responsible project.

2.5 Proposed Project Background

The proposed Project implements a portion of the Wilmington Waterfront Master Plan and Development Program document, and involves a variety of land uses within the proposed project area, including public waterfront and open space areas, commercial and industrial development, transportation and parking facilities, and removal of the LADWP Marine Tank Farm oil tanks and associated structures.

2.5.1 Proposed Project Planning History and Community Involvement

The design and function of the Avalon Development District and Avalon Waterfront District (approximately 60 acres combined) were the vision of the 95-acre Program, which is the result of a planning process involving close collaboration between LAHD staff; a consultant team of planners, designers, engineers, economists, public outreach consultants, and other specialists; as well as the Wilmington Waterfront Development Subcommittee of the PCAC, a planning group recognized by the Harbor Board of Commissioners and composed of community representatives and the general public.

The following steps were taken in developing the Program:

1. Starting with and building upon the Wilmington Waterfront Development Final Plan, a conceptual vision plan for the area was prepared in 2004 (SMWM), with the participation of the Wilmington Waterfront Development Subcommittee and approval of the Harbor Board of Commissioners.
2. A visionary master plan was crafted based upon a good understanding of baseline conditions in the proposed project area, including the physical, regulatory, environmental, land use, transportation, historical, cultural, market characteristics, and existing plans and projects.
3. Improvements, including public art and street furnishings, were considered in nearby San Pedro to bring consistency in quality and character to Port-wide public improvements.
4. Master Plan alternatives were developed and evaluated for the Wilmington area based on site characteristics and established goals and objectives identified early in the planning process.

5. Four community workshops were conducted in 2006 at critical milestones to garner community input, review, and comment; more than 1,000 people attended the final meeting on December 2, 2006.

In addition, the following guiding principles were identified for the proposed Project through a series of community workshops and meetings:

- Enhance the livability of the Wilmington community
- Enhance the economic viability of the Wilmington community by promoting sustainable economic development and technologies
- Establish a world-class design with a regional draw for the Wilmington waterfront area by enhancing Wilmington's image while maintaining its identity and attracting visitors to the waterfront
- Create an environmentally responsible project
- Celebrate the Port and Wilmington's significance—past, present, and future
- Create a unified Los Angeles waterfront through the integration of publicly oriented improvements, from Leeward Bay Marina to the breakwater
- Promote a sense of ownership in the proposed Project and its results by engaging the whole of the community throughout the planning and design process and by creating opportunities for residents and school children to contribute to the design through program specifications, public art programs, and other elements

The Wilmington Waterfront Master Plan and Development Program is the guiding planning document for several separate components that would be designed in harmony with one another in order to promote connectivity, continuity, and improved functionality. Elements covered in the Program include the proposed Project, which is made up of the Avalon Development District (referred to as the Industrial District/Avalon Corridor in the development program), most of the Avalon Waterfront District (Avalon Triangle Park is a separate development project), and the Harry Bridges Buffer Area, which is part of the TraPac container terminal expansion project. While the proposed Project is intended to connect the Wilmington community with the waterfront as well as enhance industrial and commercial land uses and economic viability, the purpose of the Harry Bridges Buffer Area is to separate the residential land uses within the Wilmington community from the industrial land uses of the Port. The recent approval of the Harry Bridges Buffer Area and its future implementation, development of Avalon Triangle Park, and the proposed Project would all proceed separately, and any one project would be implemented and would sustain itself without the implementation of the others.

2.6 Proposed Project Elements

The proposed Project is composed of several actions or elements spread over approximately 94 acres. Development under the proposed Project would occur in the following three areas:

- Avalon Development District (Areas A and B);
- Avalon Waterfront District; and
- Waterfront Red Car Line/Multi-Modal California Coastal Trail

In each of these three areas sustainable design elements and features are proposed to help reduce energy and water requirements and to contribute to an improved project design (as discussed above under Section 2.2). Jurisdictional boundary adjustments are required for the Port Element of the City's General Plan, Wilmington Harbor-City Community Plan, Port Master Plan. The re-designation of land uses and rezoning within the proposed project area would also occur under the proposed Project within the three areas identified above.

The proposed Project would be constructed and implemented in two phases. The first—Phase I: Interim Plan—would occur between 2009 and 2015; the second—Phase II: Full Buildout Plan—would occur between 2015 and 2020. Section 2.8, "Phasing and Demolition and Construction Plan," provides additional details regarding the proposed project phasing.

The proposed project actions or elements within the three major areas of development are described in greater detail below. Figure 2-4 shows an overview of the elements included in the proposed Project. Table 2-1 provides a summary of the three major areas of development by each action or element, the existing uses, and the phase in which each action or element would occur. Figure 2-5 illustrates the completed proposed Project using a simulated view.

Table 2-1. Elements of the Proposed Project

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
AVALON DEVELOPMENT DISTRICT			
Light Industrial Development	Police trailer at southeast corner of C Street and Marine Avenue, vacant industrial lots owned by Port north of Harry Bridges Boulevard, Trade School located at corner of Lagoon and C Street; scattered private buildings	Construction and operation of a maximum of 75,000 sf of light industrial development (oriented toward green technology businesses) around Avalon Boulevard, in the industrial area between Lagoon and Broad Avenues, north of Harry Bridges Boulevard and south of C Street; trade school and private buildings to remain unchanged	Potentially construct and operate an additional 75,000 sf of light industrial development (oriented toward green technology businesses).
Commercial Development	Dockside Ship & Machine Repair structures totaling approximately 10,000 sf and an underutilized 5,500 sf	Construction and operation of 58,000 sf of retail/commercial development south of	N/A

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
	structure south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue and vacant industrial lots	Harry Bridges Boulevard along Avalon Boulevard	
Waterfront Red Car Museum	Bekins Storage Property at 245 Fries Avenue/312–326 West C Street; the Bekins Storage Property is a collection of potentially historic buildings and warehouse structures built in 1916, including a 14,500 sf building	Adaptive reuse of the 14,500-sf building located on Bekins Storage Property as Waterfront Red Car Museum consistent with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings	N/A
Railroad Green	Vacant railroad right of way and lot	Construction and operation of approximately 1 acre passive recreation park crossing diagonally from Harry Bridges Boulevard (at Island Avenue) to C Street (east of Fries Avenue)	N/A
Vacate Avalon Boulevard	Avalon Boulevard and associated infrastructure (i.e., curbs, gutters, etc.), vacant industrial lots and industrial buildings listed under Commercial development above	Vacation of Avalon Boulevard south of A Street	N/A
Realign Broad Avenue	Broad Avenue and associated infrastructure (i.e., curbs, gutters, etc.) and a corner of a lot used for material storage	Realignment of Broad Avenue to continue to the waterfront	N/A
Streetscape Improvements	Existing infrastructure and streets in the Avalon Development District which include Harry Bridges and Avalon Boulevards, C Street, and Broad, Lagoon, Marine, Island, and Fries Avenues	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District
Demolition			
Demolish Dockside Ship & Machine Repair Structures	Approximately 10,000 sf (also listed above in Commercial Development)	Demolish all structures	
Demolish Underutilized	Approximately 5,500 sf	Demolish structure	

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
Structure at 115 N. Avalon Boulevard			
AVALON WATERFRONT DISTRICT			
Waterfront Promenade & Replacing Existing Bulkhead	Catalina Freight, existing bulkhead and pier	Construction and operation of waterfront promenade with landscaping which includes 43,220 sf of new viewing piers (1,155 concrete pilings, 24 inches in diameter), replacement of approximately 17,880 sf of existing piers (478 concrete piles), and two floating docks measuring 5,870 sf for visiting vessels	N/A
Land Bridge with Elevated Park (total 10 acres)	LADWP Marine Tank Site	Construction and operation of large section (4 acres of recreational space) of the land bridge extending from the waterfront to the LADWP tanks over the existing rail lines and the realigned Water Street	Completion of remaining section of the remaining 6-acre land bridge to total 10 acres; sloped open lawn, ornamental gardens, and terraces with decomposed granite would landscape this portion of the land bridge
Pedestrian Water Bridge	LADWP Marine Tank Site	Construction and operation of the pedestrian "Water" Bridge from Entry Plaza to the waterfront promenade and Observation Tower.	N/A
Entry Plaza	Vacant industrial lot	Construction and operation of 1-acre Entry Plaza located at the southeast corner of Harry Bridges and Avalon Boulevards adjacent to Avalon Triangle Park	N/A
Observation Tower	Catalina Freight parking and Water Street	Construction and operation of 200-foot-tall Observation Tower with a 2,144-sf footprint and a pedestrian ramp.	N/A
Restaurant Development	Catalina Freight and existing bulkhead and pier	N/A	Construction and operation of 12,000 sf of restaurant development at the waterfront
Realignment of Water Street	Existing Water Street and infrastructure (i.e., curb,		

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
	gutter, etc.)		
Landscaping Improvements	Existing College of Oceaneering parking lot	Landscaping improvements to the existing College of Oceaneering parking lot and area surroundings	N/A
Passenger Drop	Existing Broad Street and infrastructure (i.e., curb, gutter, etc.)	Construction and operation of a passenger drop-off east of Banning's Landing Community Center along Broad Avenue	
Demolition			
Demolish Catalina Freight	Existing 30,860 sf of Catalina Freight	Demolish entire building	N/A
Demolish National Polytechnic College of Science Hyperbaric Chamber Building	Existing 2,370 sf of National Polytechnic College of Science Hyperbaric Chamber Building	Demolish entire building	N/A
Demolish National Polytechnic College of Science Welding Pier	Existing 1,800 sf of National Polytechnic College of Science Welding Pier	Demolish entire building	N/A
LADWP Marine Tank Site	Three LADWP bulk storage tanks leased by Valero and associated infrastructure (i.e., 18,500 sf of building and subterranean pipelines)	Acquisition and demolition of all tanks and associated infrastructure	N/A
Relocation			
LADWP Bulk Storage Tank Capacity to Olympic Tank Site	LADWP Marine Tank Site	After the LADWP tanks are demolished a potential feasible relocation of the reduction of bulk storage capacity due to the demolition of the LADWP tanks is the Olympic Tank Site.	N/A
Dockside Ship & Machine Repair to 141 and 211 N. Marine	Dockside Ship & Machine Repair and an unknown, underutilized structure	Prior to the realignment of Avalon Boulevard and construction of 58,000 sf of commercial, the Dockside	N/A

Elements	*Existing Conditions (CEQA Baseline)*	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (2015–2020)*
Avenue		Ship & Machine Repair and an unknown underutilized structure would be removed and possibly relocated to 141 and 211 N. Marine Avenue	
Parking			
Fries Avenue	LADWP Marine Tank Farm	Construction and operation of 51 spaces off of Fries Avenue	N/A
North of Banning's Landing	Existing Water Street and infrastructure (i.e., curb, gutter, etc) and portions of a vacant LADWP-owned lot	Construction and operation of 71 spaces north of Banning's Landing under the pedestrian water bridge	N/A
West of Land Bridge, East of Peaker Plants	LADWP Marine Tank Site	N/A	Construction and operation of a landscaped 148-space surface parking area with landscaping accessible from A Street adjacent to the Land Bridge
WATERFRONT RED CAR LINE AND CALIFORNIA COASTAL TRAIL			
Extension of Waterfront Red Car Line	Existing streets and associated infrastructure (i.e., curb, gutter, etc.)	N/A	Construction and operation of the Waterfront Red Car Line, which would begin at the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard (exact alignment is unknown at this time)
California Coastal Trail (CCT)	Existing sidewalks, streets, and associated infrastructure (i.e., curb, gutter, etc.)	N/A	The CCT would follow the existing public right-of-way from the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard

1

2.6.1 Avalon Development District (Areas A and B)

The Avalon Development District is an industrial area located in south Wilmington. The Avalon Boulevard commercial corridor, which bisects the Avalon Development District, is the primary commercial corridor in Wilmington, with the "center of town" located around the intersection of Avalon Boulevard and Anaheim Street about ½ mile from Harry Bridges Boulevard. Avalon Boulevard currently terminates in the proposed project area at the water's edge. The Avalon Development District includes approximately 31.5 acres and has been divided into two areas, A and B, defined by the proposed boundary change of the Port and Wilmington Harbor-City Community Plan areas. The elements or actions associated with the Avalon Development District primarily include the following:

Area A (within the Wilmington Harbor-City Community Plan Area)

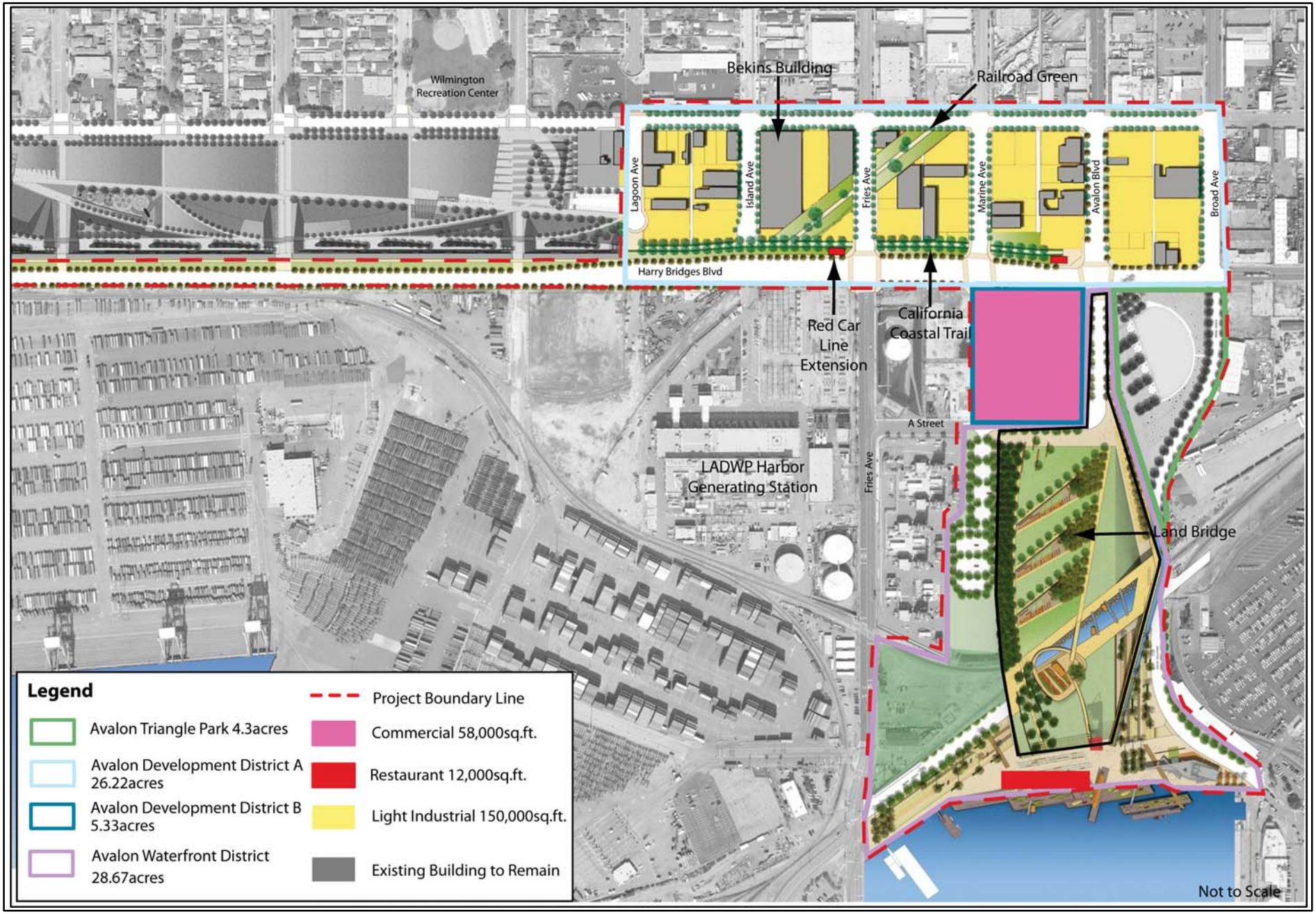
- **Light Industrial Development**—conduct a programmatic assessment of infrastructure improvements (including stormwater improvements, dry utility lines, potable waterlines, and wastewater lines) to support up to 150,000 square feet of light industrial development, consistent with current zoning, generally located between Broad Avenue (east) and Lagoon Avenue (west), C Street (north) and Harry Bridges Boulevard (south).
- **Park Development**—a 1-acre passive park located on the vacant Railroad Green located between Island Avenue and Fries Avenue.
- **Waterfront Red Car Museum**—adaptive reuse of the historic 14,500-square-foot Bekins Storage property located at 245 Fries Avenue/312–326 West C Street for a Waterfront Red Car Museum.
- **Pedestrian Enhancements**—sidewalk and pedestrian-oriented enhancements along Lagoon, Island, Fries, and Marine Avenues, Harry Bridges and Avalon Boulevards, and C Street.

Area B (within the proposed Port Plan and Port Master Plan areas)

- **Commercial Development**—development of up to 58,000 square feet of maritime visitor-serving commercial uses, such as an open air Mercado, south of Harry Bridges Boulevard, east of Marine Avenue, west of Avalon Boulevard, and north of A Street.
- **Street Realignments and Enhancements**—realign and improve Avalon Boulevard and Broad Avenue (also part of the Avalon Waterfront District).

2.6.1.1 Industrial and Commercial Land Uses

Development proposed around Avalon Boulevard, in the industrial area between Lagoon and Broad Avenues, north of Harry Bridges Boulevard and south of C Street, and referred to as Area A in this document to denote that it would remain under the jurisdictional boundary of the Wilmington Harbor-City Community Plan, would build upon the area's existing character, providing opportunities for in-fill



SOURCE: Sasaki (2008)

Figure 2-4
Proposed Project Boundary by Separate Areas
Wilmington Waterfront Development Project

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SOURCE: Sasaki(2008)

ICF Jones & Stokes
an ICF International Company

Figure 2-5
Proposed Project Rendering
Wilmington Waterfront Development Project

development of light industrial uses. The proposed Project would provide pedestrian amenities such as enhanced sidewalks and street trees along Island, Fries, and Marine Avenues, Avalon and Harry Bridges Boulevards, and C Street. Infrastructure improvements would be completed to allow for up to 150,000 square feet of light industrial uses over the next 12 years with a buildout year of 2020. In addition to the infrastructure improvements within the industrial areas, the proposed Project would develop up to 58,000 square feet of commercial development, such as a pedestrian-oriented Mercado, one block south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue in the location denoted as Area B due to its proposed incorporation into the Port Plan and PMP boundary areas, both of which would expand north to Harry Bridges Boulevard.

Nearly all development within the Avalon Development District would occur on vacant land. Site clearing, demolition of paved sites, and rough grading would be required. Except for a few parcels detailed below, privately owned parcels and buildings would not be modified. Most of these existing uses would see streetscape improvements and pedestrian enhancements that may temporarily affect individual building accessibility due to construction activities. Figure 2-6 provides typical pedestrian improvements throughout the Avalon Development District.

In a few cases, existing privately owned parcels in the Avalon Development District and in small portions of the Avalon Waterfront District would need to be acquired by LAHD in order to implement the proposed realignment of Avalon Boulevard. Parcels that would be subject to acquisition, either through negotiations, which may include the exchange of land within the Avalon Development District or if necessary through eminent domain, would include parcels located at 115, 121, 131, and 133 North Avalon Boulevard. Table 2-2 lists parcels that would be acquired in the Avalon Development District Area B, while Figure 2-7 illustrates all parcels that would be acquired in the Avalon Development District Area B and Avalon Waterfront District.

Table 2-2. Parcels located within Avalon Development District (Area B) to be Acquired and Structures Removed

Number in Figure 2-7	*Address or APN*	*Square Footage (Lot/Building)*	*Existing Use or Business Name*	*Potential Relocation Site*	*Potentially Historic*	*Purpose of Removal*
1	115 North Avalon Boulevard	12,850 / 5,578	Industrial building	N/A	No	Realignment of Avalon Boulevard
2	121 North Avalon Boulevard	9,150 / 1,102	Dockside Machine & Ship Repair	141 and 211 North Marine Avenue	No	Realignment of Avalon Boulevard
3	131 North Avalon Boulevard	17,860 / 6,195	Dockside Machine & Ship Repair	141 and 211 North Marine Avenue	No	Realignment of Avalon Boulevard

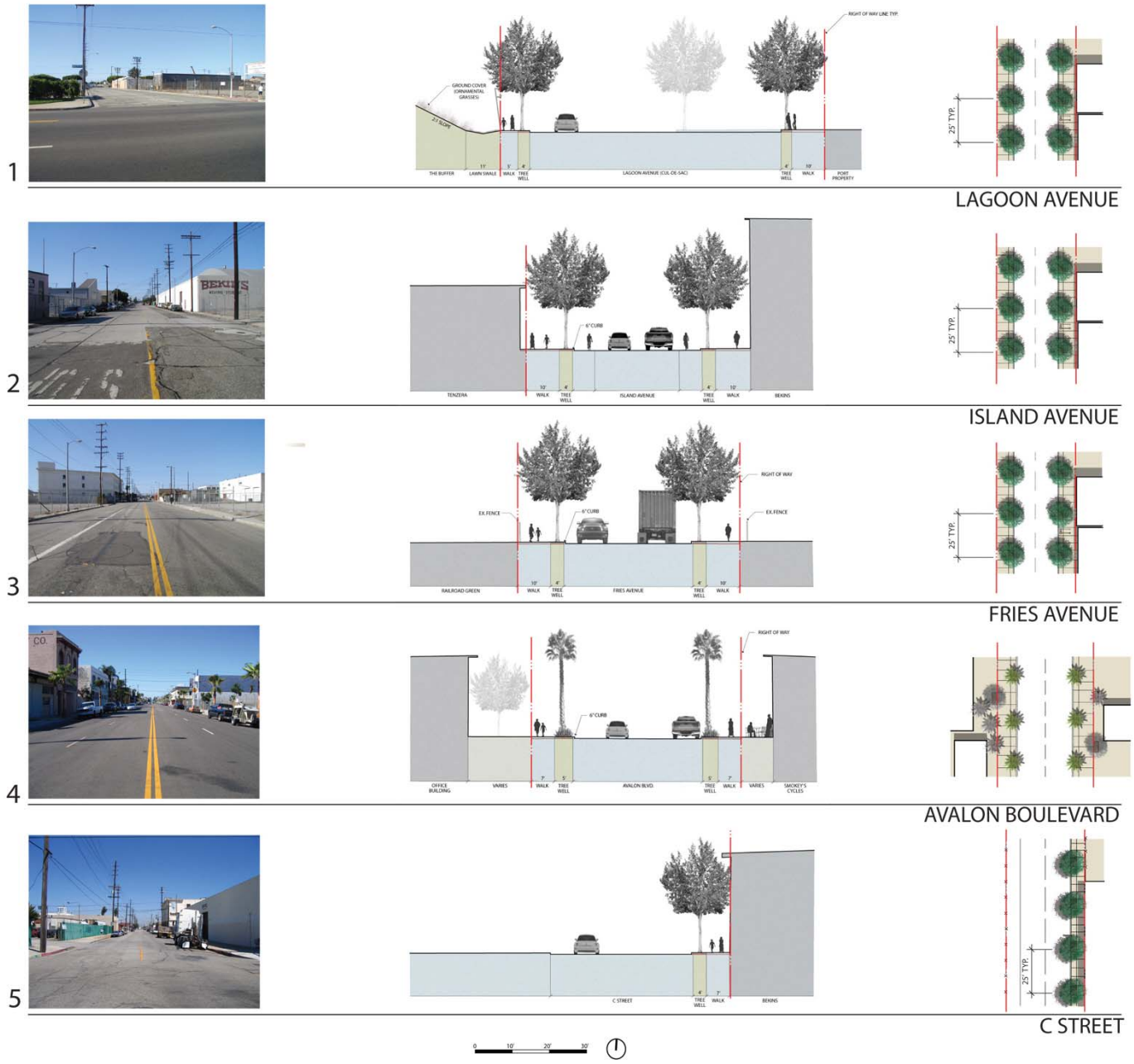
Number in Figure 2-7	*Address or APN*	*Square Footage (Lot/Building)*	*Existing Use or Business Name*	*Potential Relocation Site*	*Potentially Historic*	*Purpose of Removal*
4	133 North Avalon Boulevard	8,276 / 3,000	Dockside Machine & Ship Repair	141 and 211 North Marine Avenue	No	Realignment of Avalon Boulevard
5	Lot 34 (LADWP) 7440-006-908	41,369 / None	Vacant	No Existing Use	No	Realignment of Avalon Boulevard
6	7440-006-014	11,781 / N/A	Vacant—O'Donall Oil, LLC	No Existing Use	No	Commercial
7	7440-006-017	8,451 / N/A	Vacant—Norma J. Hanson, TR	No Existing Use	No	Commercial
8	7440-006-906	7,500 (est) / N/A	Vacant—LADWP	No Existing Use	No	Commercial
Note: Potential historic resources are discussed in Chapter 3.4, "Cultural Resources." Source: LAHD 2008.						

2.6.1.2 Railroad Green Park

A passive open space would be built within an existing abandoned railroad right-of-way. This approximately 1-acre Railroad Green would cross the area diagonally and provide public access, seating, and passive recreation opportunities. Landscaping and open lawn would be installed. Figure 2-8 provides a conceptual rendering of the proposed park.

2.6.1.3 Waterfront Red Car Museum

A Waterfront Red Car Museum would be located one block north of the proposed Waterfront Red Car alignment at the Bekins Storage Property at 245 Fries Avenue/312–326 West C Street. The Bekins Storage Property is a collection of potentially historic buildings and warehouse structures built in 1916. These structures, including a 14,500-square-foot building, would be adaptively reused to house the Waterfront Red Car Museum. Rehabilitation would be conducted in accordance with the Secretary of the Interior's Guidelines to Rehabilitating Historic Buildings.



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SOURCE: Sasaki(2008)

ICF Jones & Stokes
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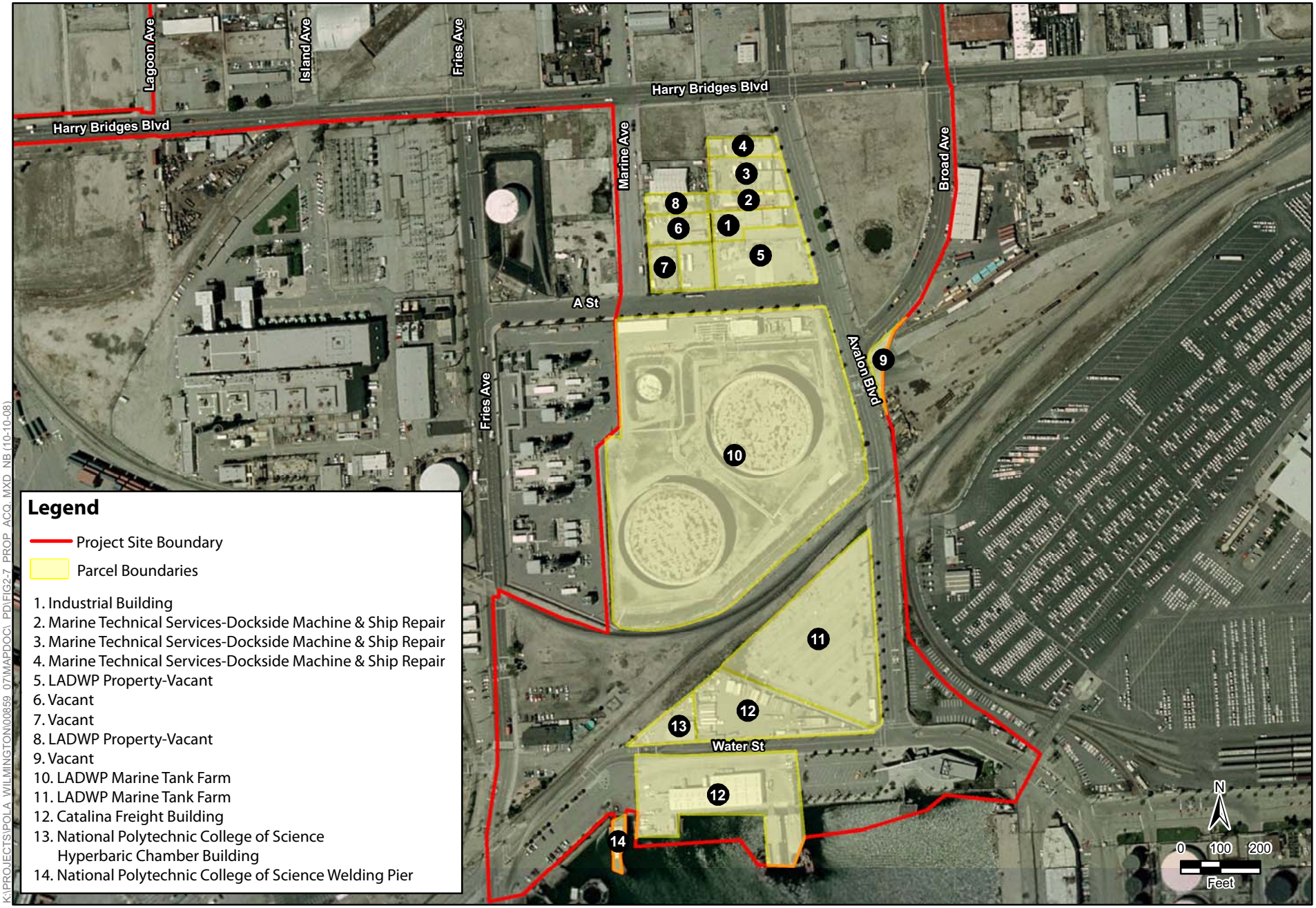
Figure 2-6
Avalon Development District: Street Enhancements
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006)

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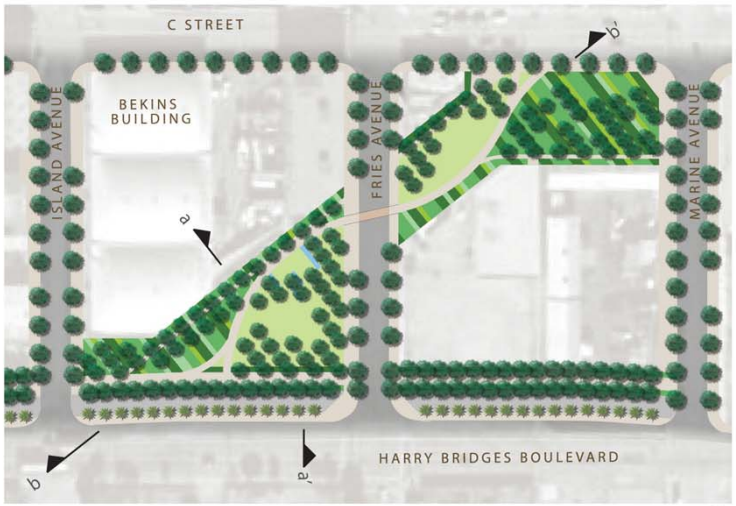
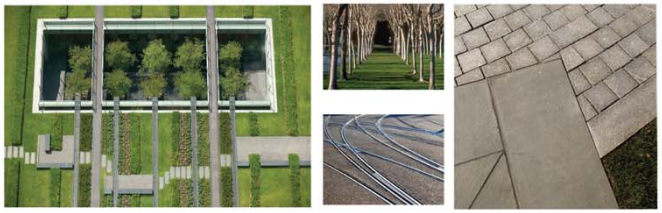
Figure 2-7
Property to be Acquired for the Proposed Project
Wilmington Waterfront Development Project



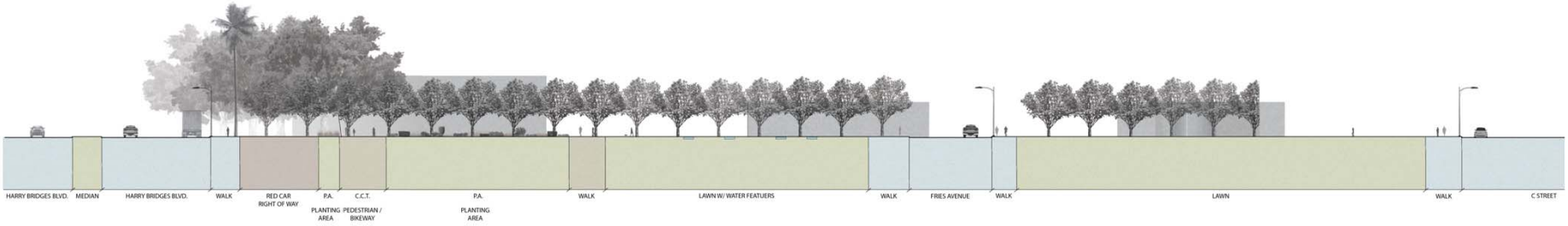
PLAN

EXISTING CONDITIONS



PRECEDENT IMAGES

SECTION a-a'



SECTION b-b'

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SOURCE: Sasaki(2008)

ICF Jones & Stokes
an ICF International Company

Figure 2-8
1-Acre Railroad Green Park
Wilmington Waterfront Development Project

2.6.1.4 Traffic Improvements

To improve area traffic circulation, while enhancing pedestrian safety and appeal, selected streets are proposed for improvements. A portion of Avalon Boulevard, south of A Street, would be downgraded and then vacated to prioritize pedestrian use and activity at the 58,000-square-foot commercial parcel, while Broad Street would be realigned to provide vehicular traffic a dedicated route to the waterfront. Table 2-2 lists parcels in the Avalon Development District that would be acquired for the realignment. Because the realignment also takes place within the Avalon Waterfront District, more information is provided in 2.6.2.4.

In addition, an improvement to connect Harry Bridges Boulevard near Lagoon Avenue to Pier A Street would be built during construction of the proposed Project. This improvement, known as the South Wilmington Grade Separation, is a separate project and has been previously assessed under CEQA. It would consist of an elevated road extending from Harry Bridges Boulevard, passing over the existing railroad tracks, and connecting to Pier A Street and Fries Avenue. Once complete, it would allow better access to the proposed project area and nearby industrial sites, and would also reroute some of the truck traffic currently using Harry Bridges Boulevard.

2.6.2 Avalon Waterfront District

The Avalon Waterfront District is composed of the following elements:

- **Waterfront Promenade**—adding pedestrian-oriented features and improvements such as a waterfront promenade with viewing piers and 12,000 square feet of restaurant/visitor-serving retail development, a 200-foot Observation Tower with a pedestrian ramp, removing the Los Angeles Department of Water and Power (LADWP) Marine Tank site and associated pipe conveyance infrastructure, and remediating the site; this area is generally defined by the current Water Street alignment and the National Polytechnic University (College of Oceaneering) to the north, Fries Avenue to the west, and the current Avalon Boulevard alignment to the east. The Port harbor and views of the water at Slip 5 are along its southern border.
- **Land Bridge and Elevated Park**—a 10-acre Land Bridge with an elevated park and a pedestrian "water" bridge enhanced by an integrated water feature that would provide the surrounding community with open space and improved pedestrian access to the waterfront; this area is generally bounded by A Street to the north, Avalon Boulevard to the east, the Harbor Generating Station and its associated peaker unit to the west, with the Harbor Rail Line and Slip No. 5 to the south.
- **Avalon Triangle Park**—located south of Harry Bridges Boulevard, between Broad Avenue and Avalon Boulevard. Avalon Triangle Park is not part of the proposed Project, but it would be included within the area that would be encompassed by the proposed Port Plan and PMP boundary expansion.

- **Avalon Boulevard, Broad Avenue, and Water Street Realignment**—downgrade and vacate Avalon Boulevard south of A Street, realign Broad Avenue to the waterfront, and realign Water Street to run adjacent to the Pacific Harbor Rail Line, which is proposed to travel under the proposed Land Bridge to improve pedestrian circulation and provide space for the waterfront promenade.

The elements or actions associated with the Avalon Waterfront District primarily include the development of a waterfront promenade, including visitor-serving amenities such as commercial development and an observation tower; the development of a Land Bridge with open space and an elevated park, an Entry Plaza and a pedestrian water bridge connecting Harry Bridges Boulevard to the waterfront promenade. The existing LADWP Marine Tank site in the area would be demolished, and surface parking and traffic improvements are proposed.

2.6.2.1 Waterfront Promenade and Visitor-Serving Amenities

2.6.2.1.1 Waterfront Promenade and Commercial Development

The waterfront promenade would be the central public amenity of the Avalon Waterfront District, and would be anchored by visitor-serving development and recreational attractions along the waterfront. A 7-acre outdoor plaza designed for gatherings and events would be constructed at the location of the existing Banning's Landing Community Center parking area, which would be relocated north, under the pedestrian water bridge. Restaurant and visitor-serving retail uses totaling 12,000 square feet would be incorporated into the waterfront boardwalk in Phase II. Due to the presence of train noise, all commercial structures located at the waterfront (e.g., the 12,000-square-foot restaurant and visitor-serving retail) that would incorporate exterior uses (e.g., outside seating for restaurants) would be located more than 100 feet from the heavily used San Pedro Branch Line and TraPac ICTF lead. In addition, all commercial structures would be designed to shield any exterior uses from the existing rail line by either locating the building between the exterior use and the rail line or by using sound-attenuating barriers (i.e., clear Plexiglas) at any locations that have direct line of sight to the existing rail lines east of Fries Avenue and along realigned Water Street.

The waterfront promenade would incorporate approximately 43,220 square feet of new over-the-water viewing piers and two floating docks with a combined size of 5,870 square feet. These piers and floating docks would require approximately 750 concrete piles for support, while the replacement of approximately 17,880 square feet of existing viewing piers would require approximately 478 concrete piles.

The public floating docks would accommodate up to 9 vessels. Assuming boats would dock for up to 3 hours and assuming slips would not remain vacant for more than a brief period, it was conservatively estimated that the floating docks would support up to 36 boat trips a day. At a future date, it is possible a water taxi program, similar to the Long Beach program but smaller in scale, would be proposed to travel

between the proposed Project and San Pedro. Figure 2-9 provides a photosimulation of the proposed waterfront and the Observation Tower in the background.

At the water's edge, the proposed Project would modify the existing bulkhead wall through a combination of concrete soil mixing and steel sheet pilings, including replacing a 550-foot length of the existing bulkhead at the head of Slip 5. The existing concrete bulkhead wall would remain in place, and on the east and west sides of the area designated for soil mixing, a new steel sheet pile wall would be installed immediately waterward from the existing wall. This action would fill 2,200 square feet of Slip 5. Figure 2-10a shows the top view of the area proposed for soil mixing and for steel sheet pilings, while Figure 2-10b provides a cross-section.

Other waterfront promenade amenities could include a water feature, shade structures, signage, landscaping , and public art.

2.6.2.1.2 Observation Tower

The Observation Tower would be an area landmark, visible from the nearby Port businesses and communities of Wilmington and San Pedro. It would incorporate a tall, vertical architectural element that would mimic a sail. The tower would be illuminated at night with accent lighting until midnight, similar to the Vincent Thomas Bridge. Figure 2-11 provides an architectural schematic of the Observation Tower.

2.6.2.2 Land Bridge and LADWP Marine Tank Site

LADWP owns the Marine Tank Farm just north of Banning's Landing between Fries Avenue and Avalon Boulevard, north of Water Street and south of A Street, which it leases to the Valero Energy Corporation. Two large liquid bulk storage tanks and a third smaller tank constrain public access to the water's edge.

Beginning in 2012, the property would be dedicated for recreational use and the liquid bulk tanks and associated structures would be removed. Any potential soil and/or groundwater contamination would be remediated pursuant to DTSC, RWQCB, or other oversight agency standards. As mentioned above and listed in Table 2-3 below, several existing structures associated with the LADWP site would be demolished, including the two 450,000 bbls oil storage tanks, the smaller 30,000 bbls tank, and six other structures, totaling 18,500 square feet. Figure 2-7 illustrates all parcels that would be acquired in the Avalon Development District and Avalon Waterfront District.

LADWP would have an opportunity to rebuild similar tanks with similar capacities at an offsite location not yet determined. One potentially feasible site would be the Olympic Tank Farm site 1.5 miles northeast of the proposed Project site on the southeastern corner of Alameda and Robidoux Streets. Figure 2-12 illustrates the Olympic Tank Farm site in relation to the proposed project. The Olympic Tank Farm

is characterized by nine existing liquid bulk storage tanks. As illustrated in the figure, the land is void of natural vegetation. The two areas large enough to accommodate the Marine Tank Farm storage tanks have previously supported storage tanks.

Table 2-3. Parcels Located in the Avalon Waterfront District to be Acquired or Dedicated for Use of the Land Bridge and Structures to be Removed

Figure 2-7 Number	*Address or APN*	*Square Footage (Lot/Bldg)*	*Existing Use or Business Name*	*Potential Relocation Site*	*Potentially Historic*	*Purpose of Removal*
9	Northwest corner of Parcel 33/ Northwest corner of 7440-005-809	8,000 est/None	Scrap Material Storage	N/A	No	Realignment of Broad Avenue
10	Lot 35 (LADWP)/ 7440-009-905 7440-009-912 Northeast portion of 7440-009-911	348,865/18,500 (buildings) and 135,000 est (Oil Tanks)	Marine Tank Farm	Alameda and Robidoux, Los Angeles, CA (Olympic Site)	No	Phase II Land Bridge
11	Lot 36 (LADWP)/ East-central portion of 7440-009-911	99,775/None	Vacant	N/A	No	Phase I Land Bridge
12	100 W. Water Street Southeast portion of 7440-009-911	104,700/30,860	Catalina Freight Building (Warehouse and Office)	802 S. Pier A Street	No	Relocating for Business Reasons/Land Bridge and Waterfront Promenade
13	North edge of Slip 5 Southeast portion of 7440-009-911	Unknown/2,370	National Polytechnic College of Science Hyperbaric Chamber building	Relocation is not planned	No	Waterfront Promenade
14	North edge of Slip 5 Southeast portion of 7440-009-911	Unknown/1,800	National Polytechnic College of Science welding pier	Relocation is not planned	No	Waterfront Promenade

Note: Potential historic resources are discussed in Chapter 3.4, "Cultural Resources."

Source: LAHD 2008

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SOURCE: Sasaki(2008)

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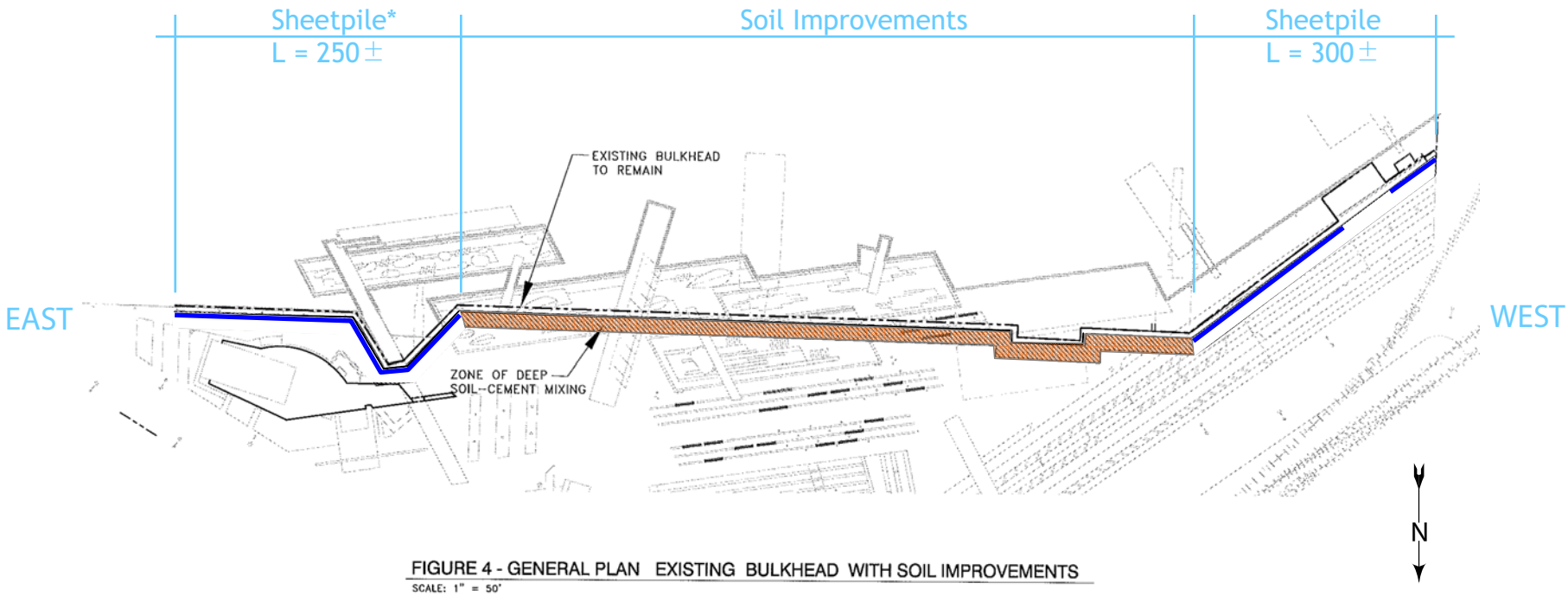
Figure 2-9
Proposed Waterfront
Wilmington Waterfront Development Project



Fill (for sheetpile):

From 40% design – assume 4' from bulkhead wall to sheetpile

A_F = 1000 sf East

A_F = 1200 sf West

* Grade raised approximately 3' using lightweight backfill in this area

SOURCE: Sasaki (2008)

Figure 2-10a
Proposed Bulkhead Wall Design
Wilmington Waterfront Development Project

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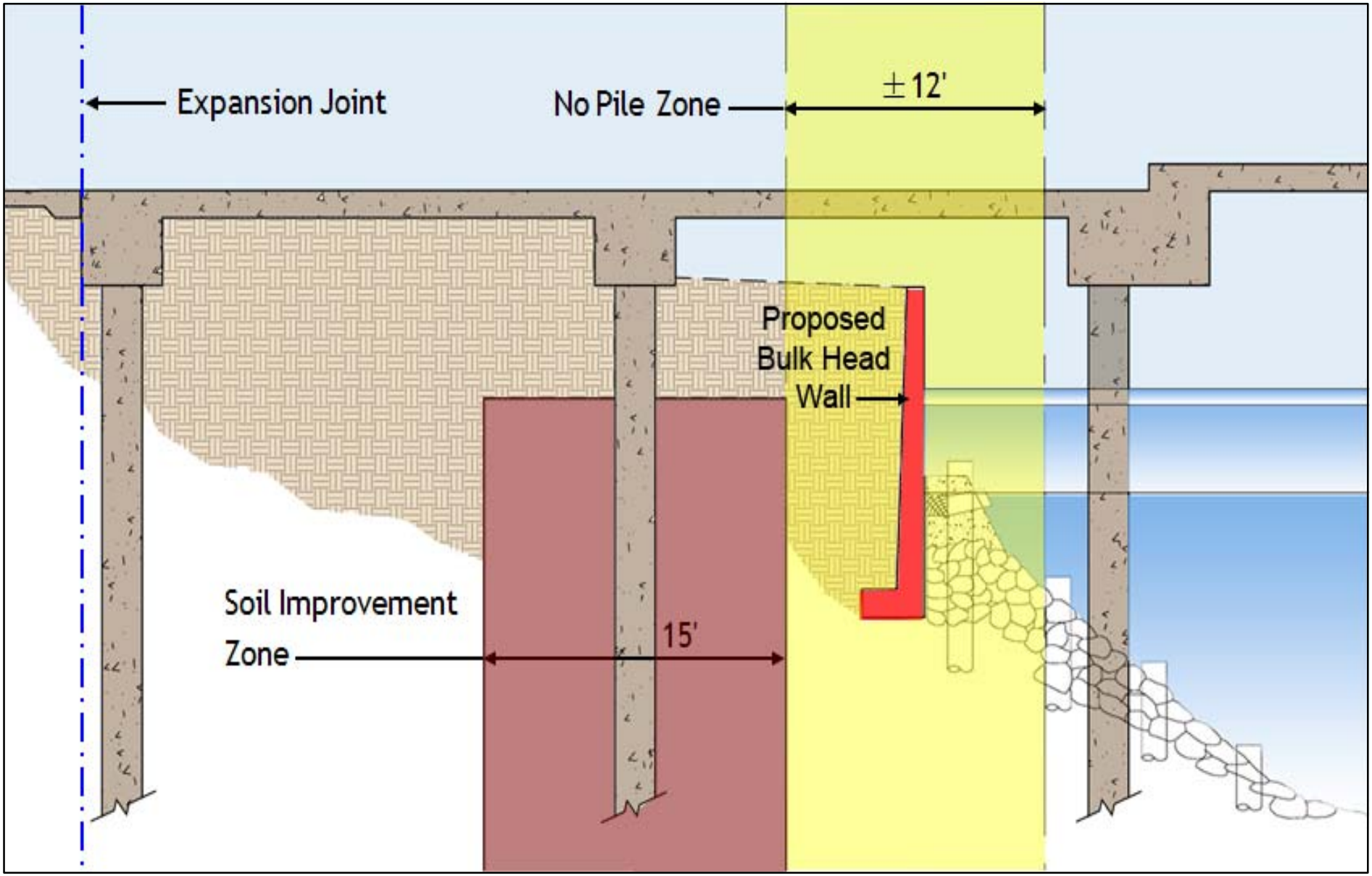

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SOURCE: Sasaki(2008)

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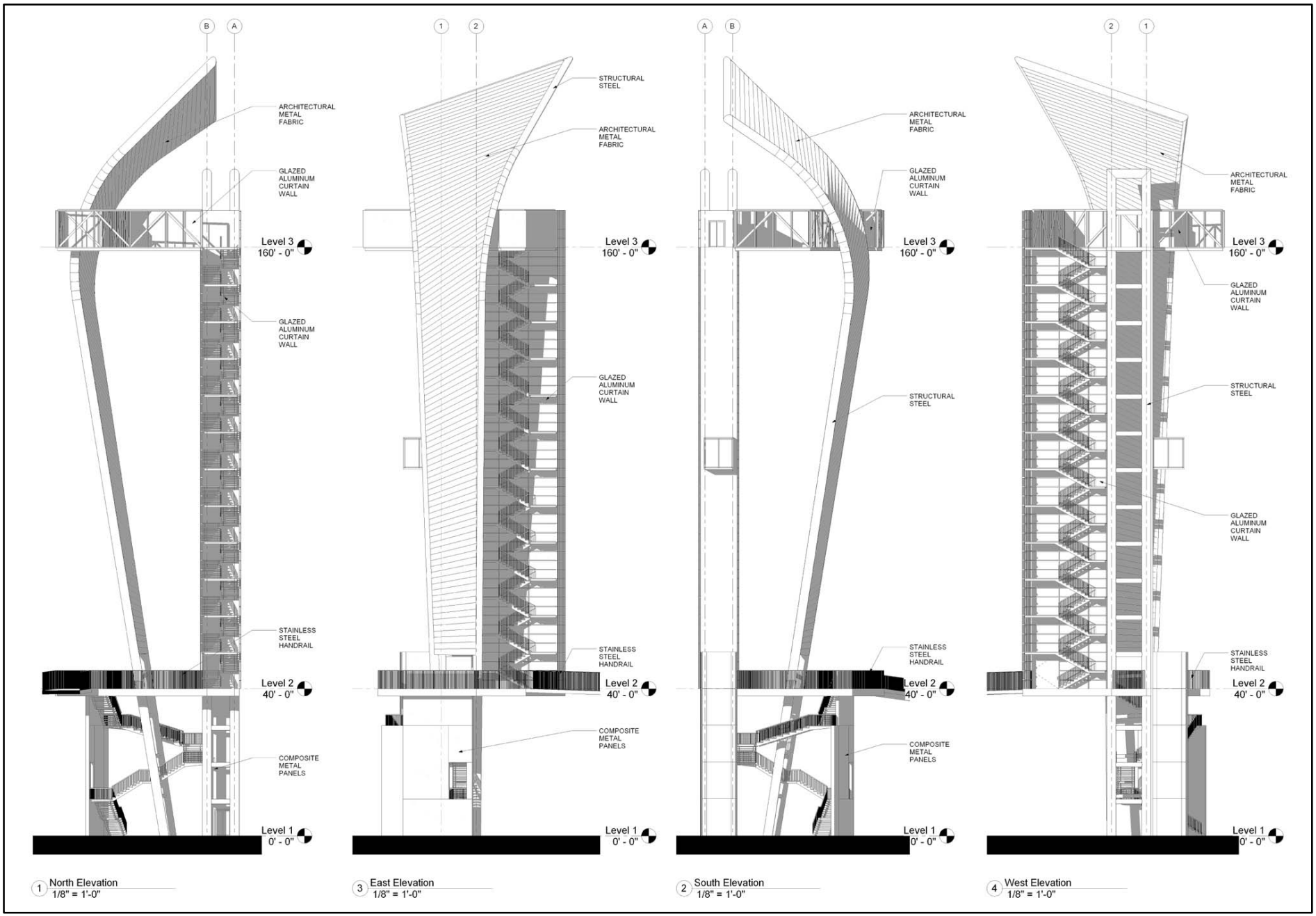
Figure 2-10b
Proposed Bulk Head Wall Cross-Section
Wilmington Waterfront Development Project



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SOURCE: Sasaki(2008)

Figure 2-11
Conceptal Design of the Proposed Observation Tower
Wilmington Waterfront Development Project

ICF Jones & Stokes
an ICF International Company

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SOURCE: ESRI USA Imagery (2006)

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Figure 2-12
Aerial View of Olympic Tank Farm
Wilmington Waterfront Development Project

Prior to the removal of the Marine Tank Farm storage tanks and ancillary buildings, a major section of the proposed 10-acre Land Bridge would be constructed and operated under the Phase I: Interim Plan. The upper promenade, with a plaza and a large water feature using recycled water, would be located immediately over the railroad and Water Street crossing. It would consist of the southern portion of the future large elevated park, including terraced seating for public gatherings. Directly west of the Land Bridge, a planting screen would buffer the Land Bridge from the LADWP peaker power units to the west, which would continue to operate during construction and operation of the proposed Project.

This interim Land Bridge would include an interim pedestrian water bridge to the east of the LADWP Marine Tank Farm, connecting the landscaped Entry Plaza to the waterfront. The pedestrian water bridge would provide unimpeded pedestrian and bicycle access to the waterfront. The pedestrian bridge is referred to as a "water" bridge because of the architect-designed water feature that would run its length. Figure 2-13 provides an architectural rendering of the pedestrian "water" bridge, while Figure 2-14 shows a cross-section of the bridge. It would consist of a steel structure with a linear water feature integrated into its outside edge, and would link the 1-acre Entry Plaza, located at the southeast corner of Avalon and Harry Bridges Boulevards, to the waterfront promenade.

During Phase II: Full Buildout, beginning in approximately 2015, the proposed Project would begin construction on the Land Bridge on the then decommissioned LADWP Marine Tank Farm site. This phase of construction would finish the Land Bridge and 10-acre elevated park. Sloped open lawn, ornamental gardens, and terraces with decomposed granite would landscape this portion of the Land Bridge. Shade pavilions with solar panels would be included within the Land Bridge, in addition to the waterfront promenade area, with a goal of providing up to 12.5% of the total proposed Project's operational energy needs. A 148-space surface parking area with landscaping would be accessible from A Street and located adjacent to the bridge and the operating LADWP peaker units. When completed, the Land Bridge and adjacent pedestrian water bridge would connect the Wilmington community and with the waterfront promenade via the 1-acre Entry Plaza. Figure 2-15a provides an elevation of the Phase II Land Bridge.

2.6.2.3 Surface Parking

To accommodate the new restaurant/visitor-serving retail and recreational vehicular traffic, three surface parking areas would be constructed for a total of 98,000 square feet of paved area (Figure 2-15b). One area would provide 51 spaces accessible from Fries Avenue; the second would provide 71 spaces north of Banning's Landing under the pedestrian water bridge accessible from the newly realigned Broad Avenue. Both of these surface areas would be constructed during Phase I. The third would provide 148 spaces west of the Land Bridge, on the existing LADWP Marine Tank site, and would be accessible from A Street. The third area would be constructed during Phase II: Full Buildout after the LADWP oil tanks were demolished and the LADWP Marine Tank Farm site had undergone remediation for any potential soil or groundwater contamination.

2.6.2.4 Traffic Improvements

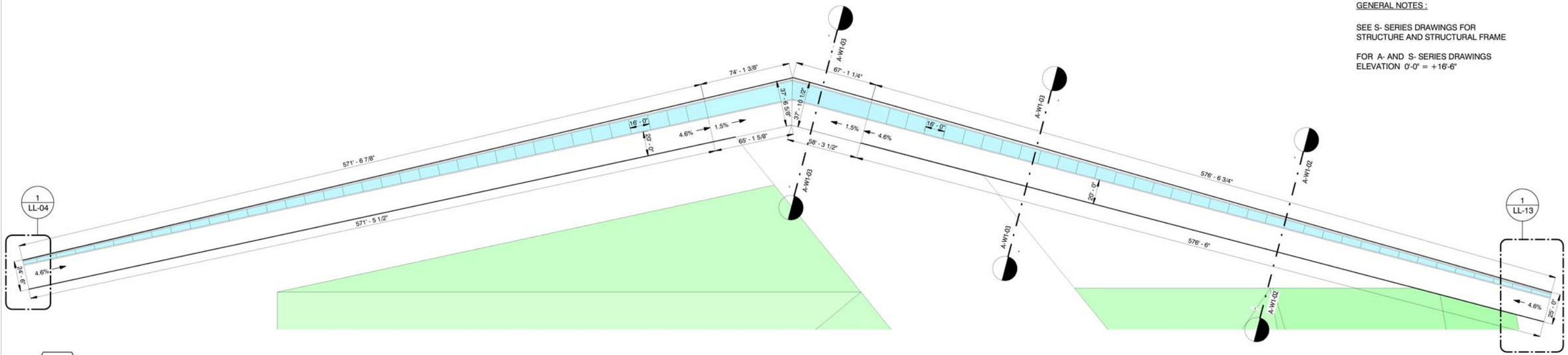
Vehicular circulation around the Avalon Waterfront District would undergo modifications to improve traffic flows and pedestrian access to the waterfront. To increase the amount of land available at the waterfront, Water Street would be moved north and realigned from its present east–west configuration to run alongside the Pacific Harbor Line railroad tracks, south of the LADWP Marine Tank Farm, in a diagonal northeast–southwest direction (Figure 2-16). Additionally, with the downgrade and vacation of Avalon Boulevard south of A Street (as described in Section 2.6.1, "Avalon Development District"), Broad Avenue would replace Avalon Boulevard as the main access street for automobile traffic on the east side of the proposed project site and continue through to the waterfront, providing vehicular access to the waterfront promenade and Banning's Landing Community Center. As part of the proposed Project, a passenger drop-off roundabout would be constructed east adjacent to the community center. Table 2-3 lists parcels in the Avalon Waterfront District that would be acquired to realign Avalon Boulevard and Broad Avenue.

2.6.3 Waterfront Red Car Line and the California Coastal Trail

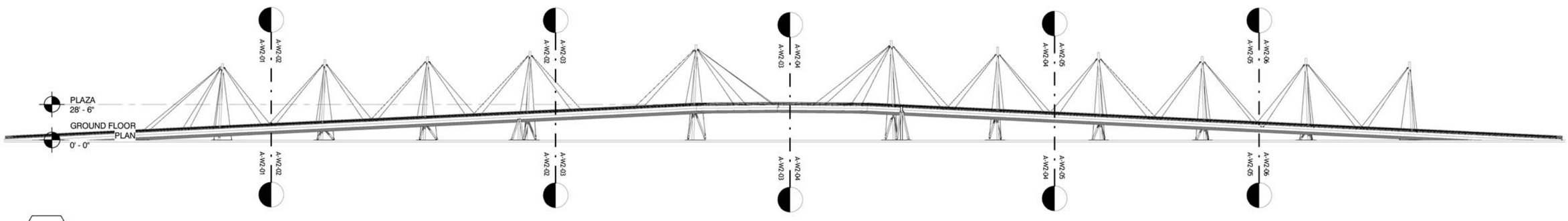
The proposed Project would extend the historic Waterfront Red Car Line and multi-use pedestrian/bicycle CCT to connect to the nearby San Pedro Community. Under the proposed Project, this third development area would form the southern edge of the district along Harry Bridges Boulevard. The extension of the Waterfront Red Car Line/CCT would begin at the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street, onto John S. Gibson Boulevard, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard. Because specific alignment information is unavailable at the time of preparation of this EIR, the Waterfront Red Car Line is evaluated at the program level. Additional environmental analysis may be needed at later time once the specific alignment is finalized. Figures 2-17 and 2-18 show typical sections of the California Coastal Trail at John S. Gibson Boulevard, Front Street, and C Street, with the nearby Waterfront Red Car line.

2.6.4 Port of Los Angeles Plan, Wilmington-Harbor City Community Plan, and Port Master Plan Amendments

As a component of the proposed Project, the Port Plan and the PMP jurisdictional boundaries would be extended to include the entire Avalon Water District, one block of the Avalon Development District south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue, and the Avalon Triangle Park development site. Because the Wilmington-Harbor City CP shares a common boundary with the



2 WATER BRIDGE - OVERALL PLAN
1" = 40'-0"



1 WATER BRIDGE - OVERALL EAST ELEVATION
1" = 40'-0"

N

40% PRELIMINARY DESIGN 4-25-08

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SOURCE: Sasaki (2008)

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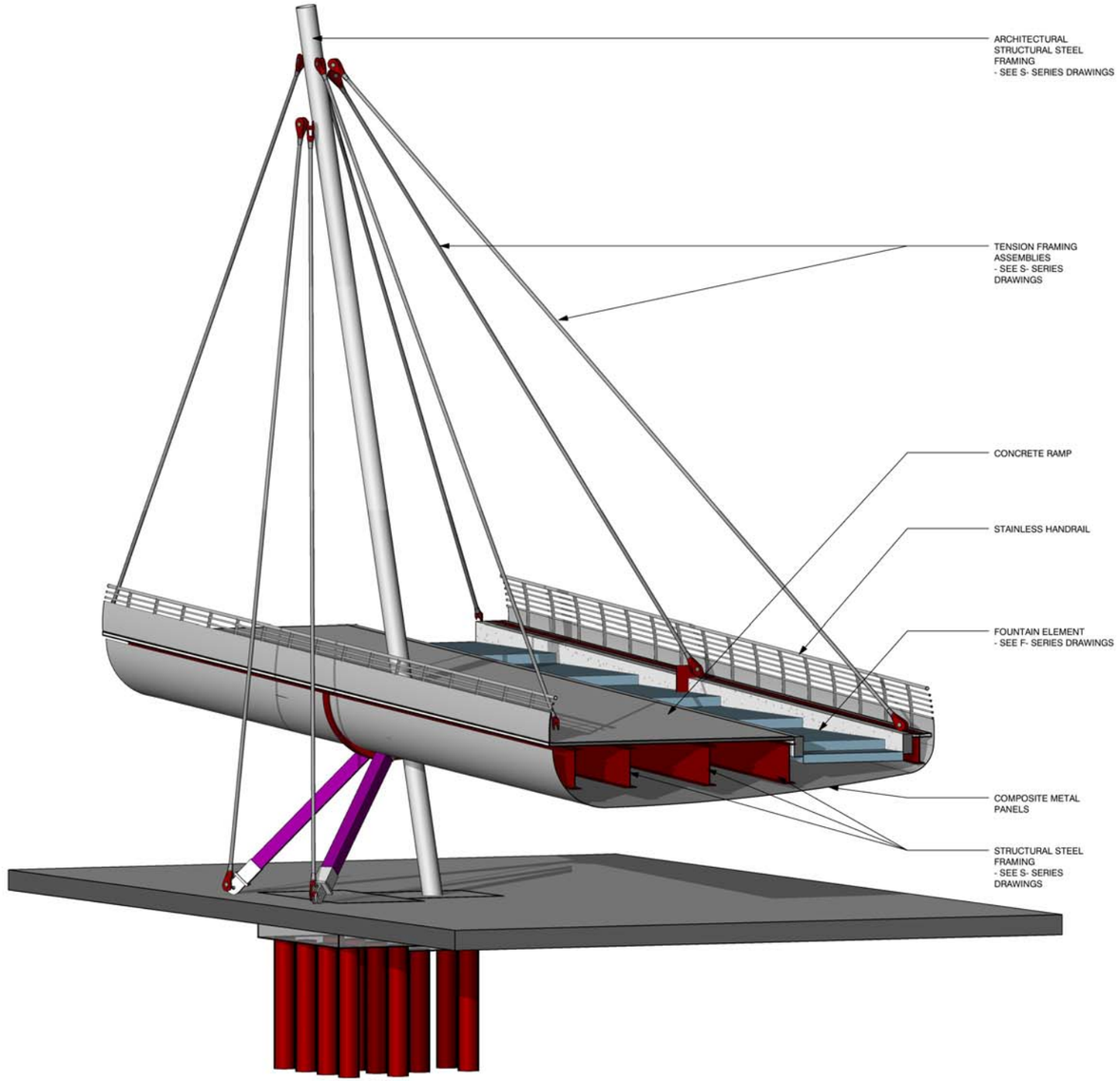
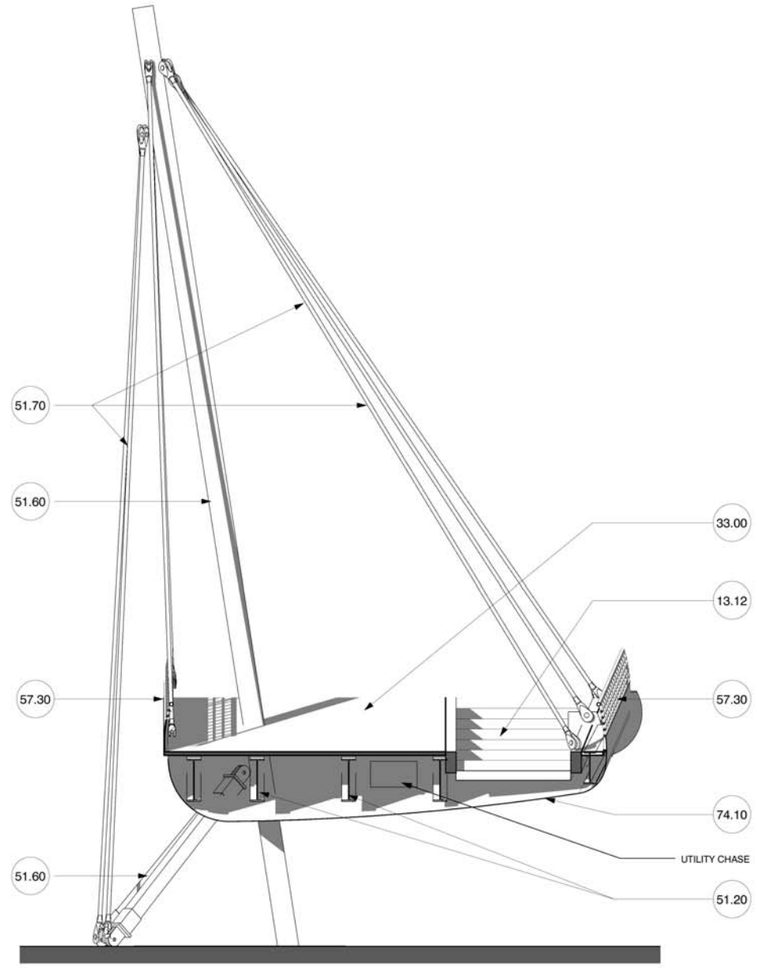
Figure 2-13
Proposed Pedestrian "Water" Bridge Plan and Elevation
Wilmington Waterfront Development Project



2 3D WATERBRIDGE TYPICAL SECTION



1 WATER BRIDGE - TYPICAL SECTION
3/16" = 1'-0"

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SOURCE: Sasaki (2008)

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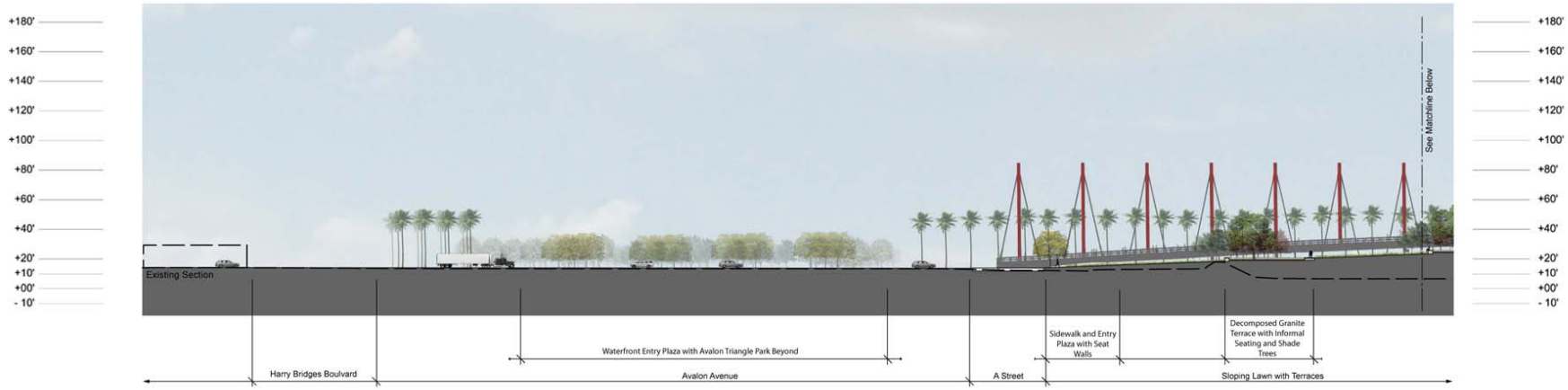
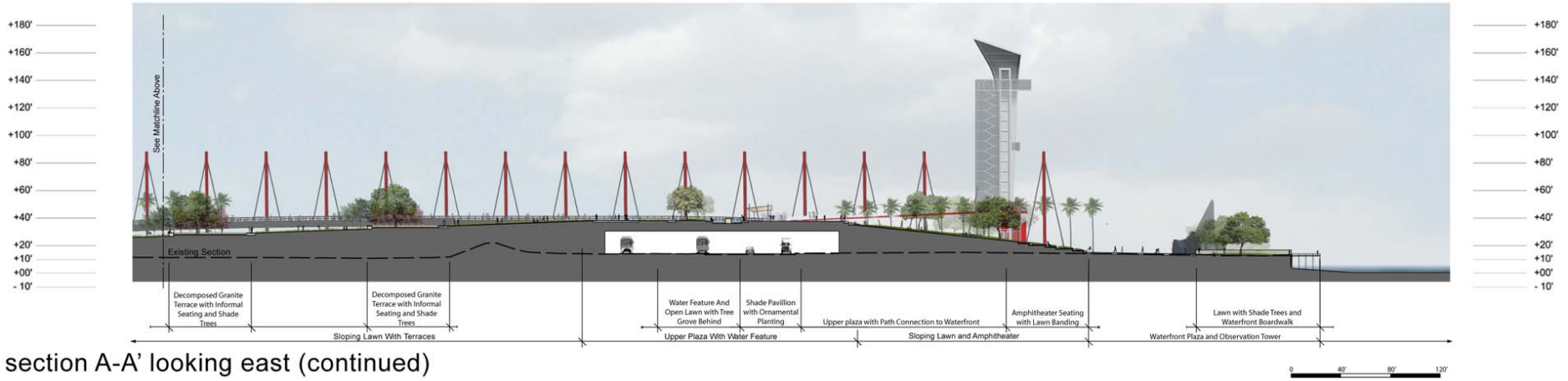
Figure 2-14
Pedestrian "Water" Bridge Section
Wilmington Waterfront Development Project



section A-A' looking east



section A-A' looking east (continued)

SOURCE: Sasaki(2008)

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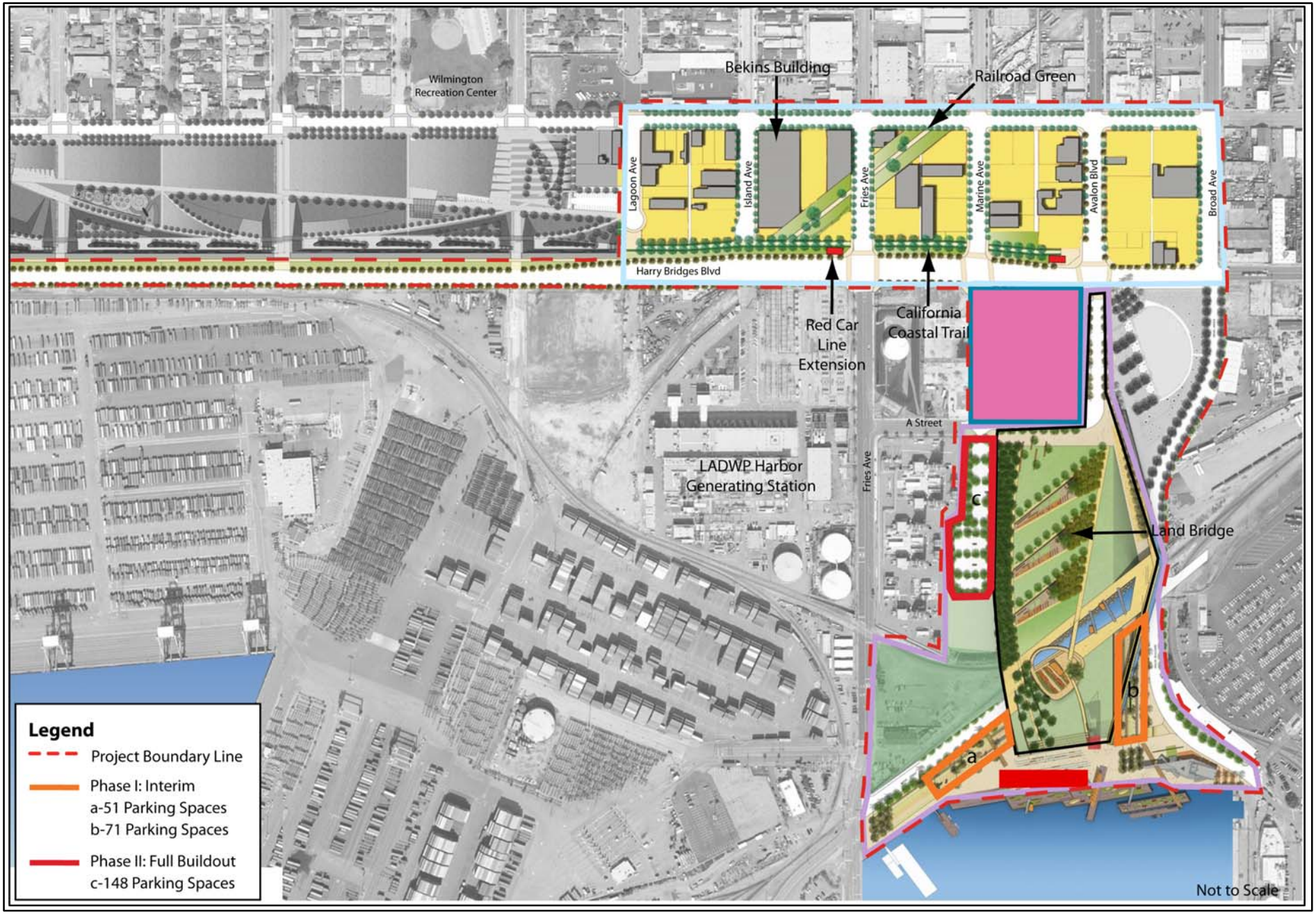
Figure 2-15a
Proposed Land Bridge and Tunnel Section
Wilmington Waterfront Development Project



SOURCE: Sasaki (2008)

ICF Jones & Stokes
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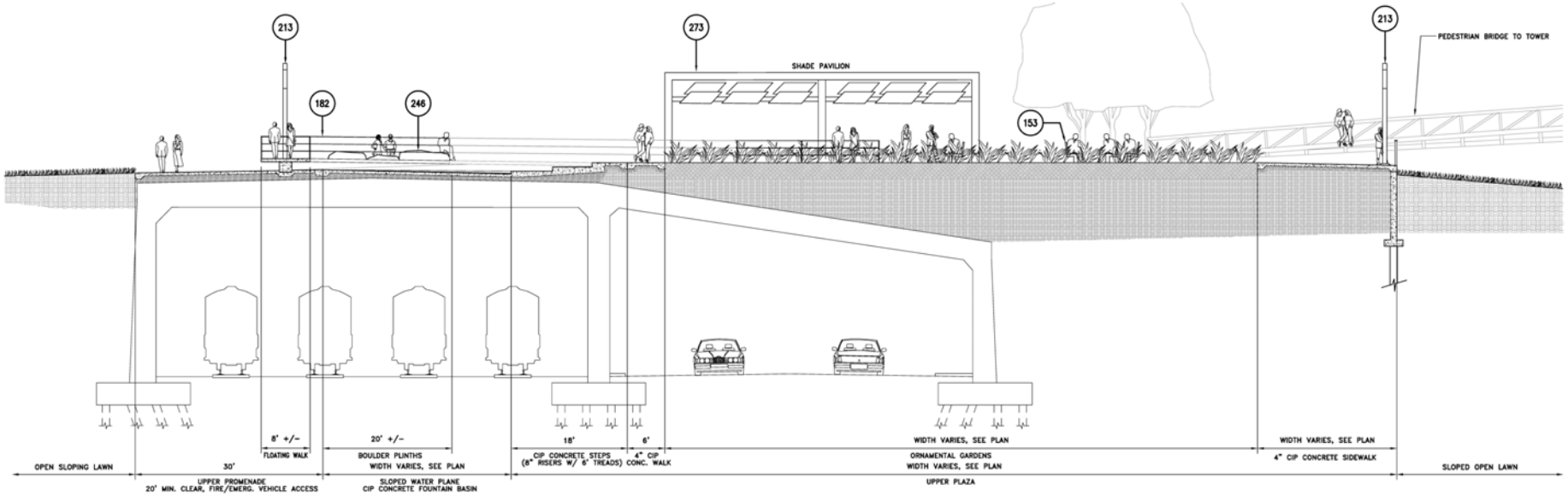
Figure 2-15b
Proposed Parking Areas
Wilmington Waterfront Development Project



1LS-02 / LS-02 TYP. SECTION - UPPER PLAZA (NORTH-SOUTH)
SCALE 1/8"=1'-0"

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SOURCE: Sasaki(2008)

Figure 2-16
Cross-section of Realigned Water Street (Proposed) and the Pacific Harbor Rail Line
Wilmington Waterfront Development Project

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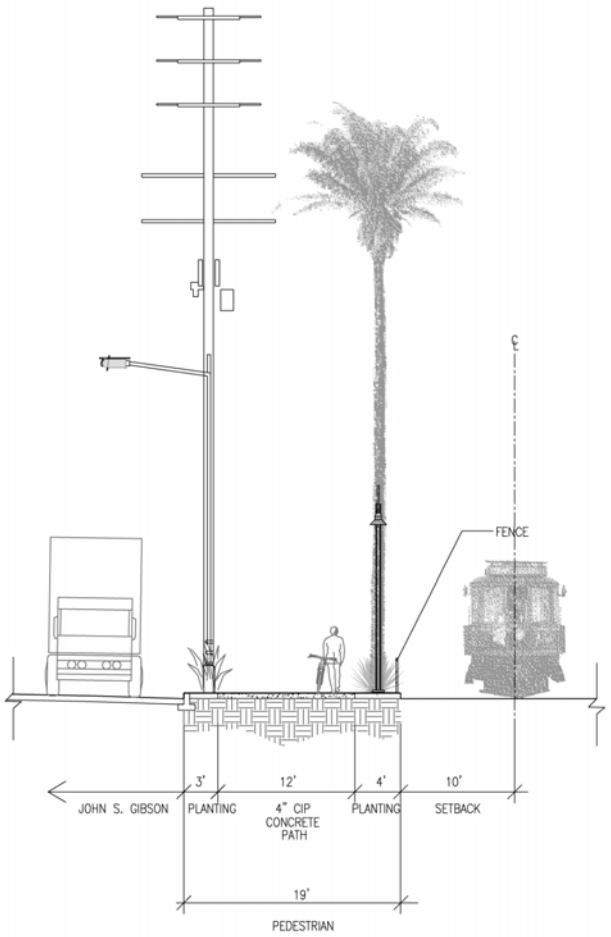
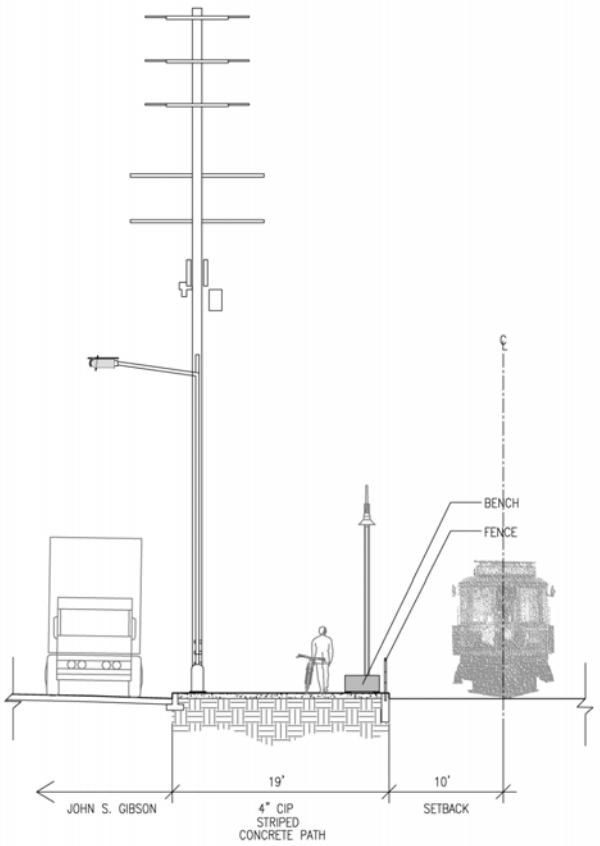


1LS-02 / LS-02 SECTION - JOHN S. GIBSON BLVD: TREE UNIT
SCALE 1"=1/8'



2LS-02 / LS-02 SECTION - JOHN S. GIBSON BLVD: BENCH UNIT
SCALE 1"=1/8'

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SOURCE: Sasaki(2008)

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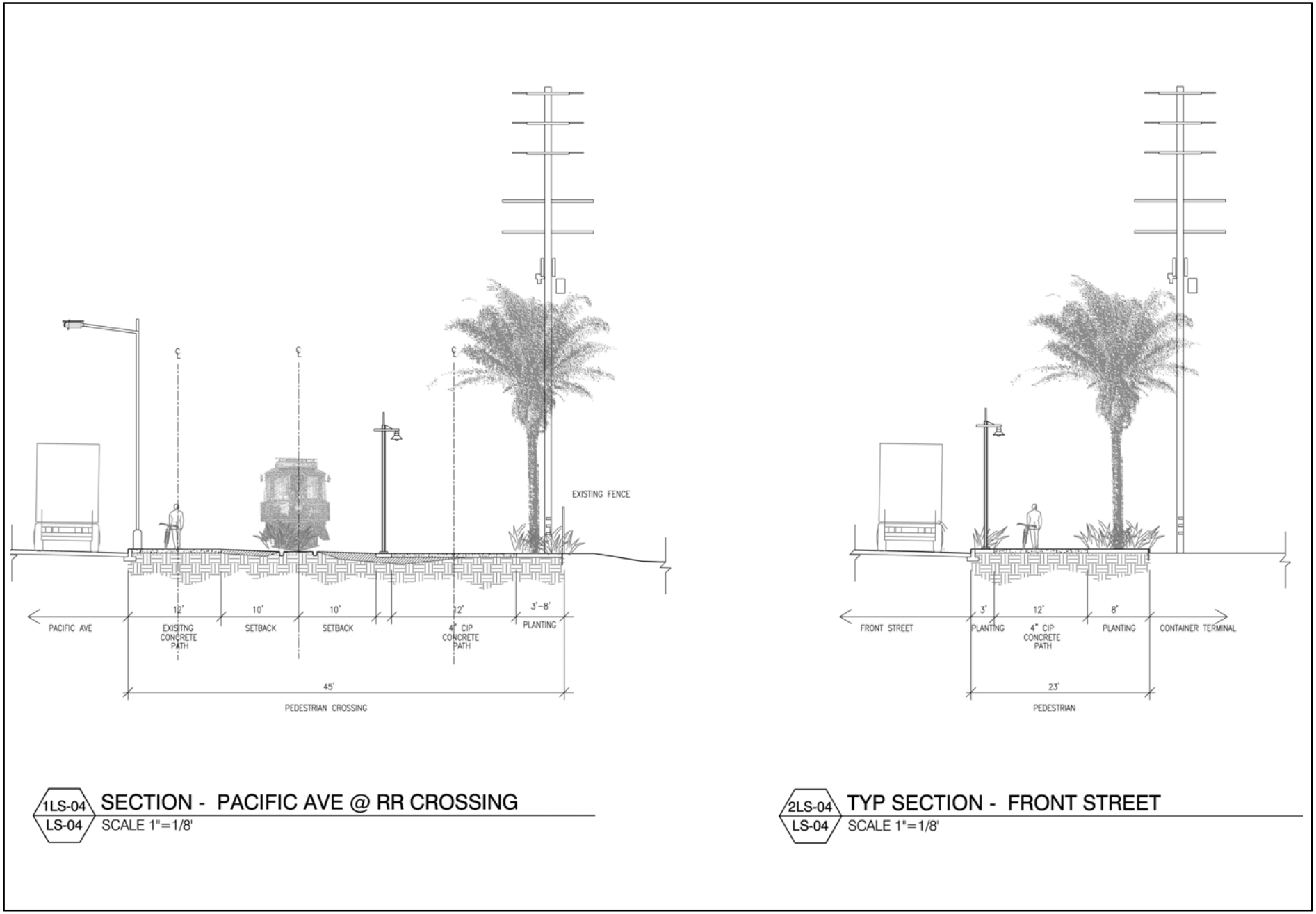
Figure 2-17
Proposed California Coastal Trail Section: John S. Gibson
Wilmington Waterfront Development Project



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SOURCE: Sasaki(2008)

Figure 2-18
Proposed California Coastal Trail Section: Pacific Avenue and Front Street
Wilmington Waterfront Development Project

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Port Plan, both of which are part of the City of Los Angeles General Plan's Land Use Element, expanding the Port Plan boundaries would require a corresponding reduction in the Wilmington-Harbor City Community Plan. In addition, a redesignation of land uses to recreational under the Port Plan and to recreation and commercial under the PMP is proposed. A rezone would be required to allow park uses consistent with the Tidelands Trust in PA 5.

This EIR addresses the potential effects of the administrative boundary changes and land use designation and zone changes on the environment. No physical changes (e.g., grading, construction, etc.) are proposed to the Avalon Triangle Park site. See Figure 2-19 for an illustration of the existing Port Plan and Wilmington-Harbor City Community Plan boundaries and Figure 2-20 for an illustration of the proposed adjustment to the Port Plan and Wilmington-Harbor City boundaries. Figure 2-21 shows the change in land uses and zoning to the Avalon Triangle Park site and the Avalon Waterfront District. Figures 2-22 and 2-23 show the proposed boundary adjustment to the PMP and the proposed land use additions under PMP, respectively.

2.7 Proposed Project Impact Analysis

The draft EIR will address elements of the proposed Project at both the program and project level. A program-level analysis is prepared when the lead agency has a proposed program or series of actions that can be characterized as one large project and specific construction information is unavailable. A program-level analysis generally analyzes broad environmental effects of the program with the understanding that additional site-specific environmental review may be required for particular aspects of the program at the time those aspects are proposed for implementation and construction. A project-level analysis generally has access to all the necessary construction information and is able to analyze the specific details of environmental effects of proposed elements. However, it is possible that a program-level analysis would identify and address all the potential environmental impacts and an additional environmental document would not be required if no additional impacts are identified once all the project-level details are known.

Generally the following elements of the proposed Project will be analyzed programmatically:

- 150,000 square feet of light industrial development in Avalon Development District Area A because the proposed Project provides locations for industrial uses and those uses would be constructed per the underlying zone; however, there are not any specific development proposals at the time of this draft EIR (75,000 square feet in Phase I and the remaining in Phase II);
- Potential relocation of removed LADWP bulk storage capacity to the Olympic Tank Site, because, while the relocation would be conducted and analyzed at a later date by a different lead agency, in removing a currently operating industrial use it is logical to presume the use would be relocated and operated on a feasible site elsewhere even if it is not proposed at the time of this draft EIR (Phase I and Phase II); and

- Extension of the Waterfront Red Car Line, because the exact engineering details of the alignment and operation are not known at the time of preparing this draft EIR (Phase II).

All other proposed project elements (including the Multi-Modal CCT along Harry Bridges Boulevard) will be analyzed at a project level within this draft EIR. Table 2-4 identifies the proposed project components and the respective level of analysis provided in the draft EIR (i.e., program or project level).

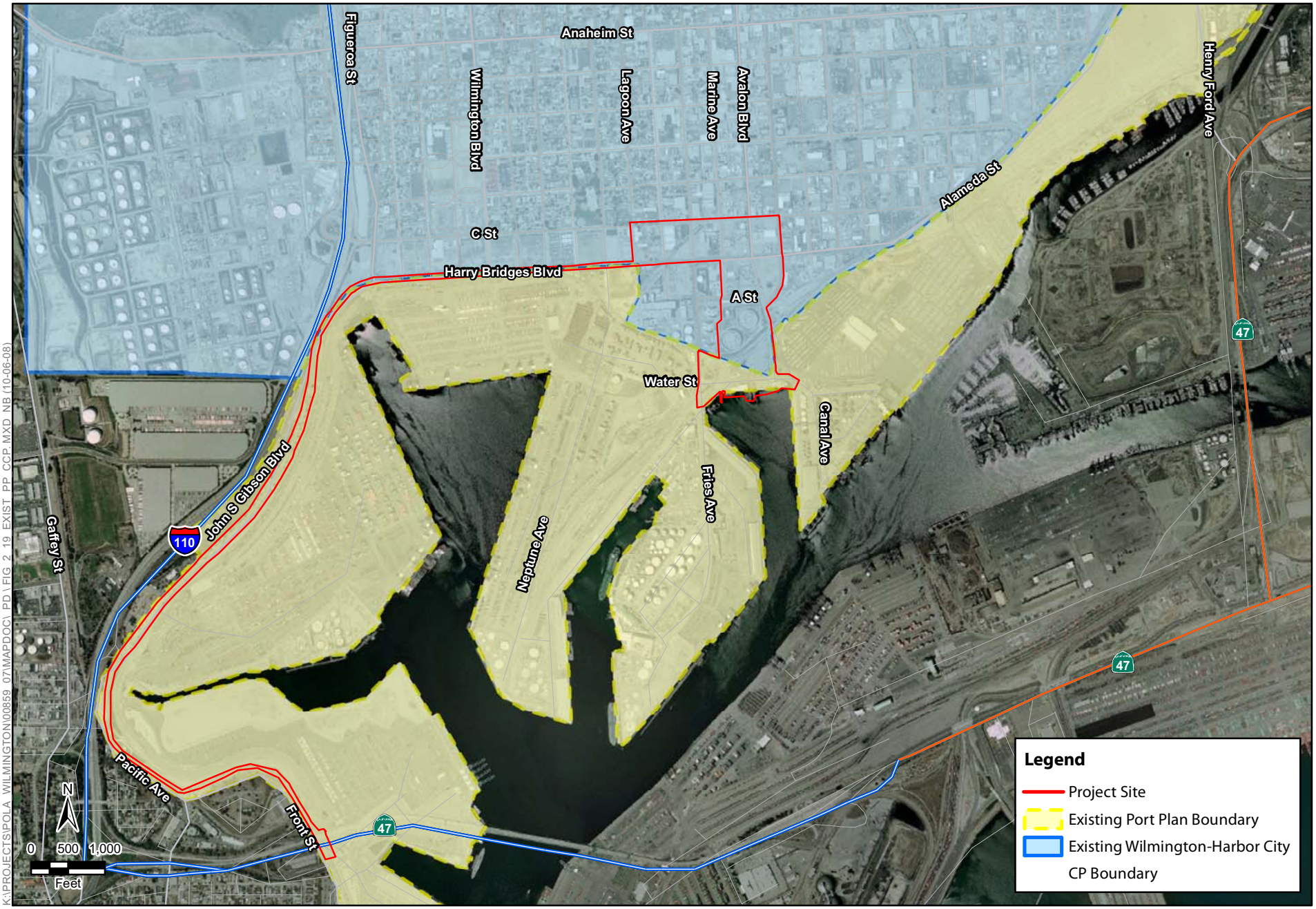
Table 2-4. Level of Analysis of each Element of the Proposed Project

Elements	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (Full Buildout 2015–2020)*	*Programmatic or Project-level Analysis*
AVALON DEVELOPMENT DISTRICT			
Light Industrial Development	Maximum of 75,000 sf of light industrial development around Avalon Boulevard, in the industrial area between Lagoon and Broad Avenues, north of Harry Bridges Boulevard and south of C Street; school and police trailer to remain	Potentially develop an additional 75,000 sf of light industrial development	Program
Retail/Commercial Development	58,000 sf of retail/commercial development south of Harry Bridges Boulevard along Avalon Boulevard	N/A	Project
Acquisition of Private Property	Dockside Ship & Machine Repair		Project
Waterfront Red Car Museum	Adaptive reuse of the 14,500-sf building located on Bekins Storage Property as Waterfront Red Car Museum consistent with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings	N/A	Project
Railroad Green	Approximately 1-acre passive recreation park crossing diagonally from Harry Bridges Boulevard (at Island Avenue) to C Street (east of Fries Avenue)	N/A	Project
Vacating Avalon Boulevard	Vacation of Avalon Boulevard south of A Street	N/A	Project
Realignment of Broad Avenue	Realignment of Broad Avenue to continue to the waterfront	N/A	Project
Streetscape Improvements	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District	Streetscape and pedestrian enhancements to improve aesthetics and connectivity throughout the Avalon Development District	Project
Demolition			
Demolish Dockside Ship & Machine Repair Structures and	Demolish all structures		Project

Elements	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (Full Buildout 2015–2020)*	*Programmatic or Project-level Analysis*
Unknown Underutilized Adjacent Structure			
Relocation			
Potential Relocation of Dockside Ship & Repair Structures to 141 and 211 N. Marine Avenue	N/A	N/A	Program
AVALON WATERFRONT DISTRICT			
Waterfront Promenade & Replacing Existing Bulkhead	Waterfront promenade with landscaping which includes 43,220 sf of new viewing piers (1,155 concrete pilings, 24 inches in diameter), replacement of approximately 17,880 sf of existing piers (478 concrete piles), and two floating docks measuring 5,870 sf for transient boats	N/A	Project
Land Bridge (total 10 acres)	Land bridge extending from the waterfront to the LADWP tanks over the existing rail lines and the realigned Water Street	Completion of remaining section of land bridge to total 10 acres; sloped open lawn, ornamental gardens, and terraces with decomposed granite would landscape this portion of the land bridge	Project
Pedestrian Water Bridge	Pedestrian "Water" Bridge from Entry Plaza to the waterfront promenade and Observation Tower	N/A	Project
Entry Plaza	1-acre Entry Plaza located at the southeast corner of Harry Bridges and Avalon Boulevards adjacent to Avalon Triangle Park	N/A	Project
Observation Tower	200-foot-tall Observation Tower with a 2,144-sf footprint and a pedestrian walkway	N/A	Project
Restaurant Development	N/A	12,000 sf of restaurant development at the waterfront	Project
Realignment of Water Street			Project
Landscaping Improvements	Landscaping improvements to the existing National Polytechnic University parking lot and area surroundings	N/A	Project
Passenger Drop	Passenger drop-off east of Banning's Landing Community Center along Broad Avenue		Project
Demolition			
Demolish Catalina Freight	Demolish entire building	N/A	Project

Elements	*Proposed Project Phase I (2009–2015)*	*Proposed Project Phase II (Full Buildout 2015–2020)*	*Programmatic or Project-level Analysis*
Demolish National Polytechnic College of Science Hyperbaric Chamber Building	Demolish entire building	N/A	Project
Demolish National Polytechnic College of Science Welding Pier	Demolish entire building	N/A	Project
LADWP Marine Tank Site	Acquisition and demolition of all tanks and associated infrastructure	N/A	Project
Relocation			
Relocation of LADWP bulk storage tank capacity to Olympic Tank Site	After the LADWP tanks are demolished a potential feasible relocation of the reduction of bulk storage capacity due to the demolition of the LADWP tanks is the Olympic Tank Site	N/A	Program
Parking			
Fries Avenue	51 spaces off of Fries Avenue	N/A	Project
North of Banning's Landing	71 spaces north of Banning's Landing under the pedestrian water bridge	N/A	Project
West of Land Bridge, East of Peaker Plants	N/A	A 148-space surface parking lot with landscaping accessible from A Street adjacent to the bridge	Project
WATERFRONT RED CAR LINE AND CALIFORNIA COASTAL TRAIL			
Extension of Waterfront Red Car Line	N/A	The Waterfront Red Car Line would begin at the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard	Program
California Coastal Trail (CCT)	N/A	The CCT would follow the existing sidewalk/public right-of-way route from Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then Harry Bridges Boulevard terminating at Avalon Boulevard	Project

1



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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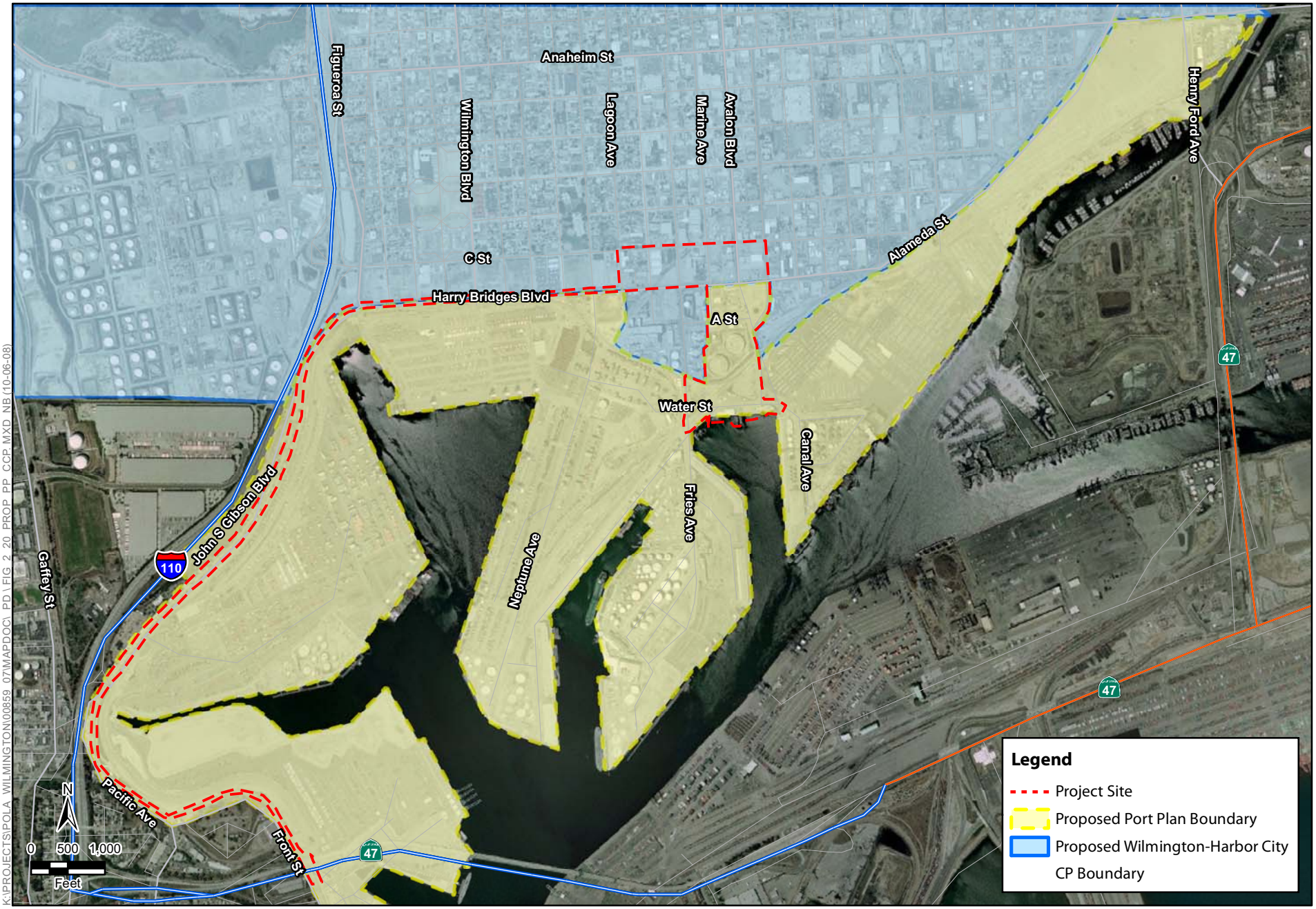
Figure 2-19
Port Plan and Wilmington-Harbor City Community Plan Existing Boundaries
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

Figure 2-20
Port Plan and Wilmington-Harbor City Proposed Boundaries
Wilmington Waterfront Development Project

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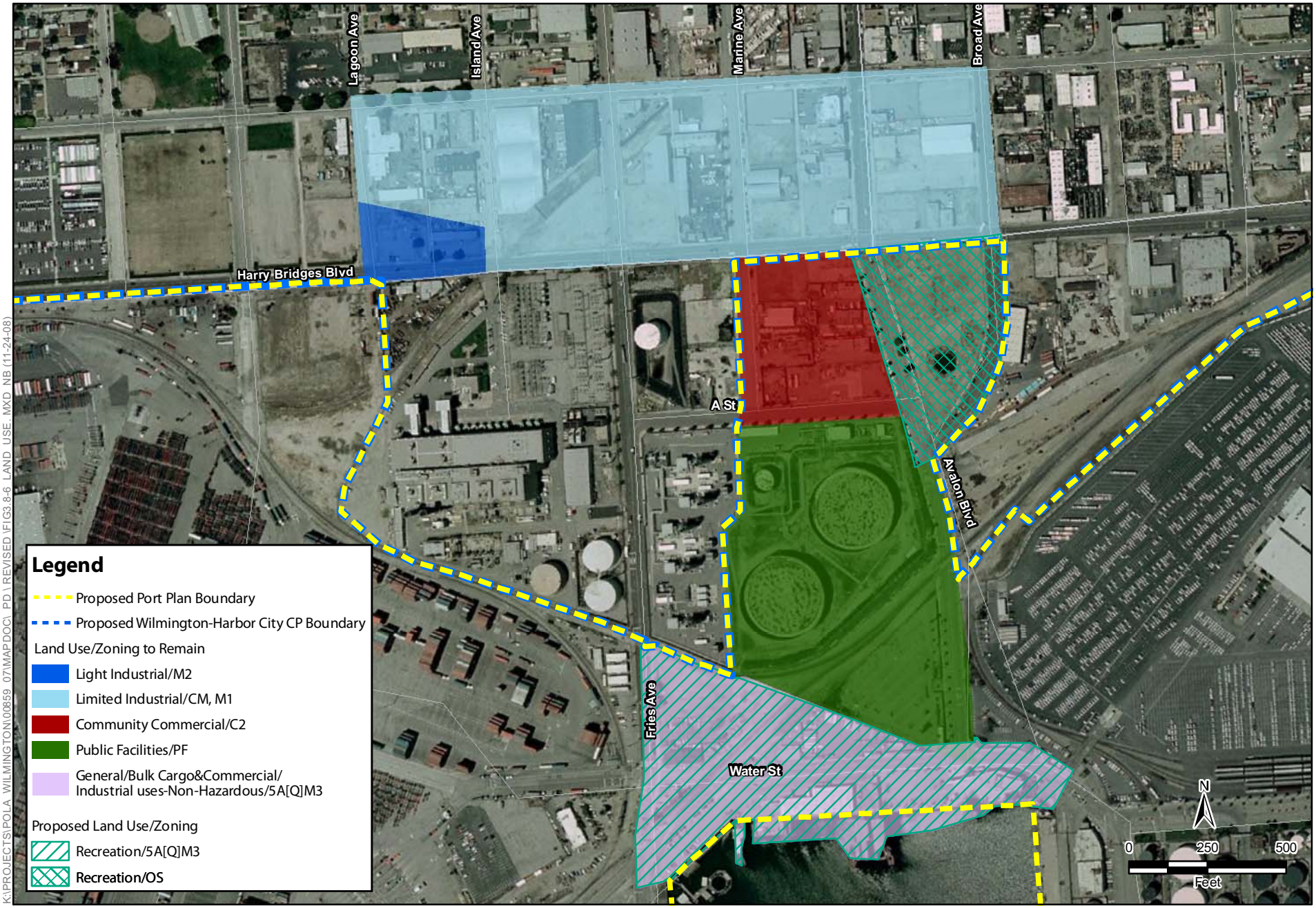

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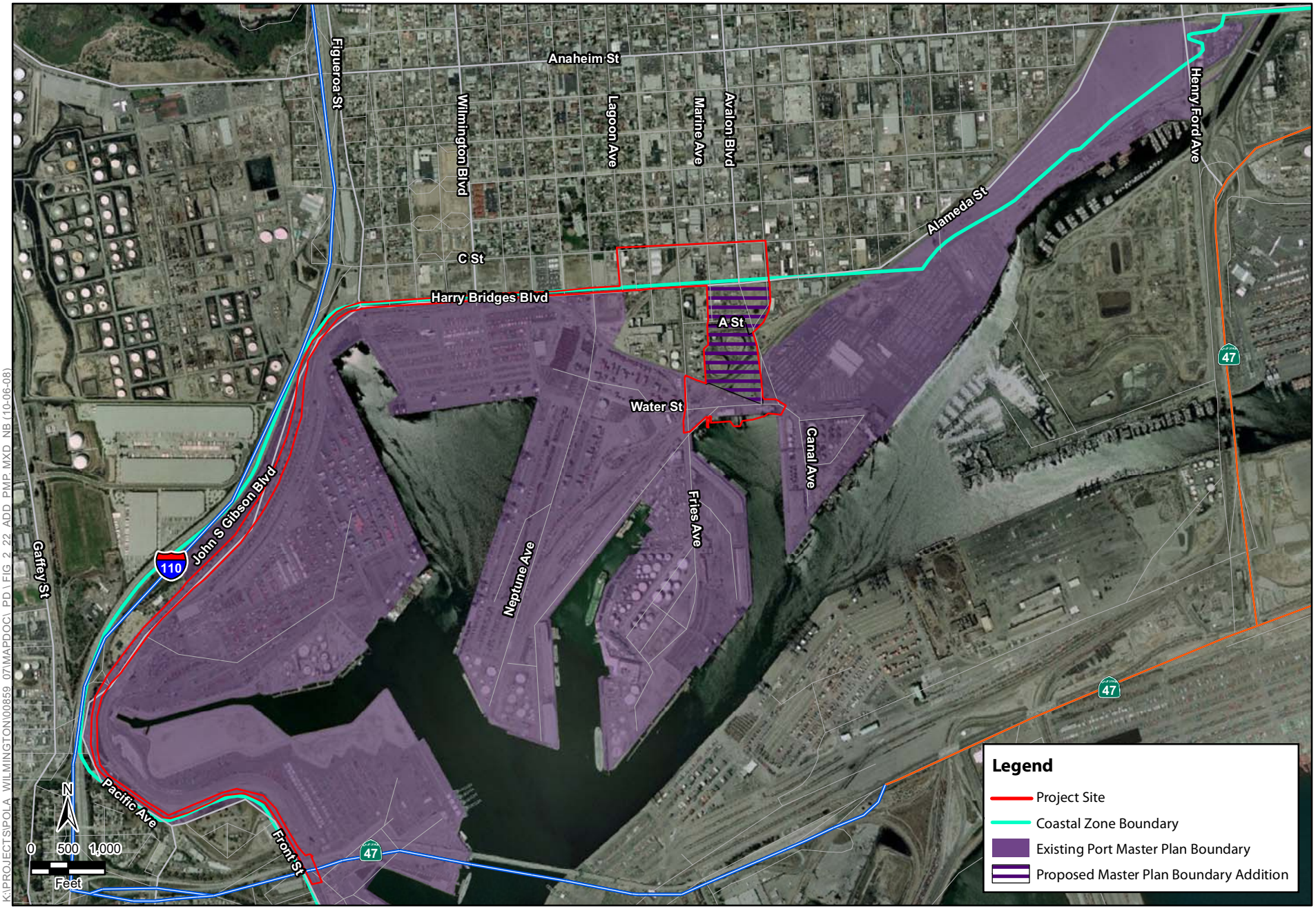
SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

Figure 2-21
Proposed Project Wilmington-Harbor City CP and Port Plan Land Use/Zoning Change
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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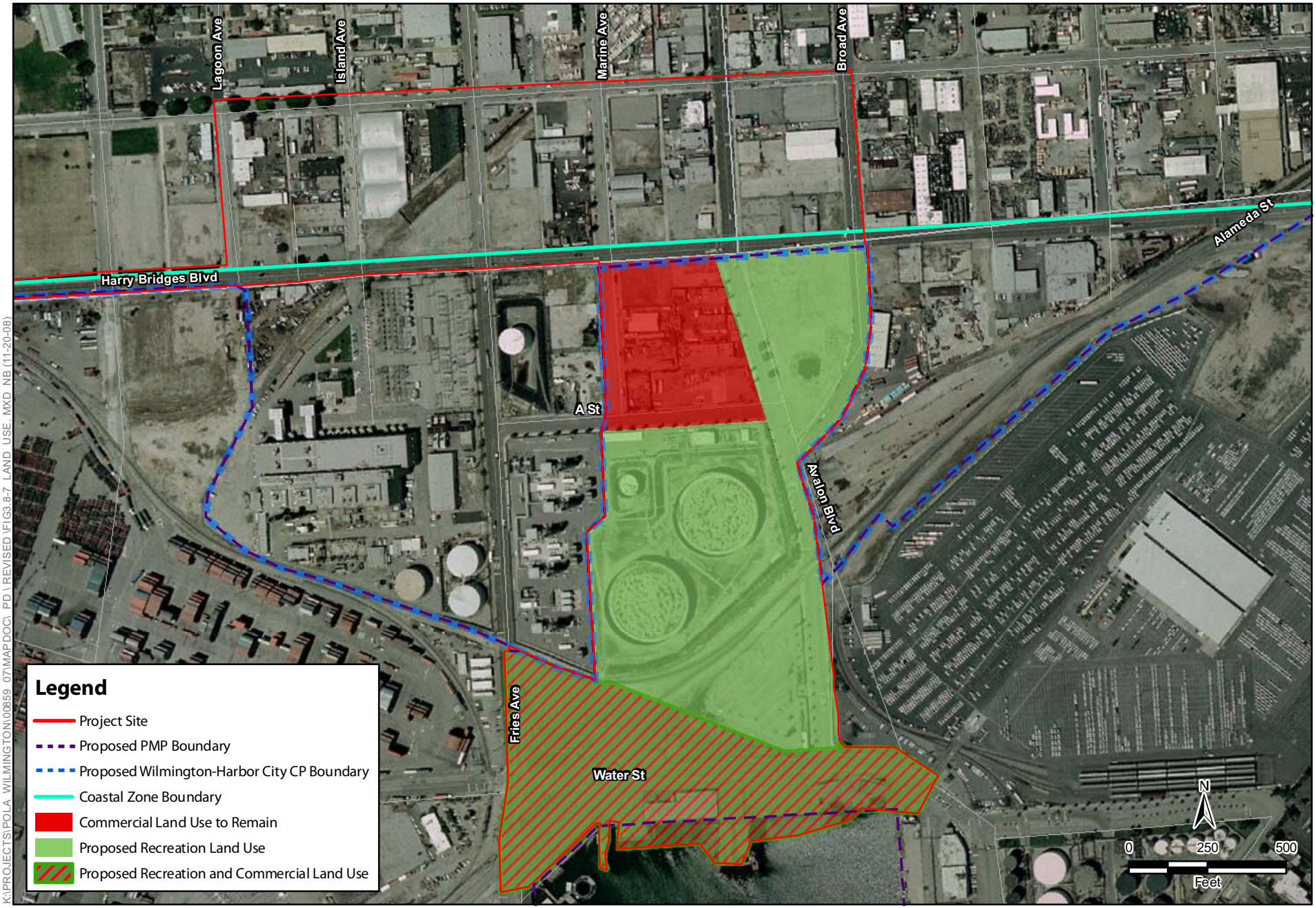
Figure 2-22
Proposed Boundary Adjustment to Port Master Plan
Wilmington Waterfront Development Project



K:\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC_PD_\REVISED\FIG3.8-7_LAND_USE_.MXD_NB (11-20-08)

SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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Figure 2-23
Proposed Port Master Plan Land Use Designations
Wilmington Waterfront Development Project

2.8 Proposed Project Phasing and Demolition and Construction Plan

The proposed Project assumes demolition and relocation of the existing and operational LADWP Marine Tank Farm liquid bulk storage tanks. This demolition would allow the construction of the Land Bridge and elevated park that would connect to the Avalon Development District. As stated above, the proposed Project is split into two phases. A large number of the proposed project elements would be constructed under the Phase I: Interim Plan, which would commence construction in 2009 and terminate around 2015. The remaining elements would be constructed under the Phase II: Full Buildout Plan, which would commence in approximately 2015 and terminate in 2020. The proposed project elements associated with each phase are discussed in further detail below. See Table 2-1 for a summary of each element and the appropriate phasing.

2.8.1 Phase I: Interim Plan (2009–2015)

The elements or actions that would be constructed and operated under Phase I: Interim Plan are described below and illustrated in Figure 2-24.

2.8.1.1 Avalon Development District (Areas A and B)

2.8.1.1.1 Area A

- Infrastructure improvements (including stormwater improvements, dry utility lines, potable waterlines, and wastewater lines) within the Avalon Development District to support the development of up to 75,000 square feet of green technology light industrial uses during Phase I
- Development of the Railroad Green, a 1-acre passive open space within an existing abandoned railroad right-of-way
- Development of a Waterfront Red Car Museum in the 14,500-square-foot Bekins Building through adaptive reuse of this historic structure consistent with the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings
- Pedestrian sidewalk and street improvements along Lagoon, Island, Fries, Marine, and Broad Avenues, along Avalon and Harry Bridges Boulevards, and along C Street.

2.8.1.1.2 Area B

- Demolition of Dockside Machine & Ship Repair and other structures listed described in Table ES-2, followed by development of up to 58,000 square feet of

commercial uses, south of Harry Bridges Boulevard between Avalon Boulevard and Marine Avenue and the realignment of Avalon Boulevard

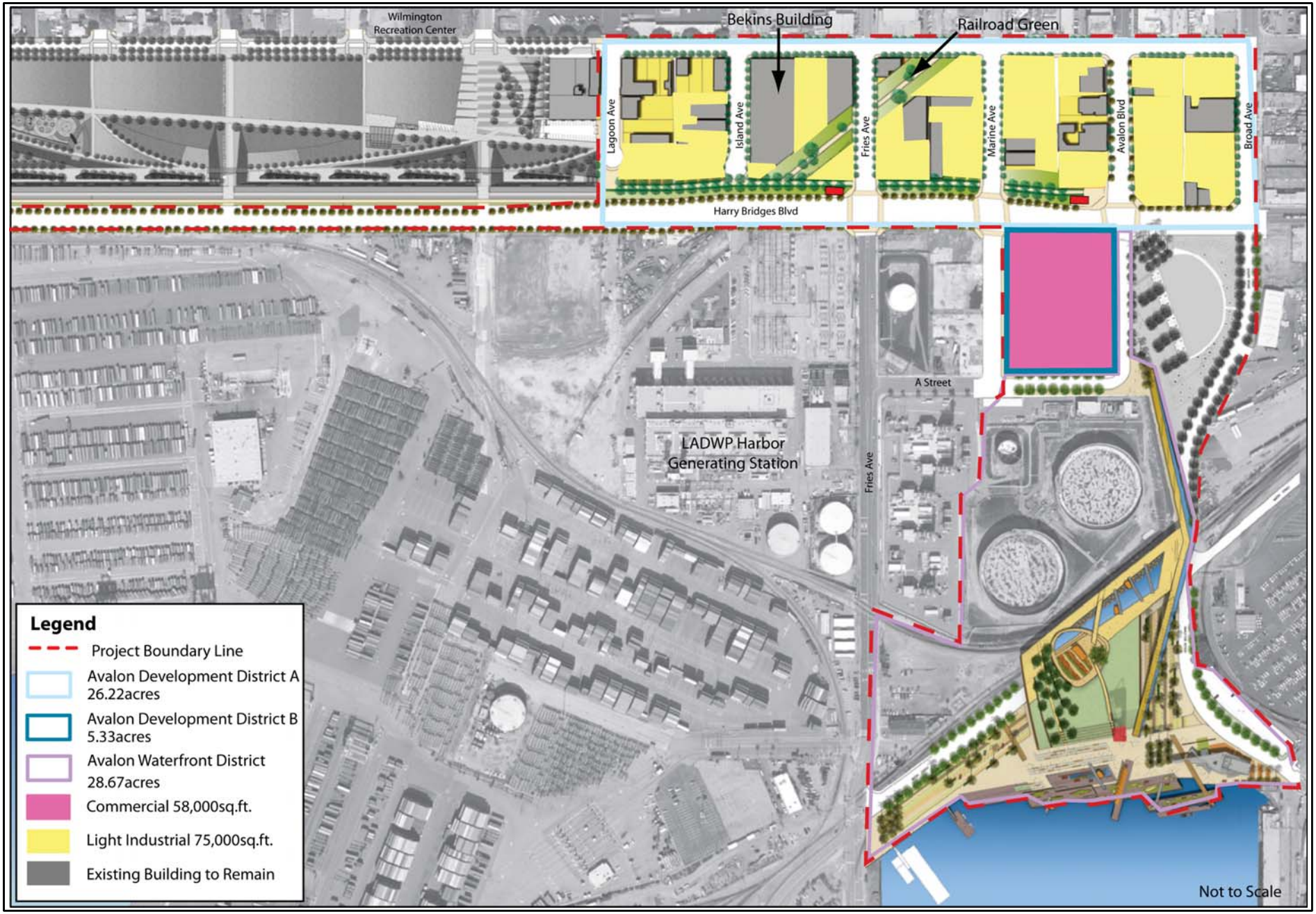
- Vacation of Avalon Boulevard south of A Street, realignment and continuation of Broad Avenue to the waterfront, and realignment of Water Street to provide more waterfront area for the promenade and pedestrian open space
- Development of pedestrian-oriented features such as parks, plazas, sidewalk enhancements and landscaping, a water bridge, and a 200-foot-tall Observation Tower with an associated walkway
- Development of a waterfront promenade, new viewing piers (43,220 square feet) and replacement viewing piers (17,880 square feet), and two small floating docks for visiting vessels (for a total of 5,870 square feet)
- Initiation of the development of a 10-acre elevated park space on an expansive Land Bridge over active railroad lines and the proposed realigned Water Street
- Construction of the 1-acre Entry Plaza located at the southeast corner of Harry Bridges and Avalon Boulevards at the entrance to the pedestrian water bridge
- Construction of two off-street surface parking areas at the waterfront promenade (71 and 51 spaces, respectively)
- Construction of a passenger drop-off east of Banning's Landing Community Center
- Demolition of the Catalina Freight structures (30,860 square feet), National Polytechnic College of Science Hyperbaric Chamber Building (2,370 square feet), and associated Welding Pier (1,800 square feet)
- Dedication of the LADWP Marine Tank site north of Water Street and south of A Street between Fries Avenue and Avalon Boulevard for park and recreation use (initiated in 2011)
- Demolition and removal of the existing LADWP Marine Tank Farm 450,000 bbls liquid bulk storage tanks (58,965 square feet each), the 30,000 bbls tank, and the associated LADWP structures (6 structures totaling 18,500 square feet), followed by soil and groundwater remediation as necessary

2.8.2 Phase II: Full Buildout (2015–2020)

The elements or actions, which would be constructed and operated under Phase II: Full Buildout, are described below and illustrated in Figure 2-25.

2.8.2.1 Avalon Development District (Area A)

- Continued enhancement of the Avalon Development District (Area A) to support the construction of an additional 75,000 square feet of green technology light industrial development during Phase II, for a total of 150,000 square feet



SOURCE: Sasaki (2008)

Figure 2-24
Interim Phase
Wilmington Waterfront Development Project

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2.8.2.2 Avalon Waterfront District

- Completion of the 10-acre Land Bridge located on the LADWP Marine Tank site
- Construction of 12,000 square feet of restaurant/visitor-serving retail uses at the waterfront promenade
- Construction of 1 surface parking area with 148 spaces on the LADWP Marine Tank site west of the Land Bridge (access from A Street)

2.8.2.3 Waterfront Red Car Line and Multi-Modal California Coastal Trail

- Extension of the Waterfront Red Car Line and CCT along John S. Gibson and Harry Bridges Boulevards from the intersection of Swinford Street and Harbor Boulevard to the intersection of Harry Bridges and Avalon Boulevards

2.9 Alternatives to the Proposed Project

2.9.1 CEQA Requirements for Alternatives

CEQA's evaluation criteria for alternatives are described fully in Chapter 1, Section 1.5.8. Briefly, the CEQA Guidelines, Section 15126.6, require that an EIR present a range of reasonable alternatives to the proposed project, or to the location of the project, that could feasibly attain a majority of the basic project objectives, but would avoid or substantially lessen one or more significant environmental impacts of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the project objectives, are ostensibly feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project (CEQA Guidelines, Section 15126.6[f]). The EIR must also identify the environmentally superior alternative other than the No Project Alternative. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects (CEQA Guidelines, Section 15126.6[c]).

2.9.2 Alternatives Evaluated in this Draft EIR

This document presents a reasonable range of alternatives pursuant to CEQA. LAHD must define alternatives in light of the requirements of the Los Angeles City Charter, the Los Angeles Tidelands Trust Grant, the Public Trust Doctrine, and the California Coastal Act. These legal mandates demand that LAHD use the Port for the purposes

of promoting and accommodating waterborne commerce, navigation, fishery, and related purposes. In developing alternatives, the starting point is the proposed Project's objectives.

Eight alternatives, including the proposed Project and the No Project Alternative, were considered and evaluated in regards to how well each met the objectives for the proposed Project. Four of these alternatives were eliminated from detailed consideration for various reasons, as summarized in Section 2.9.3. Two of the alternatives met most of the project objectives and are presented in Chapter 5, "Project Alternatives," and summarized below. In addition, the No Project Alternative was considered as required by CEQA. Chapter 5 provides the complete comparison between the proposed Project and the alternatives, and identifies the environmentally superior alternative.

The following alternatives are evaluated:

- Proposed Project
- Alternative 1—Alternative Development Scenario 1(Reduced Development)
- Alternative 2—Alternative Development Scenario 2 (Reduced Construction and Demolition)
- Alternative 3—No Project Alternative

Each of the three alternative development scenarios has been carried forward for detailed analysis in Chapter 5, "Project Alternatives," and is summarized below. Table 2-5 provides a summary comparison of each of the alternatives in relation to the proposed Project.

Table 2-5. Summary of Proposed Project and Alternatives at Full Buildout (2020)

Alternative	*Total Project Acres*	*Acres Subject to Construction Activity**	*Proposed Retail/Commercial and Restaurant (square feet)*	*Proposed Industrial (square feet)*	*Total Fill in Water (square feet)*	*New Over-Water Viewing Piers (square feet)*
Proposed Project	94	90	70,000	150,000	2,200	43,220
Alternative 1 Reduced Development: No Avalon Development District	63	55	12,000	0	2,200	43,220
Alternative 2 Reduced Construction and	94	82	70,000	150,000	2,200	43,220

Alternative	*Total Project Acres*	*Acres Subject to Construction Activity**	*Proposed Retail/Commercial and Restaurant (square feet)*	*Proposed Industrial (square feet)*	*Total Fill in Water (square feet)*	*New Over-Water Viewing Piers (square feet)*
Demolition: LADWP Marine Tank Farm to Remain						
Alternative 3 No Project	94	0	0	0	0	0
*Construction activity includes, but is not limited to, grading, grubbing, trenching, demolition, and new construction and improvements. Avalon Triangle Park is a separate development project and is only included in the proposed Project boundary due to the Port Plan and PMP boundary adjustment and land use redesignation.						

2.9.2.1 Alternative 1—Alternative Development Scenario 1 (Reduced Development)

As compared to the proposed Project, Alternative 1 would only develop the Avalon Waterfront District, CCT, and provide program-level planning for the Waterfront Red Car Line. Since all of the proposed Project elements associated with the Avalon Waterfront District are the same under this alternative as the proposed Project, each feature is noted and the reader can refer back to the description under the proposed Project.

Alternative 1 would reduce the development footprint by not improving the Avalon Development District (Areas A and B) generally north of Harry Bridges Boulevard as well as one block south of Harry Bridges Boulevard between Marine Avenue and Avalon Boulevard. For those elements that differ between the proposed Project and Alternative 1, the differences are described in detail below.

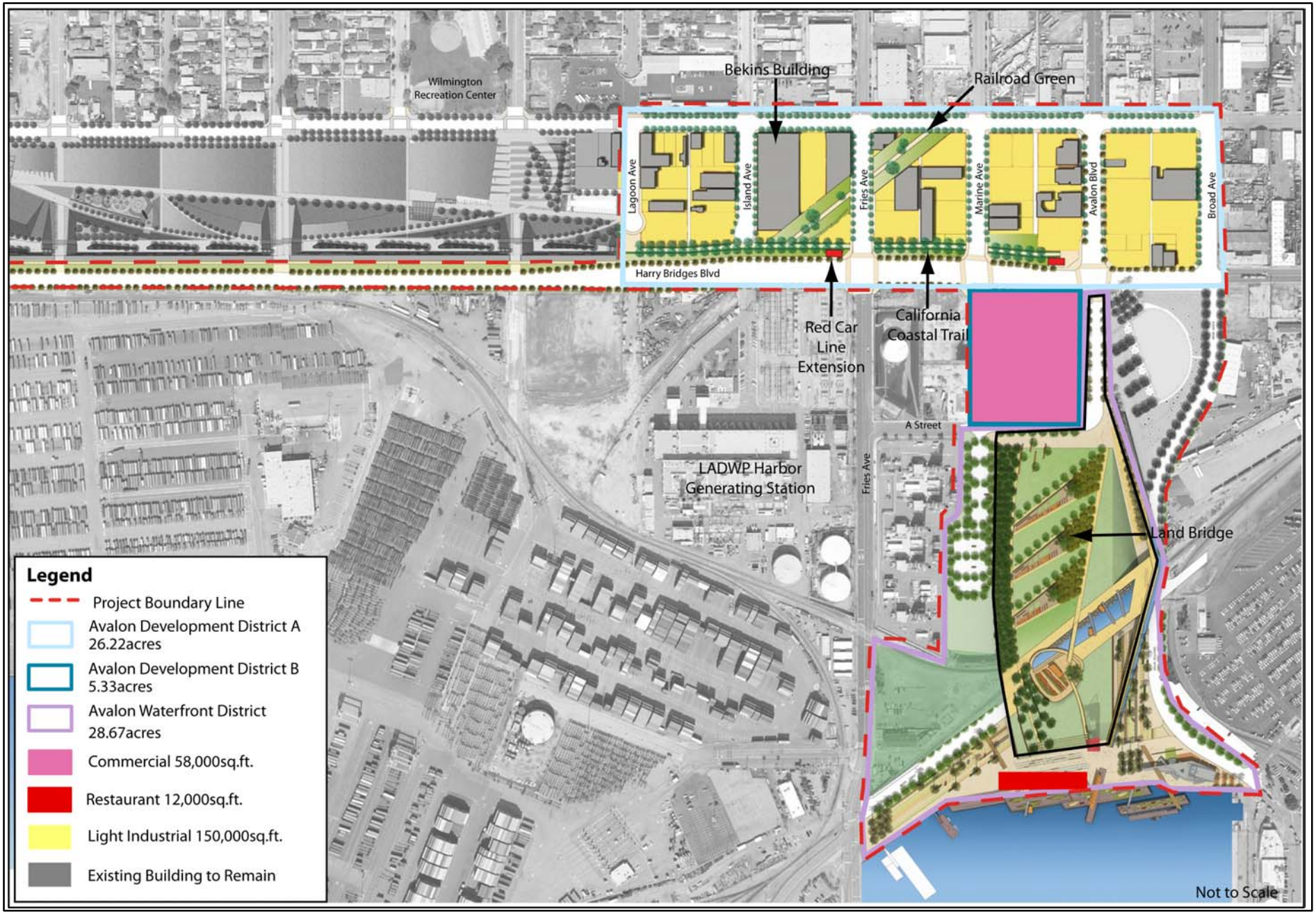
Alternative 1 would not include streetscape and pedestrian enhancements along portions of Harry Bridges Boulevard, C Street, portions of Avalon Boulevard, Lagoon Avenue, Island Avenue, portions of Fries Avenue, Marine Avenue, and portions of Broad Avenue. Nor would it develop the infrastructure to support approximately 150,000 square feet of development for light industrial uses (for green technology businesses) or the 58,000 square feet of retail/commercial uses (such as a Mercado). In addition, Alternative 1 would not include implementation of the Waterfront Red Car Museum and rehabilitation of the 14,500-square-foot Bekins property, or development and landscaping of the 1-acre Railroad Green.

The Avalon Development District would remain underdeveloped in its existing condition. This area would have the potential to undergo redevelopment in the future, but it would not be in combination or coordination with the Wilmington

Waterfront Development Program. Under this alternative, development of the infrastructure within the Avalon Development District would not be assured, and it is reasonably foreseeable that the land would remain vacant for an extended period of time.

The following Avalon Waterfront District elements for Alternative 1 are the same as those described for the proposed Project.

- Waterfront Promenade and visitor-serving amenities including:
  - Demolition of Catalina Freight, National Polytechnic College of Science Hyperbaric Chamber Building, and National Polytechnic College of Science Welding Pier
  - Construction and operation of waterfront promenade
  - Construction and operation of Observation Tower
  - Construction and operation of a restaurant
- Land Bridge and LADWP Marine Tank site, including:
  - 1-acre Entry Plaza
  - Pedestrian water bridge
  - Dedication of LADWP property for park and recreation use and demolition of LADWP Marine Tank Site
  - Construction and operation of the 10-acre Land Bridge and elevated park
- Three Surface Parking Areas
- Landscaping improvements to the existing National Polytechnic University (College of Oceaneering) parking area and area surroundings
- Traffic improvements including:
  - Realignment of Avalon Boulevard and Broad Avenue
  - Realignment of Water Street to increase the area of the waterfront promenade and allow the construction of the Land Bridge as proposed
  - Construction of a passenger drop-off east of Banning's Landing Community Center
- Extension of the Waterfront Red Car Line and California Coastal Trail, beginning at Swinford Street and ending at Avalon Boulevard)
- Extension of the Port Plan and Port Master Plan Jurisdictional Boundaries and Corresponding Retraction of Wilmington-Harbor City Community Plan Jurisdictional Boundary and the redesignation of land uses to allow for recreation and park uses consistent with the Tidelands Trust



SOURCE: Sasaki (2008)

Figure 2-25
Full Build Out
Wilmington Waterfront Development Project

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2.9.2.2 Alternative 2—Alternative Development Scenario 2 (Reduced Construction and Demolition)

Alternative 2 would leave the LADWP Marine Tanks in place and reduce the size of the Land Bridge elevated park space by only building the Phase 1 portion (see Figure 2-4 for Interim Development Plan). No site remediation would occur at the LADWP Marine Tank site, and the complete Land Bridge would not connect to the Avalon Development District. Access to the waterfront would still be provided by the proposed pedestrian water bridge, but the Land Bridge would terminate at the LADWP Marine Tank site boundary. This would result in an approximately 4-acre Land Bridge and elevated park, roughly 6 fewer acres than the proposed Project.

Other than not including the Phase II portion of the Land Bridge and not removing the LADWP Marine Tank Farm, Alternative 2 would propose the same project elements as the proposed Project, including realigning Water Street. As with the proposed Project, development and infrastructure improvements would occur at the Avalon Development District and CCT, program-level planning would occur for the Waterfront Red Car Line, and the Port Plan and PMP jurisdictional boundary extensions and land use designations would occur except at the LADWP Marine Tank Farm site.

2.9.2.3 Alternative 3—No Project Alternative

Pursuant to CEQA Guidelines Section 15126.6(e)(3)(A), Alternative 3 describes what would reasonably be expected to occur on the site if no LAHD action would occur. This alternative would not allow implementation of the proposed Project or other physical improvements associated with the proposed Project. Under this alternative, no construction impacts associated with a discretionary permit would occur. In this case, Alternative 3 involves continued operations of the existing uses within the proposed project area, with no new development or expansion.

The following existing conditions, onsite tenants, resident companies, and public facilities, along with associated foreseeable actions, would occur, or continue to operate, if the No Project Alternative was selected:

- LADWP would continue to lease the Marine Tank Farm liquid bulk storage tanks (3) and accessory structures to the Valero Energy Corporation and may renew the lease prior to its expiration set for 2012; remediation of the LADWP site would not occur.
- Light industrial and heavy commercial uses would continue to exist and operate north of A Street and north of Harry Bridges Boulevard, along the Avalon Development District; however, no area-wide development plan would be implemented, and many buildings would remain in a blighted or underused condition and many parcels would remain vacant.
- The historic Bekins Storage Property buildings would not undergo adaptive reuse or reconditioning, but instead would remain on site in their existing condition.

- Banning's Landing Community Center would continue to operate, and its associated parking area would remain in place.
- The waterfront area and existing bulkhead would remain in their existing condition.
- Relocation of Catalina Freight and demolition of the onsite office and warehouse building located at the waterfront could still occur as the tenant is being relocated independently of the proposed Project and would not necessarily require a discretionary action.
- The National Polytechnic University (College of Oceaneering) would continue to operate as with the proposed Project, but no improvements would be made to the surface parking area and landscaping.
- The National Polytechnic College of Science Hyperbaric Chamber Building and National Polytechnic College of Science Welding Pier would not be demolished.
- Avalon Boulevard would continue through to the waterfront; Broad Avenue would terminate at Avalon Boulevard; Water Street would not be realigned.
- Movement of goods would continue truck and rail operations using the exiting transportation corridors and street network.
- The Port Plan, Wilmington-Harbor City Community Plan, and the Port Master Plan would remain unchanged.
- Development of the Avalon Triangle Park site would still proceed independently.

2.9.3 Alternatives Eliminated from Further Consideration

As discussed in Chapter 5, "Project Alternatives," CEQA requires an EIR to present a range of reasonable alternatives to the proposed Project, or to the location of the project, that could feasibly attain a majority of the basic project objectives, but would avoid or substantially lessen one or more significant environmental impacts of the project. CEQA also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that would be infeasible, would not reduce any identified significant impact, or would not meet a majority of the project objectives. Additional details regarding these alternatives and the reasons for rejecting them are included in Chapter 5, "Project Alternatives."

The following project alternatives were considered in the selection process but were rejected due to one or more of the following:

- determined infeasible due to physical, legal, or technical factors;
- inability to meet a majority of the project objectives; or
- inability to reduce one or more identified significant impact(s).

The alternatives below were considered, but eliminated from further analysis:

- Alternative Project Designs—Avalon Pier Project Design
- No In-Water Development
- No Street Vacation of Avalon Boulevard or Realignment of Broad Avenue
- Other Sites within the Port Boundaries and LAHD Jurisdiction

2.10 Proposed Project Baseline for CEQA Purposes

CEQA's requirements for establishing a baseline are discussed in Section 1.6.6, "CEQA Baseline." Section 15125 (a) of the CEQA Guidelines provides the following:

> An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will *normally* constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a proposed project that exist at the time of the issuance of the NOP. For some resource areas, such as Aesthetics, or Geology, the baseline conditions are defined by what was present at the time the NOP was circulated for review (March 2008). Assessment of other resource areas such as Air Quality, Biology, or Water Quality may also include information from prior years up to March 2008 in order to provide the most accurate and representative characterization of baseline conditions by accounting for fluctuations at any point in time. When special circumstances are present, details are provided in the respective sections of Chapter 3, "Environmental Analysis," prior to the impact analysis. These environmental conditions constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact would be significant.

The CEQA baseline represents the setting at a fixed point in time, with no project growth over time, and differs from the No Project Alternative in that the No Project Alternative addresses what is likely to happen at the site over time without discretionary approvals, starting from the existing conditions. The No Project Alternative allows for growth at the proposed project site that would occur without additional discretionary approvals.

2.11 Intended Uses of this Draft EIR

This draft EIR has been prepared in accordance with applicable state environmental regulations, policies, and laws to inform federal, state, and local decision-makers

regarding the potential environmental impacts of the proposed Project and its alternatives. As an informational document, an EIR does not recommend approval or denial of a project. This draft EIR is being provided to the public for review, comment, and participation in the planning process. After public review and comment, a final EIR will be prepared. The final EIR will include responses to comments on the draft EIR received from agencies, organizations, and individuals. It will be distributed to provide the basis for decision making by the lead agency, as described below, and other concerned agencies.

2.11.1 Lead Agency Use—LAHD

LAHD has jurisdictional authority over the proposed Project pursuant to the Port of Los Angeles Tidelands Trust, the California Coastal Act, and CEQA. This EIR will be used by LAHD, as the lead agency under CEQA, in making a decision with regard to the construction and operation of the proposed Project and to inform agencies considering permit applications and other actions required to construct, lease, and operate the proposed Project. LAHD's certification of the EIR, notice of completion, findings of fact, and statement of overriding considerations (if necessary) will document LAHD's decision as to the adequacy of the EIR and inform subsequent decisions by LAHD whether to approve and construct the proposed Project.

Actions that could be undertaken by LAHD following preparation of the final EIR include the following:

- Certification of the EIR
- Project Approval
- Lease Approvals
- Land Condemnation
- General Plan Amendment (Wilmington Harbor-City CP and Port Plan)
- PMP Amendments
- Issuance of Coastal Development Permits
- Completion of Final Design
- Approval of Engineering Permits
- Obtaining other Agency Permits and Approvals (e.g., dredge and fill, grading, construction, occupancy, and fire safety)
- Approval of Construction Contracts

2.11.2 Other Uses

Other agencies (federal, state, regional, and local) that have jurisdiction over some part of the proposed Project or a resource area affected by the proposed Project are

expected to use this EIR as part of their approval or permit process as set forth in Table 2-6. Specific approvals that could be required for this proposed Project include but are not limited to:

- California Coastal Commission approval of a Coastal Development Permit and PMP Amendment to extend the PMP boundary and designate land uses not currently within the PMP to industrial, commercial, and recreational land uses
- City of Los Angeles Building and Safety Permits
- City of Los Angeles Planning Commission and City Council approval of a General Plan Amendment to extend the Port Plan boundary, retract the Wilmington Harbor City boundary, and re-designate land uses currently under the Wilmington Harbor-City CP to land uses allowed by the Port Plan
- City Council approval of the rezone under the City of Los Angeles zoning ordinance to allow for Parks consistent with the Tidelands trust in Planning Area 5
- USACE permit—pursuant to Section 404 of the CWA, Section 10 of the Rivers and Harbors Act (RHA), and Section 103 of the Marine Protection, Research and Sanctuaries Act (MPRSA)
- Water quality permits (CWA Section 401 water quality certification and NPDES permits)
- Construction contracts

2.12 Agencies Expected to Use this EIR

Table 2-6 lists responsible and trustee federal, state, and local agencies that may rely on this draft EIR in a review capacity or as a basis for issuance of a permit for the proposed Project or for related actions.

Table 2-6. Agencies Expected to Use this EIR

Agency	*Responsibilities, Permits, and Approvals*
FEDERAL AGENCIES	
U.S. Army Corps of Engineers (USACE)	Responsible for navigational improvements in waters of the United States. Permitting authority for work and structures in navigable waters and the discharge of dredged or fill material in waters of the United States.
National Oceanographic and Atmospheric Association (NOAA) Fisheries/National Marine Fisheries Service (NMFS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act. Also responsible for Essential Fish Habitat (EFH) under the Magnuson Stevens Act. Provides EFH information, reviews federal action potential effects on EFH, and provides conservation recommendations to USACE through consultation.
U.S. Coast Guard (USCG)	Has jurisdiction over marine facilities, bridges, and vessel transportation in harbor waters. Responsible for ensuring safe navigation and for preventing and responding to oil or hazardous materials releases in the marine environment.

Agency	*Responsibilities, Permits, and Approvals*
	Responsible for enforcement of the Maritime Transportation Security Act (MTSA) and the International Ship and Port Facility Security (ISPS) Code standards for security at cruise terminals.
U.S. Environmental Protection Agency (EPA)	Has primary responsibility for implementing the Clean Air Act (CAA) and works with other federal agencies to implement conformity requirements. Reviews and submits recommendations for spill prevention control and countermeasure plans for non-transportation-related onshore and offshore facilities engaged in storing, processing, refining, transferring, distributing, or consuming oil and gas products. Regulatory authority for determining suitability of dredged sediments for ocean disposal in accordance with Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA). Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits.
U.S. Fish and Wildlife Service (USFWS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act and consultations pursuant to Section 7 of the Endangered Species Act (ESA).
STATE AGENCIES	
California Coastal Commission (CCC)	Reviews environmental document to ensure compliance with the Coastal Zone Management Act and consistency with the California Coastal Act. Performs a federal consistency determination. Reviews and must approve Coastal Development Permit (CDP) applications and Port Master Plan (PMP) amendments. The proposed Project would require an amendment to the PMP to expand the PMP boundary and to allow park land uses consistent with the Tidelands Trust within portions of the proposed project site.
California Department of Fish and Game (CDFG)	Reviews and submits recommendations in accordance with CEQA. Consultation in accordance with the Fish and Wildlife Coordination Act.
California Department of Transportation (Caltrans)	Permitting authority for highway improvements and rail trackage, connections, and signage during construction operations.
California Office of Historic Preservation	Consultation under Section 106 of the National Historic Preservation Act (NHPA) regarding impacts on cultural resources (i.e., demolition of buildings and structures) that are either listed or eligible for listing on the National Register of Historic Places (NRHP).
California Public Utilities Commission (CPUC)	Permitting authority for rail trackage, connections, and signage during construction operations.
The California Waste Management Board	Statutory and regulatory authority to control the handling and disposal of solid nonhazardous waste in a manner that protects public safety, health, and the environment. State law assigns responsibility for solid waste management to local governments.
Regional Water Quality Control Board (RWQCB), Los Angeles Region	Permitting authority for Clean Water Act (CWA) Section 401 water quality certifications subject to Section 404 of the CWA. Permitting authority for California waste discharge requirements pursuant to the state Porter-Cologne Water Quality Control Act. Responsible for issuance of both construction and industrial National Pollutant Discharge Elimination System (NPDES) stormwater permits.
California State Lands	The CSLC has oversight responsibility for tidal and submerged lands

Agency	*Responsibilities, Permits, and Approvals*
Commission (CSLC)	legislatively granted in trust to local jurisdictions and has adopted regulations for the inspection and monitoring of marine terminals. The CSLC inspects and monitors all marine facilities for effects on public health, safety, and the environment.
California Department of Toxic Substance Control (DTSC)	Regulatory jurisdiction over underground tanks containing hazardous materials. Implements groundwater monitoring provision of the Resource Conservation and Recovery Act. Responsible for general site cleanup outside of underground storage tanks (state superfund sites, etc.).
REGIONAL AGENCIES	
Los Angeles County Fire Department (LACFD)	Licensing and inspection authority for all hazardous waste generation in the City. Provides regulation and oversight of site remediation projects involving hazardous waste generators where surface and subsurface soils are contaminated with hazardous substances.
South Coast Air Quality Management District (SCAQMD)	Permitting authority for construction of landfill and operation of pump stations, storage tanks, and terminal facilities; activities involving hydrocarbon-containing soils (Rule 1166); and new or modified sources of air emissions (new source review).
Southern California Association of Government (SCAG)	Responsible for developing regional plans for transportation and federal conformity as well as developing the growth factors used in forecasting air emissions in the South Coast Air Basin (SCAB).
LOCAL AGENCIES	
City of Los Angeles City Council	City Council legislative body that would review any appeal to certification of the EIR by the LAHD and would have approval authority over the proposed amendments to the General Plan Land Use Element to permit adjustments to the Wilmington-Harbor City and Port of Los Angeles Plan boundaries and land use designations; reviews and approves leases, permits, and other approvals.
City of Los Angeles Harbor Department (LAHD)	LAHD is the lead agency for CEQA and the California Coastal Act (via the certified PMP). Other City departments have various approval and permitting responsibilities, and are listed separately below for the sake of clarity. Pursuant to its authority, LAHD may approve permits and other approvals (e.g., coastal development permits; leases for occupancy; and approval of operating, joint venture, or other types of agreements for the operation of the facilities) for the projects evaluated in this EIR. Leasing authority for the Port's land. Permitting authority for engineering construction. Responsible for general regulatory compliance. Responsible for master plan amendment and map change and issuance of coastal development permits. Responsible for activities of other City departments for the proposed Project.
City of Los Angeles Building and Safety Department	Responsible agency with permitting authority for building and grading permits.
City of Los Angeles Bureau of Engineering	Responsible agency with permitting authority for storm drain connections and stormwater discharges, permits for water discharges to the wastewater collection system, and approval of street vacations.
City of Los Angeles Bureau of Sanitation	Responsible agency with permitting authority for industrial waste permit for discharges of industrial wastewater to the City sewer system.
City of Los Angeles Fire	Responsible agency that reviews facilities' Hazardous Materials Business Plan

Agency	*Responsibilities, Permits, and Approvals*
Department (LAFD)	and Inventory and Risk Management and Prevention Programs. Reviews and submits recommendations regarding design for building permit.
City of Los Angeles Department of Transportation (LADOT)	Responsible agency that reviews and approves changes in City street design, construction, signalization, signage, traffic counts, as well as traffic impact analysis methodology and the study area.
City of Los Angeles Department of Water and Power (LADWP)	Responsible agency that provides a water supply assessment and approves the facilities' new water service connection and meters. LADWP may also provide assistance or even lead efforts for the remediation of the LADWP Marine Tank Farm site if determined applicable to the site.
City of Los Angeles Planning Department	Responsible agency that reviews zone changes or amendments, general plan amendments, variances for zoning or parking code requirements. The proposed Project would require a General Plan amendment to extend the boundary of the Port of Los Angeles Plan, retract the Wilmington Harbor City CP boundary, and re-designate industrial/commercial land uses to open space and park uses. A rezone is required to allow parks consistent with the Tidelands Trust in current industrial/commercial zones.

2.13 Relationship to Existing Statutes, Plans, Policies, and Other Regulatory Requirements

One of the primary objectives of the CEQA process is to ensure that the proposed Project is consistent with applicable statutes, plans, policies, and other regulatory requirements. Table 2-7 lists the statutes, plans, policies, and other regulatory requirements applicable to the proposed Project and its alternatives. Additional analysis of plan consistency is contained in individual resource sections of Chapter 3, "Environmental Analysis," and, in particular, in Section 3.8, "Land Use."

Table 2-7. Applicable Statutes, Plans, Policies, and Other Regulatory Requirements

Applicable Ruling	*Description*
California Coastal Act of 1976	The California Coastal Act (PRC Div. 20 Section 30700 et seq.) identifies the Port of Los Angeles and its facilities as "one of the state's primary economic and coastal resources and [is] an essential element of the national maritime industry" (PRC Section 30701(a)). In accordance with the Act, LAHD is responsible for modernizing and constructing necessary facilities to accommodate deep-draft vessels along with the demands of foreign and domestic waterborne commerce as well as other traditional and water-dependent and related facilities to preclude the necessity for developing new ports elsewhere in the state (PRC Section 30701(b)). The Coastal Act further provides that all port-related developments should "[g]ive highest priority to the use of existing land space within harbors for port purposes, including, but not limited to, navigational facilities, shipping industries, and necessary support and access facilities" (PRC Section 30708 (c)). Under the California Coastal Act, water areas may be diked, filled, or dredged when consistent

Applicable Ruling	*Description*
	with a certified port master plan only for specific purposes, including: (1) construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities that are required for the safety and the accommodation of commerce and vessels to be served by port facilities; and (2) new or expanded facilities or waterfront land for Port-related facilities. (PRC Section 30705(a) In accordance with provisions of the Coastal Act, the Port has a certified Master Plan (PMP) that provides the Port with Coastal Development Permit authority for actions/developments consistent with that Master Plan. Items that are inconsistent with the PMP such as new fills in water would require a PMP Amendment approved by the Coastal Commission. The proposed Project would require an amendment of the PMP to re-designate land uses and rezone to allow for parks consistent with the Los Angeles Tidelands Trust Grant.
Port of Los Angeles Port Master Plan	The Port of Los Angeles Master Plan (PMP) (POLA, 1979) provides for the development, expansion, and alteration of the Port (both short-term and long-term) for commerce, navigation, fisheries, port-dependent activities, and general public recreation. Those objectives are consistent with the provisions of the California Coastal Act (1976), the Charter of the City of Los Angeles, and applicable federal, state, and municipal laws and regulations. The proposed action would necessitate an amendment of the Port of Los Angeles Port Master Plan to allow for parks consistent with the Los Angeles Tidelands Trust Grant.
California Coastal Plan	Under provisions of the California Coastal Act, the Port of Los Angeles Master Plan is incorporated into the Local Coastal Program of the City of Los Angeles. The LAHD has coastal development permit authority for activities in the Main Channel. Therefore, if the proposed Project would be consistent with the Port of Los Angeles Master Plan, the proposed Project would also be considered consistent with the Local Coastal Program. The LAHD does not currently have coastal development permit authority for the following proposed Project element: expanding the PMP boundary, rezone, and redesignating land uses. Authority would be granted if the Port of Los Angeles Master Plan were amended to include the Project element.
Los Angeles Tidelands Trust Grant	The State of California granted the submerged lands and tidelands comprising the Port of Los Angeles in trust to the City of Los Angeles in 1929 by statute commonly referred to as the "Los Angeles Tidelands Trust Grant" (Chapter 651, Statutes of 1929, as amended). The submerged lands and tidelands are administered by the LAHD to promote and develop commerce, navigation and fisheries, and other uses of statewide interest and benefit, including but not limited to, commercial, industrial, and transportation uses, public buildings and public recreational facilities, wildlife habitat, and open space. The LAHD would fund the proposed Project with trust revenues. All property and improvements included in the proposed Project would be dedicated to maritime-related uses, including industrial, commercial, and public recreation and would, therefore, be consistent with the requirements of the Trust.
San Pedro Bay Clean Air Action Plan	The LAHD, in conjunction with the Port of Long Beach and with guidance from AQMD, CARB, and USEPA, has developed the San Pedro Bay Clean Air Action Plan (CAAP), which was approved by the Los Angeles and Long Beach Boards of Harbor Commissioners on November 20, 2006. The CAAP focuses on reducing diesel particulate matter (DPM), NO_X, and SO_X, with two main goals: (1) to reduce Port-related air emissions in the interest of public health, and (2) to disconnect cargo growth from emissions increases. The Plan includes near-term measures implemented largely through the CEQA/NEPA process and new leases at both ports. The proposed Project includes air quality control measures outlined in the CAAP, both as mitigation that will be imposed via permits and lease provisions and as standard measures that will be implemented through the lease, agreements with other agencies and business entities, and Port contracting policies.
Port of Los Angeles Real	The purpose of this Policy is to provide a framework that governs leasing and rental decisions as they relate to tenant retention, selecting new tenants, development of new

Applicable Ruling	*Description*
Estate Leasing Policy	agreements and, as appropriate, modifications to existing agreements by amendments. The proposed Project would be consistent with the Leasing Policy and incorporate CAAP provisions that would be implemented through the lease with the future leasees.
Port of Los Angeles Strategic Plan	The Port of Los Angeles Strategic Plan (USACE and POLA, 2007) identifies the mission of the Port and provides 11 strategic objectives for the next 5 years. The mission includes promotion of "grow green" philosophy combined with fiduciary responsibility and promotion of global trade. The 11 strategic objectives include, minimization of land use conflicts, maximizing the efficiency and the capacity of current and future facilities, addressing needed infrastructure requirements, maintaining financial self-sufficiency, raising environment standards and enhancing public health, promoting emerging and environmentally friendly cargo movement technology and energy sources, provide for safe and efficient operations and homeland security, strengthen local community relations and developing more and higher quality jobs. The proposed Project is consistent with the Strategic Plan because the Project would create new industrial and commercial facilities, which would raise environmental standards through the incorporation of LAHD environmental policies into a new lease and would use sustainable elements such as solar panels, stormwater recycling, and low impact drainage options such as bioswales and pervious pavement.
Port of Los Angeles Risk Management Plan	The Risk Management Plan, an amendment to the Port of Los Angeles Master Plan, was adopted in 1983, per requirements of the California Coastal Commission. The purpose of the Risk Management Plan is to provide siting criteria relative to vulnerable resources and the handling and storage of potentially hazardous cargo such as crude oil, petroleum products, and chemicals. The Risk Management Plan provides guidance for future development of the Port to minimize or eliminate the hazards to vulnerable resources from accidental releases (LAHD, 1983). The area surrounding the proposed Project site has been reviewed for hazardous risk under the Port Risk Management Plan, however, the proposed Project would not add a hazardous risk element requiring compliance with the Port RMP.
City of Los Angeles General Plan – Port of Los Angeles Plan	The Port of Los Angeles Plan is part of the General Plan for the City of Los Angeles (City of Los Angeles, 1982a). This plan provides a 20-year official guide to the continued development and operation of the Port. It is designed to be consistent with the Port of Los Angeles Master Plan discussed above. Amendments to the Port Plan would be required to extend the Port Plan boundary, re-designate land uses to allow for parks consistent with the Tidelands Trust, and downgrade Avalon Boulevard south of Harry Bridges Boulevard .
City of Los Angeles – Wilmington Community Plan	The Wilmington Harbor City Community Plan serves as a basis for future development of the community. It is also the land use plan portion of the City's Local Coastal Program for Wilmington. The Port of Los Angeles, although contiguous to Wilmington, is not part of the Wilmington Harbor City Community Plan area. However, the proposed project site lies partly within the Wilmington community and therefore within the jurisdictional boundary of the Wilmington Harbor City Community Plan. The proposed Project would amend the Wilmington Harbor City Community Plan to retract the jurisdictional boundary to the north of Harry Bridges Boulevard.
City of Los Angeles General Plan – Air Quality Element	The City of Los Angeles General Plan has an Air Quality Element (City of Los Angeles, 1992) that contains general goals, objectives, and policies related to improving air quality in the region. Policy 5.1.1 relates directly to the Port and requires improvements in harbor operations and facilities to reduce emissions. The LAHD is actively planning for and implementing such improvements. The proposed Project is consistent with the Air Quality Element in that it incorporates CAAP measures to reduce air quality impacts.
Water Quality Control Plan –	The Water Quality Control Plan for the Los Angeles River Basin (Region 4) (Basin Plan) was adopted by the Regional Water Quality Control Board, Los Angeles Region (RWQCB) in

Applicable Ruling	*Description*
Los Angeles River Basin	1978 and updated in 1994 (RWQCB, 1994). The Basin Plan designates beneficial uses of the basin's water resources. The Basin Plan describes water quality objectives, implementation plans, and surveillance programs to protect or restore designated beneficial uses. The proposed Project would be operated in conformance with objectives of the Water Quality Control Plan and would require future leasees to comply with the General Industrial permit for stormwater.
Water Quality Control Policy – Enclosed Bays and Estuaries of California	In 1974, the State Water Resources Control Board (SWRCB) adopted a water quality control policy that provides principles and guidelines to prevent degradation and to protect the beneficial uses of waters of enclosed bays and estuaries (SWRCB, 1974). Los Angeles Harbor is considered to be an enclosed bay under this policy. Activities, such as the discharge of effluent, thermal wastes, radiological waste, dredge materials, and other materials that adversely affect beneficial uses of the bay and estuarine waters are addressed. Waste discharge requirements developed by the RWQCB, among other requirements, must be consistent with this policy. The proposed Project would be constructed and operated in conformance with objectives of the Water Quality Control Policy through controls on construction activities (fill, wharf construction) and on operations (stormwater and other discharges).
Air Quality Management Plan	The federal Clean Air Act (CAA) and its subsequent amendments establish the National Ambient Air Quality Standards (NAAQS) and delegate the enforcement of these standards to the states. In areas that exceed the NAAQS, the CAA requires states to prepare a State Implementation Plan (SIP) that details how the NAAQS will be achieved within mandated time frames. The CAA identifies emission reduction goals and compliance dates based on the severity of the ambient air quality standard violation within an area. The California Clean Air Act (CCAA) outlines a program to attain the more stringent California Ambient Air Quality Standards (CAAQS) for O_3, NO_2, SO_2, and CO by the earliest practical date. The Lewis Air Quality Act of 1976 established the South Coast Air Quality Management District (SCAQMD), created SCAQMD jurisdiction over the four-county South Coast Air Basin, and mandated a planning process requiring preparation of an Air Quality Management Plan (AQMP). The 2003 AQMP (SCAG, 2007) proposes emission reduction strategies that will enable the South Coast Air Basin to achieve the national and most state ambient air quality standards within the mandated time frames. The proposed Project would be consistent with this plan, and discussions with the Southern California Association of Governments (SCAG) determined that construction and operation of the proposed Project are consistent with SCAG regional employment and population growth forecasts, which were used in the development of the 2003 AQMP.
California Air Resources Board – Emission Reduction Plan for Ports and Goods Movement	California Air Resources Board (CARB) approved the Emission Reduction Plan for Ports and Goods Movement (CARB, 2006) on April 20, 2006. All of the proposed mitigations in this EIR were developed as part of the Port's Clean Air Action Plan (POLA and POLB, 2006; see Section 1.6). Thus, the Port Air Quality Plan complies with CARB goals and meets and/or exceeds all reduction strategies.
AB 32	On September 27, 2006, Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act. The Act caps California's greenhouse gas emissions at 1990 levels by 2020. This legislation represents the first enforceable statewide program in the United States to cap all GHG emissions from major industries that includes penalties for noncompliance. It requires the State Air Resources Board to establish a program for statewide greenhouse gas emissions reporting and to monitor and enforce compliance with this program. The proposed Project's consistency with AB 32 cannot be accurately evaluated until the Air Resources Board establishes its program.
Southern California Association of Governments	Southern California Association of Governments (SCAG) is responsible for developing regional plans for transportation management, growth, and land use, as well as developing the growth factors used in forecasting air emissions within the South Coast Air Basin. SCAG has developed a Growth Management Plan (GMP), a Regional Housing Needs Assessment, a

Applicable Ruling	*Description*
Regional Plans	Regional Mobility Plan (RMP), and in cooperation with the SCAQMD, the AQMPs. The proposed Project would not generate population migration into the area or create a demand for new housing units, and thus would be consistent with these plans.
Congestion Management Plan	The Congestion Management Program (CMP) is a state-mandated program intended as the analytical basis for transportation decisions made through the State Transportation Improvement Program process (LACMTA, 1993). The CMP was developed to: (1) link land use, transportation, and air quality decisions; (2) develop a partnership among transportation decision makers on devising appropriate transportation solutions that include all modes of travel; and (3) propose transportation projects that are eligible to compete for state gas tax funds. The CMP includes a Land Use Analysis Program, which requires local jurisdictions to analyze the impacts of land use decisions on the regional transportation system. For development projects, an EIR is required based on local determination and must incorporate a Transportation Impact Analysis into the EIR. This EIR does include a transportation impact analysis and thus is consistent with the CMP.
Water Quality Regulations	The Rivers and Harbors Act of 1899, Section 10; federal Water Pollution Control Act (as amended by the Clean Water Act of 1977), Section 404; California Hazardous Waste Control Act; State Water Resources Control Board, Enclosed Bays and Estuaries Plan; Water Quality Control Plan for the Los Angeles River Basin (Region 4B), adopted by the Regional Water Quality Control Board, Los Angeles Region; and Sections 401 and 402 of the Clean Water Act of 1977.
Air Quality Regulations	Clean Air Act, Title 40 CFR Parts 50 and 51 as amended; Prevention of Significant Deterioration, Titles 40 CFR Part 51.24 and 40 CFR Part 52.21; California Clean Air Act; Air Quality Management Plan of the City of Los Angeles General Plan, Air Quality Element; and SCAQMD Regulations X111 and XV, New Source Review and Rules 212, 401, 403, and 431.2.
Transportation Regulations	California Public Utilities Commission Guidelines; Federal Railroad Administration Guidelines; Federal Highway Administration Guidelines; California Transportation Guidelines; California Administrative Code Section 65302 (f)-Noise Element; City of Long Beach Noise Control Ordinance, No. C-5371; Federal Aid Highway Program Manual 7-7-3; USACE Regulation 1105-2-100; National Environmental Compliance, 91-190; United States Coast Guard Regulations Pertaining to Navigation Safety and Waterfront Facilities; State and Federal Department of Transportation Requirements regarding Track and Rail Transportation of Hazardous Materials; NEPA of 1969 as Amended (Public Law 91-190); and USACE Regulation 1105-2-100, Economic and Environmental Principles and Guidelines for Water and Related Land Resource Implementation Studies.
Biological Resources Protection	Endangered Species Act of 1973, as amended; Marine Mammal Protection Act; Migratory Bird Conservation Act; Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972; California Endangered Species Act; Section 302 of the Marine Protection, Research, and Sanctuaries Act of 1972; United States Fish and Wildlife Act of 1956 (16 USC 742a et seq.); Fish and Wildlife Coordination Act (16 USE 661 et seq.); Magnuson-Stevens Fishery Conservation and Management Act, as amended through 1996; Executive Order 13112, Invasive Species; Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (P.L 01-646), as amended by the National Invasive Species Act of 1996; Ballast Water Management for Control of Nonindigenous Species Act of 1999 (PRC Sections 71200-71271).
Cultural Resources	National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR 800); the Archaeological and Historical Preservation Act and Executive Order

Applicable Ruling	*Description*
Protection	11593 "Protection and Enhancement of the Cultural Environment."
Environmental Justice	Executive Order 12898 requires that "to the greatest extent practicable, each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations." California adopted legislation addressing environmental justice in 1999 with the passage of Senate Bill (SB) 115 (Government Code Section 65040.12[c]), which established the Governor's Office of Planning and Research as the lead agency responsible for implementation of federal and state environmental justice policies in California. SB 115 defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws and policies." In 2000, the Governor signed the related SB 89 requiring that the Secretary for Environmental Protection convene a Working Group to assist California Environmental Protection Agency (CalEPA) in developing an environmental justice strategy.

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3.0

ENVIRONMENTAL SETTING

3.0.1 Introduction

This chapter defines the terminology used in this document and the CEQA requirements related to the alternatives analysis. The 14 sections contained within this chapter discuss the possible environmental effects of the proposed Project and alternatives identified by LAHD that would avoid or substantially lessen significant impacts for an environmental issue (or resource) area. Sections 3.1 through 3.14 discuss both environmental issues found to be potentially significant and those found not to be significant.

To assist the reader in comparing information about the various environmental issues, Sections 3.1 through 3.14 each present the following information for their specific resource area:

- Environmental Setting (the environmental setting or baseline for this draft EIR is the physical condition that existed in March 2008 [when the review and comment period of the NOP began for this project])
- Significance Criteria (i.e., the criteria against which the significance of an impact is judged)
- Impact Assessment Methodology
- Impacts and Mitigation Measures of the proposed Project
- Mitigation and Monitoring
- Significant Unavoidable Impacts

Significant cumulative impacts for the proposed Project for each environmental resource area are summarized in Chapter 4.0 of this draft EIR. The proposed Project alternatives are presented in Chapter 5.0. The CEQA Baseline and its application to the analysis of potential impacts from the proposed Project is explained in detail in Section 1.6.6 and Section 2.10 in this EIR.

3.0.2 Terminology Used in this Environmental Analysis

In evaluating the potential impacts of the proposed Project and the project alternatives, the level of significance is determined by applying the threshold of significance (significance criteria) presented for each resource evaluation area. The following terms are used to describe each impact:

- *No Impact*: A designation of no impact is given when no adverse changes in the environment are expected.
- *Less-than-Significant Impact*: A less-than-significant impact would be identified when the proposed Project or alternatives would cause no substantial adverse change in the environment (i.e., the impact would not reach the threshold of significance).
- *Significant Impact*: A significant (but mitigable, or avoidable) impact would create a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the proposed Project or alternatives. Such an impact would exceed the applicable significance threshold established by CEQA but would be reduced to a less-than-significant level by the required application of a mitigation measure.
- *Significant Unavoidable Impact*: As required by Section 15126.2(b) of the CEQA Guidelines, this is used when a residual impact that would cause a substantial adverse effect on the environment—which may or may not be reduced somewhat—could not be reduced to a less-than-significant level through any feasible mitigation measure(s).
- *Mitigation*: Mitigation refers to measures that would be implemented to avoid or lessen potentially significant impacts. Mitigation includes:
  - avoiding the impact completely by not taking a certain action or parts of an action;
  - minimizing the impact by limiting the degree or magnitude of the action and its implementation;
  - rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  - reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
  - compensating for the impact by replacing or providing substitute resources or environments.

  The mitigation measures would be proposed as a condition of project approval and would be monitored to ensure compliance and implementation.
- *Residual Impacts*: This is the level of impact after the implementation of mitigation measures.

3.0.3 Requirements to Evaluate Alternatives

CEQA Guidelines Section 15126.6 require that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, that could feasibly attain most of the basic project objectives but would avoid or substantially lessen any significant environmental impacts. The EIR should compare merits of the alternatives and determine an environmentally superior alternative. Chapter 5.0 of this draft EIR sets forth potential alternatives to the proposed Project and evaluates their suitability, as required by CEQA Guidelines (Section 15126.6).

3.1

AESTHETICS

3.1.1 Introduction

This section describes the existing visual environment of the proposed project area, including the applicable regulations and plans pertaining to aesthetics. This section also analyzes the potential impacts that would result from the proposed Project and concludes that the proposed Project would not result in any significant and unavoidable impacts on aesthetics on or near the proposed project site.

3.1.1.1 Terminology

Views refer to visual access and obstruction, or whether it is possible to see a focal point or panoramic scene from an area. *Focal views* provide focused visual access to a particular object, scene, setting, or feature of visual interest. *Panoramic views* provide unfocused visual access to a large geographic area for which the field of view can be quite wide and extends into the distance considerably. Panoramic views are usually associated with vantage points located on high ground and provide views of valued resources such as mountains, valleys, cityscapes, or the ocean. They also can provide views of an area not commonly available to the public or private residents.

Views may be discussed in terms of *foreground*, *middleground*, and *background*. Foreground views are those immediately presented to the viewer and include objects at close range that may tend to dominate the view. Middleground views occupy the center of the viewshed and tend to include objects that are the center of attention if they are sufficiently large or visibly different from adjacent visual features. Background views include distant objects and other objects that make up the horizon. Objects in the background eventually fade to obscurity with increasing distance. In the context of background, the skyline or the ocean can be an important visual feature because objects above this point are highlighted against the background of the sky or water. These "skylined" elements are typically more evident to the viewer because of their inherent contrast.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity within a landscape, as modified by viewer preference and sensitivity. *Vividness* is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns. *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings. *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity. (FHWA n.d.)

The following additional definitions pertain to terminology used in visual analysis.

- *Aesthetics* generally refers to the identification of visual resources and the quality of what can be seen, or the overall visual perception of the environment.
- *Focal points* are areas that draw the attention of the viewer, such as prominent structural features and water features.
- *Nighttime illumination* is the effect of exterior lighting upon adjoining uses.
- *Scenic views* or *vistas* are "the panoramic public view access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features" (City of Los Angeles 2001a).
- *Shading* is the effect of shadows cast by structures on adjacent land uses.
- *Viewshed* is all of the surface area visible from a particular location or sequence of locations (e.g., roadway or trail).
- *Key Observation Point (KOP)* is an important viewing area selected through a rigorous process of evaluating an area's scenic quality, visual sensitivity, and viewer response. Project visualizations are often created from these points.

3.1.2 Environmental Setting

The proposed Project would be located within the Los Angeles Harbor and Port, which is adjacent to the community of Wilmington, a highly urbanized area. Located approximately 20 miles south of downtown Los Angeles, the Port is one of the largest and busiest seaports in the nation. Figure 2-2 provides a map of the proposed project vicinity.

The visual character of the proposed project vicinity is defined by privately owned industrial uses adjoining the Port, as well as the Port's industrial facilities. These include a diverse range of uses: canneries; boat repair yards; warehouses; liquid and dry bulk storage facilities for oil and coal; railroad spurs; shipping container storage; and commercial shipping terminals, which are dominated by views of stories-tall steel cranes used for loading and unloading cargo. The appearance of many Port operations is utilitarian in nature, characterized by exposed infrastructure, open

storage, the use of unfinished or unadorned building materials, and the use of safety-conscious, high-visibility colors such as orange, red, or bright green for mobile equipment such as cranes, containers, and railcars. The visual environment within the Port also includes recreational boating facilities and marinas. A large number and variety of watercraft are present, ranging from small recreational and commercial fishing boats to large vessels such as container, crude oil carrier, and cruise ships. In the San Pedro portion of the Port (located approximately 1.5 to 2 miles to the southwest), there are also beaches and sport fishing areas, cruise line terminals, retail shops, restaurants, and museum/aquarium facilities catering to tourists.

Elements of the visual setting also include the industrial/commercial corridor along Harry Bridges Boulevard and the residential area in Wilmington to the north of the Port (generally north of D Street). The southern portion of Wilmington consists of an industrial/commercial corridor that is largely vacant. There is a residential area to the west in San Pedro near the proposed Waterfront Red Car alignment. These areas include a mix of single-family homes and apartment complexes, commercial uses, and some open space/recreational facilities. The character of the residential areas is also defined by views of cars parked along streets as well as overhead power lines.

3.1.2.1 Existing Viewer Groups

Viewer sensitivity, or viewer concern about noticeable changes to views, is based on the visibility of a scenic resource, proximity of viewers to the resource, relative elevation of viewers to the resource, frequency and duration of views, number of viewers, and types and expectations of the viewer. Generally, visual sensitivity increases as the total number of viewers, frequency, and duration of viewing activities increase. Visual sensitivity is generally considered higher for residents, people who are driving for pleasure, or those engaged in recreational activities that focus on enjoyment of the visual environment. Sensitivity is lowest for people commuting to and from work or for workers acquiring occasional views from their work places.

Based on frequency of viewing and duration of views, the principal viewer groups for the proposed Project (in descending order of their potential sensitivity to change) are the residents of Wilmington and San Pedro; recreationists, such as boaters in the harbor and at the Cerritos Channel Marina; tourists; commuting motorists; and workers within the area. See Section 3.1.4.1.1 for a more detailed discussion of these viewer groups.

3.1.2.2 Existing Visual Resources

The Port's visual setting is varied due to the diverging intensity of development, topographic characteristics, landscape features, and the quality of views of the harbor and open sea that are afforded from specific locations. Perception of the Port and its setting is also informed by the level of interest (sensitivity) different viewers have about the specific views available to them.

An analysis of existing views toward the proposed project site from potentially sensitive viewing areas includes an overall description of visual character prevailing in the views. The analysis is developed based on field observations, review of photographs of the affected area, and a review of methods for assessing visual quality. The final assessment of scenic quality is made based on professional judgment that takes a broad spectrum of factors into consideration, including:

- natural features, such as topography, water courses, rock outcrops, and natural vegetation;
- the positive and negative effects of manmade alterations and built structures on visual quality; and
- visual composition, including an assessment of the vividness, intactness, and unity of patterns in the landscape.

3.1.2.2.1 Existing Visual Conditions within the Proposed Project Vicinity

The following section provides an overview of visual elements in the proposed project vicinity including views to the proposed Project site and views from the proposed Project site. This inventory of existing conditions describes prominent components in the visual setting that combine to form the overall visual character of the area. Figure 3.1-1 provides the location of representative photo points utilized in the discussion of existing conditions described below.

Wilmington Community Residential Viewshed

The Wilmington residential district is located largely to the north of the proposed project area above C and D Streets. The main access route into the southern part of the Wilmington community is via Harry Bridges Boulevard. This residential development is comprised of single-family dwellings and multi-unit residential buildings, and includes a mix of early twentieth century post–World War II buildings, as well as more recent buildings configured on small lots in a densely urban pattern.

The residential area is both visually and physically separated from the Port by the approximately 500-foot-wide area which functions as a buffer from industrial uses located to the south. This area is located west of Lagoon Avenue and bordered by C Street (north) and Harry Bridges Boulevard (south) and ends at Figueroa Street (Figure 3.1-2). The area is composed of mostly vacant lots and low density buildings. This area, known as the Harry Bridges Boulevard buffer, is planned for a community park and recreational area as part of the Berths 136–147 [TraPac] Container Terminal Project.

Typical views from this residential area include the buffer area as the dominant foreground element, and the LADWP Marine Tank Farm and the LADWP Harbor

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Figure 3-1
Photograph Locations

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Figure 3.1-1
Existing Setting Photograph Locations
Wilmington Waterfront Development

Generating Station, cargo containers, and railroad tracks as the most prominent mid-range features (Figure 3.1-3). Views within the southern portion of Wilmington include a mixture of commercial storefronts and industrial buildings along C Street, such as the Bekins Storage Warehouse and the Wilmington Recreation Center on the corner of Neptune Avenue and C Street. Visibility of the proposed Project area from within the Wilmington viewshed is limited due to the flat terrain and the presence of large commercial buildings and industrial facilities in the foreground. Some views of the proposed project area in the middleground are visible from between the buildings along Harry Bridges Boulevard, to the east of Avalon Boulevard, and to the west of Marine Avenue.

The views from within the Wilmington residential district viewshed are considered to have low visual quality. As discussed previously, the overall visual character of this area includes a mix of industrial, commercial, and residential land uses, which results in an incongruent pattern of land uses as viewed from within the Wilmington residential district viewshed. There are no views of important or key visual features, and the land form, water form, and vegetative form are all unremarkable. Viewers within this area are primarily residents, commuters, and workers. As mentioned previously, residential viewers typically have the highest sensitivity to changes in the visual environment; however, because views of the proposed Project area are limited and because the overall visual quality of the views is considered to be low, viewer sensitivity within the Wilmington viewshed is also considered to be low.

Avalon Development District Viewshed—Gateway to the Port

South of Harry Bridges Boulevard, the landscape becomes markedly more industrial in character. This area is the gateway to the Port with the main access route provided via Avalon Boulevard. This corridor includes the site of the proposed 10-acre park and raised land bridge, which is highly visible from Avalon Boulevard. Views of the proposed project site along route are dominated by the two large LADWP liquid bulk storage tanks and Banning's Landing Community Center (Community Center) with views of the Port's Gantry cranes and Vincent Thomas Bridge in the distant background (Figure 3.1-4). The Pacific Harbor Rail Line cuts through the proposed project site along Water Street.

The Avalon Development District Viewshed affords views of the proposed project site as well as the Banning Landing Community Center. As a viewer moves northward on Avalon Boulevard, north of Harry Bridges Boulevard the viewshed becomes narrower and constrained by the one- and two-story commercial structures that line the east and west sides of lower Avalon Boulevard.

The landscape is uniform and consists primarily of paved areas with associated support structures, including administrative buildings, storage facilities, working equipment, and vehicles. Along the horizon, views are dominated by the presence of towering gantry cranes and other large vertical elements arranged in a visually uniform and congruent pattern. Overhead electrical distribution lines and 60-foot poles traverse the area. The industrial nature of this landscape exhibits a low degree

of intactness even while all the manmade features derive a degree of shared order from their highly functional characteristics.

The views of the proposed project site from within this viewshed are also considered to have low visual quality. The fore- and middleground views consist of scattered industrial development and are dominated by the LADWP liquid bulk storage tanks. There are no visually interesting or unique elements, with the exception of intermittent, distant views of the Vincent Thomas Bridge in the distant background. Due to its graceful engineering the Vincent Thomas Bridge is considered a visual resource. The form of the bridge is outlined at nighttime with blue LED lighting. However, quality views of the Vincent Thomas Bridge lack intactness and are compromised by intervening gantry cranes and other vertical elements. The key viewers within this area are primarily industrial workers and commuters and residents patronizing Avalon Boulevard commercial enterprises.

Waterfront Viewshed

The waterfront viewshed is dominated by the Port's maritime operations, and includes views of vessels, dock structures, and related support buildings and equipment (Figure 3.1-5). From Berth 181, views across the water toward the proposed project area include the waterfront marina, the Community Center at Banning's Landing, and other administrative buildings in the foreground. Views of the proposed project area from Banning's Landing, looking north away from the waterfront, consist of the Community Center in the foreground, limited views of the Pacific Harbor Line in the middleground, and the LADWP storage tanks and the exhaust stacks of the power peaker units in the background. Overhead electrical distribution lines crisscross the landscape (Figure 3.1-6).

The main public access to the waterfront is provided at Banning's Landing. The Banning's Landing Community Center (Center) was designed to represent a sleek cargo vessel and is a visually interesting element in the viewshed. The Center was constructed by the LAHD and is located at the south end of Avalon Boulevard on East Water Street, at the head of Slip 5. It is Wilmington's landmark facility commemorating State Senator Phineas Banning's establishment of a public landing for vessels that is now a part of the Port. A statue of his likeness immortalizes Banning's achievements as the founder of Wilmington and the Port of Los Angeles on the harbor-side of the Center. The 10,000-square-foot, two-story Center is used as a year-round, full-time venue for Department of Cultural Affairs programming, and supports a variety of community programs and activities. Slip 5 is directly south and adjacent to the proposed Project. Recreational water traffic in Slip 5 is very limited. There is a well-constructed and maintained public boat landing at Banning's Landing. Recreationalists using the landing would have open views of the proposed project site as well as the surrounding highly industrialized area.

The Port facilities along the waterfront are neither highly ordered nor uniform in appearance. They contain numerous disparate elements and do not include any particularly unique or memorable features. The overall landform and water form do include some visually interesting elements associated with views of the working Port

Figure 3.1-3 View from Neptune Avenue and C Street. View Direction Southeast

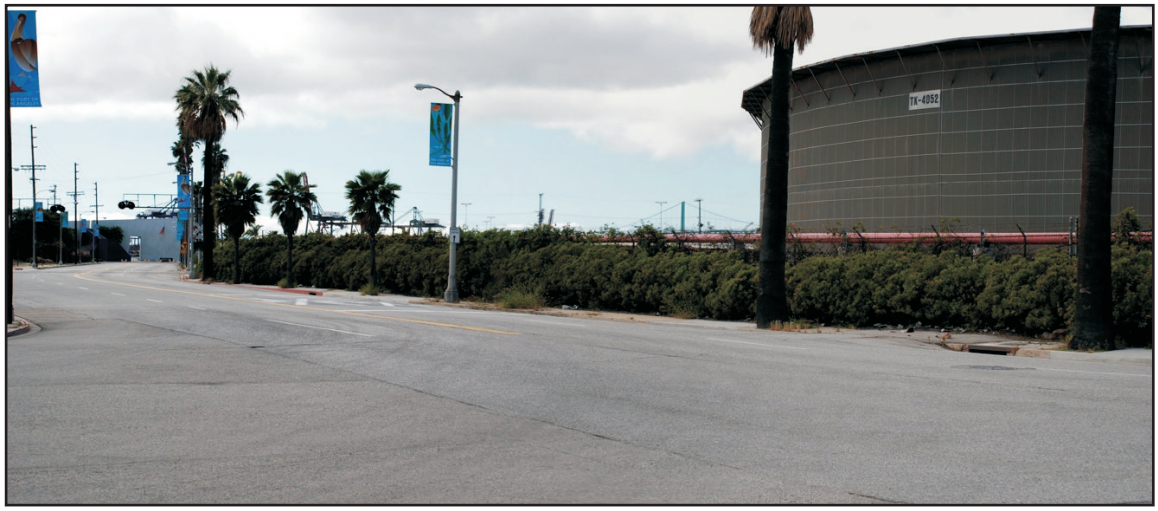

Figure 3.1-4 View from Avalon Boulevard and Broad Avenue. View Direction Southwest

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Figure 3.1-3 and Figure 3.1-4
Photographs of the Existing Setting
Wilmington Waterfront Development Project

Figure 3.1-5 View from Fries Avenue South of Pier A Street. View Direction Northeast

Figure 3.1-6 View from Avalon Boulevard and Canal Avenue. View Direction Northwest

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Figure 3.1-5 and Figure 3.1-6
Photographs of the Existing Setting
Wilmington Waterfront Development

and harbor, but these views are largely inaccessible from most areas near the proposed Project as public access to the waterfront is currently limited to the Banning's Landing Community Center. There are also limited and compromised views of the skylined Vincent Thomas Bridge in the background.

The views of the proposed project area from within the waterfront viewshed are considered to have moderate to low visual quality. There are some interesting views of the working Port and Community Center, and the waterfront provides an aesthetically pleasing feature as well. However, within the proposed project area the landscape is flat and uniform, and the views from the Community Center looking north towards the proposed project area do not include any visually interesting features. The viewers in this area are primarily Port workers and members of the public using the Community Center.

Moving towards the west in the waterfront viewshed, there are additional industrial facilities associated with the LADWP peaker units and the viewshed-dominating Harbor Generating Station (HGS). Views of the proposed project site will be limited by the numerous exhaust stacks of the peaker units and the mass of the HGS. This area is located along the eastern edge of the proposed Waterfront Red Car alignment and California Coastal Trail extension. Viewers are either commuters or people involved in Port-related activities.

3.1.2.3 Light and Glare

The two major causes of light emissions are *glare* and *spill light*. Glare occurs when one sees a bright object against a darker background, such as when a person experiences oncoming headlights while driving at night. Spill light is caused by misdirected light that illuminates areas outside the area intended. The Initial Study identified potential impacts from the expansion of onsite lighting as a result of the proposed Project but determined daytime light or glare would not be substantial (see Appendix A); therefore, only the nighttime setting is discussed below.

The nighttime lighting environment within the proposed project vicinity consists mainly of ambient light produced by the Ports of Los Angeles and Long Beach, although there are also scattered lights from streetlights, vehicle headlights, and interior and exterior building (residential, office, commercial) lighting. The Vincent Thomas Bridge, southwest of the proposed project site, has streetlights and blue-colored lights along the outside of the bridge structure.

Because of the Port operations, the proposed project vicinity and area appear as a brightly lit area within this much larger landscape. The major sources of illumination at the Port are the hundreds of down lights and floodlights attached to the tops of the tall light standards, as well as the street and roadway lighting. High-intensity boom lights are located on top of shipping cranes along the edge of the many channels that feed into the Los Angeles Harbor. When ships are loaded or unloaded at night, floodlights attached to the bottom of the crane boom and sides of the crane structure illuminate the crane and area around it.

Within the Port, the lighting is highly compositional and congruent with the Port functions it serves. The array of flood lighting expresses the inherent organization of the scene. However, when considered in the larger context with the residential areas, the existing Port lighting elements are incongruous, and overall the lighting conditions within the proposed project vicinity are considered to have low visual quality. Specific Key Observation Points (KOPs) are discussed in Section 3.1.4, "Impact Analysis."

3.1.3 Applicable Regulations and Policy Documents

Various plans and policy documents set forth regulations and guidelines for design quality, streetscape, and light and glare that relate to the development of the proposed project site. These include the General Plan of the City of Los Angeles, the Port of Los Angeles Plan, the Wilmington-Harbor City Community Plan, the Wilmington Waterfront Development Program, the San Pedro Community Plan, the Port of Los Angeles Master Plan, and local planning and zoning ordinances. Objectives, goals, and policies from these documents that are pertinent to the proposed Project are listed below.

3.1.3.1 The General Plan of the City of Los Angeles

The General Plan is a legal mandate that governs both private and public actions within the City of Los Angeles. It contains 10 citywide elements plus the Land Use Element, which includes plans for each of the City's 35 Community Planning Areas (CPAs). It also includes counterpart plans for the Port and the Los Angeles International Airport.

Of the 10 citywide elements, three have specific guidelines, goals, or policies that apply to aesthetics. These include the Framework Element, the Conservation Element, and the Transportation Element. These are described below along with the Port of Los Angeles Plan, the Wilmington-Harbor City Community Plan, and the San Pedro Community Plan.

3.1.3.1.1 Framework Element

Urban Form and Neighborhood Design

This Framework Element chapter defines patterns of development intensity, building height, and other structural elements that determine the City's physical character and visually distinguish centers of landscape elements such as open space, transportation corridors, public facilities, activity centers, and focal centers. The following goals and policies are applicable to the proposed Project:

Goal 5A

A livable city for existing and future residents and one that is attractive to future investment. A city of interconnected, diverse neighborhoods that builds on the strengths of those neighborhoods and functions at both the neighborhood and citywide scales.

Objective 5.5: Enhance the livability of all neighborhoods by upgrading the quality of development and improving the quality of the public realm.

- **Policy 5.5.1:** Plant and/or facilitate the planting of street trees, which provide shade and give scale to residential and commercial streets in all neighborhoods in the City.
- **Policy 5.5.3:** Formulate and adopt building and site design standards and guidelines to raise the quality of design Citywide.
- **Policy 5.5.6:** Identify building and site design elements for commercial or mixed use street in centers that may include: the height above which buildings must step back; the location of building base horizontal articulation; and other design elements.

Objective 5.6: Conserve and reinforce the community character of neighborhoods and commercial districts not designated as growth areas.

- **Policy 5.6.1:** Revise Community Plan designations as necessary to conserve the existing urban form and community character of areas not designated as targeted growth areas.

3.1.3.1.2 Infrastructure and Public Service Element

This element contains policies relating to street lighting on private streets and in pedestrian-oriented areas, ensuring minimization or elimination of potentially adverse light "spillover" onto off-site areas or of conflicts with street tree planting. The following goals, objectives, and policies are applicable to the development of the proposed project site.

Goal 9P

Appropriate lighting required to 1) provide for nighttime vision, visibility, and safety needs on streets, sidewalks, parking areas, transportation, recreation, security, ornamental, and other locations; 2) provide appropriate and desirable regulation of architectural and informational lighting such as building façade lighting or advertising lighting; and 3) protect and preserve the nighttime environment, views, driver visibility, and otherwise minimize or prevent light pollution, light trespass, and glare.

Objective 9.41. Ensure efficient and effective energy management in providing appropriate levels of lighting for private outdoor lighting and minimize or eliminate the adverse impact of lighting due to light pollution, light trespass, and glare.

- **Policy 9.41.1:** Require lighting on private streets, pedestrian-oriented areas, and pedestrian walks to meet minimum City standards for street and sidewalk lighting.
- **Policy 9.41.2:** Require parking lighting and related pedestrian lighting to meet recognized national standards.
- **Policy 9.41.3:** Develop regulations to ensure quality lighting to minimize or eliminate the adverse impact of lighting due to light pollution, light trespass, and glare for façade lighting, security lighting and advertising lighting, including billboards.

3.1.3.1.3 Conservation Element

The Conservation Element surveys laws, requirements, and procedures that have been established for protecting natural resources. Section 15, "Land Form and Scenic Vistas," specifically states an objective and policy regarding the preservation of existing natural terrain, and scenic features and vistas; and visual and physical access to view corridors, scenic features, and areas. The Conservation Element presents a definition of "scenic views or vistas" particularly relevant to the this assessment: "Scenic views or vistas are the panoramic public view access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features."

3.1.3.1.4 Transportation Element

Appendix E of the Transportation Element presents an inventory of designated scenic highways that includes John S. Gibson Boulevard, Pacific Avenue, Front Street, and Harbor Boulevard as scenic routes with specific acknowledgment of the views of harbor activities and the Vincent Thomas Bridge available to northbound and southbound motorists (City of Los Angeles 1999a). These scenic corridors are located approximately 1 to 2 miles west and southwest of the Wilmington community. Front Street is also designated as a scenic route for its views toward the west of historic San Pedro. Harbor Boulevard, south of the Vincent Thomas Bridge, is designated as a scenic route because of Port views (City of Los Angeles 1999a). None of these scenic routes are located in Wilmington. The City has not adopted formal guidelines governing the scenic corridors associated with designated scenic highways, but has established interim guidelines as part of the Transportation Element addressing roadway design, earthwork and grading, signage, landscaping, signs/outdoor advertising, and utilities (City of Los Angeles 1999b). No other area roadways are designated scenic routes, and there are no officially designated scenic lookouts.

3.1.3.1.5 Port of Los Angeles Plan (Land Use Element)

The Port Plan, which is part of the General Plan Land Use Element, was adopted in 1982, and was designed to provide a 20-year official guide to the continued development and operation of the Port (City of Los Angeles 1982a). Separate from the PMP, the Port Plan addresses aesthetics and visual quality issues within the Port and for areas outside in nearby communities.

Objective 4 is dedicated to prioritizing development within the Port, while addressing the visual impacts on neighboring communities. The objective's purpose is:

> To assure priority for water and coastal dependent development within the Port while maintaining and, where feasible, enhancing the coastal zone environment and public views of, and access to coastal resources.

A portion of the proposed Project, including the waterfront promenade, viewing piers, and floating docks would be located with the Port Plan area. With the approval of the General Plan Amendment (GPA), the Port Plan would be extended to Harry Bridges Boulevard. Chapter 3.8, "Land Use and Planning," discusses the proposed modification to the Port Plan in greater detail.

3.1.3.1.6 Wilmington-Harbor City Community Plan

The Wilmington-Harbor City CP includes policies and standards for multiple residential, commercial, and industrial projects, and for community design. These design policies and standards ensure that residential, commercial, and industrial projects and public spaces and rights-of-way incorporate specific elements of good design. The intent is to promote a stable and pleasant environment. Aesthetic policies relate to the development and redevelopment of land within the CPA. The Avalon Development District and the existing LADWP Marine Tank Farm site are located within the Wilmington-Harbor City CP. A revision process will begin in 2009.

3.1.3.1.7 San Pedro Community Plan

The San Pedro CP is intended to promote an arrangement of land uses, streets, and services that will encourage and contribute to the economic, social, and physical health, safety, welfare, and convenience of the people who live and work in the community. The plan is also intended to guide development in order to create a healthful and pleasant environment. Goals, objectives, policies, and programs are created to meet the existing and future needs and desires of the community through the year 2010. The last comprehensive review of the San Pedro CP was completed on September 30, 1980, and revised by the General Plan Zoning Consistency Program in 1987 and through ongoing periodic plan review and plan amendments.

The proposed Project would extend the Waterfront Red Car Line/CCT, which would proceed adjacent to the San Pedro Community.

3.1.3.2 Port of Los Angeles Master Plan

The Port Master Plan (LAHD 1980) provides for the short- and long-term development, expansion, and alteration of the Port. The PMP has been certified by the California Coastal Commission, is part of the City's Local Coastal Program, and is consistent with the Port Plan. The PMP does not contain any element specific to visual resources. However, general provisions contained within Section V of the PMP, "Regulations & Guidelines for Development Projects," establish the need to address visual resource issues for new projects:

> When a facility project involving a change in either land or water use is proposed for those areas in the Port that are adjacent or contiguous to either residential, commercial, or industrial areas in the surrounding communities, an analysis of its location, design effect, and operation will be made to ensure the feasible compatibility of the proposed port facility with either existing uses of such community areas or the uses which may be proposed for such community areas in the general plan or the LCP for the City of Los Angeles.

3.1.3.3 Port of Los Angeles Leasing Policy

On February 1, 2006, the Los Angeles Board of Harbor Commissioners approved a comprehensive leasing policy for the Port that not only establishes a formalized, transparent process for tenant selection but also includes environmental requirements as a provision in Port leases. The leasing policy specifies that all tenants are required to adhere to the applicable Port environmental regulations as terms and conditions of their leases. With respect to aesthetics, these regulations include those related to lighting and facility appearance. All other applicable policies are those outlined in this section and those that would otherwise be required in the terms of the lease based on LAHD's sustainability goals.

3.1.3.4 Wilmington Waterfront Master Plan and Development Program

The Wilmington Waterfront Master Plan as implemented by the Wilmington Waterfront Development Program (Port of Los Angeles 2007) was developed by LAHD to guide redevelopment along the Wilmington waterfront. The Master Plan builds upon existing plans for the Avalon Development District area, in particular the Wilmington Waterfront Development Final Plan (Port of Los Angeles 2004), and acknowledges the land use restrictions of the State Tidelands Trust Doctrine. The Master Plan serves as a framework for amending existing plans, policies, and guidelines of the LAHD as well as the City, including the Wilmington-Harbor City

CP, a part of the General Plan. The goals of the Master Plan focus on promoting economic development and enhancing livability in the Wilmington community. Specific guidelines have been set to achieve these goals in the areas of architectural character, landscape of open spaces and streets, public signage and wayfinding, and lighting. The specific polices addressing lighting are outlined below.

3.1.3.4.1 Wilmington Waterfront Development Program Lighting Guidelines

The specific lighting guidelines included as part of the Wilmington Waterfront Development Program would be design elements of the proposed project. They are as follows:

- All pedestrian luminaires will be classified as cut-off (97.5% light directed below the horizon) or full cut-off (100% light directed below the horizon).
- Pedestrian luminaires not classified as cut-off will shield the sources from field of view and minimize surface brightness.
- All fixtures will be arranged and screened to reflect light away from adjacent properties. Glare and light trespass will be mitigated through the provision of louvers and shields.
- Vertical illuminance will be maximized for nighttime facial recognition (use of refractor/reflector optics with cut-off).
- All fixtures within public reach from the ground will be safe for human touch (for single lens metal halide fixtures, 70W or less is generally regarded as acceptable).
- Luminaires will be mounted to poles at a height of 10 feet minimum and 20 feet maximum for all pedestrian fixtures.
- All outdoor fixtures will be equipped with photocells and/or astronomical time clocks.
- Methods for reducing illumination at "curfew" hours will be implemented where feasible to the extent minimum lighting levels are maintained.

3.1.3.5 Planning and Zoning Code

The Los Angeles Planning and Zoning Code contains two lighting-related requirements applicable to the proposed Project. However, the Port Terminal Lighting Design Guidelines and the guidelines presented in the Wilmington Waterfront Development Program fully address these two standards and require compliance before lighting designs may be approved. Therefore, there is no potential for the proposed Project to be inconsistent with these standards.

Section 93.0117: Illumination of adjacent residential properties by exterior light sources shall not exceed 2 foot-candles and shall not be a source of direct glare on said uses.

Section 12.21 A 5 (k): All lights used to illuminate a parking area shall be designed, located, and arranged so as to reflect the light away from any streets and adjacent premises.

It is assumed that plans for the proposed Project would be submitted for the required approvals and that building permits would of necessity be obtained, so the following two requirements would be satisfied during project planning and permitting:

Section 17.08 (c): Plans for street lighting shall be submitted to and approved by the Bureau of Street Lighting.

Section 91.6205 (a): A building permit shall be obtained from the department in accordance with the provisions of Division 2 of Article 1 of Chapter IX of this code for any signs that are regulated by this chapter. Where illuminated, an electrical permit shall also be obtained as required by Article 3 of Chapter IX of this code.

3.1.4 Impact Analysis

3.1.4.1 Methodology

Aesthetic experiences can be highly subjective and vary from person to person; therefore, the evaluation of aesthetic resources requires the application of a process that objectively identifies the visual features of the area, their importance, and the sensitivity of receptors that view them. The proposed project–related changes to the aesthetic character of the site and surrounding area are identified and qualitatively evaluated based on the modification of physical conditions and viewer sensitivity.

The following section identifies viewer groups that would be sensitive to changes in the visual setting and discusses key vantage points of the proposed Project that would be visually accessible to these viewers. The existing visual environment is then compared to the anticipated future visual environment through a series of visualizations that include representative images of proposed project elements. Proposed project–related changes are evaluated using the threshold criteria discussed in Section 3.1.4.2 to determine significance.

3.1.4.1.1 Viewer Groups and Viewer Sensitivity

Viewer sensitivity, or viewer concern about noticeable changes to views they could experience, is based on the visibility of a scenic resource, the proximity of viewers to the resource, the relative elevation of viewers to the resource, the frequency and duration of views, the number of viewers, and the types and expectations of the

individuals and viewer groups. Generally, visual sensitivity increases as the total number of viewers, frequency, and duration of viewing activities increases.

The degree of visual sensitivity is treated as occurring at one of the following four levels:

- **High Sensitivity** suggests that the majority of the public is likely to react strongly to a threat to visual quality. A highly concerned public is assumed to be more aware of any given level of adverse change and less tolerant than a public that has little concern. A small modification of the existing landscape may be visually distracting to a highly sensitive public and represent a substantial reduction in visual quality.
- **Moderate Sensitivity** suggests that the public would probably voice concern over substantial visual impacts. Often, the affected views are secondary in importance or are similar to others commonly available to the public.
- **Low Sensitivity** is considered to prevail where the public is expected generally to have little concern about adverse changes in the landscape, or only a small minority may be expected to voice such concern, even where the adverse change is substantial in intensity and duration.
- **No Sensitivity** occurs when the views are not public, or there are no indications of public concern over, or interest in, scenic/visual resource impacts on the affected area.

An inspection of the proposed project site and the potentially affected environs, and a review of public scoping comments served to identify indicators of public sensitivity. An analysis of the surrounding area was also conducted to identify areas where the proposed Project would be most visible and to assess the quality of views of the proposed project site. The range and quality of views to and from the proposed Project were determined by reviewing topographic and street maps, as well as photos of areas within or adjoining the proposed project site. The range of sensitive views was then considered and several representative views in which the proposed facilities would be most noticeable were selected for detailed analysis. This decision was based primarily on proximity and degree of proposed project exposure. Consideration was also given to how viewers within each setting would experience the proposed Project due to varying degrees of visibility and distance from the project; as well as the structures, vegetation, topographic features, or other intervening obstacles that were present. Because objects within the foreground have more detail, views from such locations would be more detailed compared to the objects that are less distinguishable in the distance. Hence, the potential sensitivity of close-in viewers was considered higher than those who have more distant views of the proposed project area.

The principal viewer groups for the proposed Project include the residents of Wilmington and San Pedro, commuting motorists, workers within the area, and recreationists, such as boaters in the harbor and at the Cerritos Channel Marina. The term *recreationist* is used to distinguish the sub-group of viewers who are organizing their recreational activities around experiencing the visual environment from those viewers who are engaged in competitive sports activities. Viewers engaged in most

active recreation, such as playing sports, tend to have only an average sensitivity to visual quality and visual change. Although they are aware of their surroundings, they are usually focused on the activity itself rather than surrounding views.

Boaters are considered the key recreationist group in Wilmington. The nearest sensitive viewing position to the east is at the Cerritos Channel Marina, over ½ mile from the proposed project area. People live on vessels docked at the marina, so it constitutes a type of residential area, and views from the marina are, therefore, highly sensitive. They are also highly sensitive because the marina is a recreational public use area. However, views from the marina are from a few feet above the water's surface, and Port facilities intervene to substantially, if not entirely, block views of features of the proposed project site. Liquid and dry bulk storage facilities behind Berths 187–196, and warehouses, cranes, buildings, and backland storage containers on Mormon Island, collectively intervene such that it would be difficult to discern the proposed Project from that location.

Although the number of tourists visiting Wilmington as a destination is considered low, tourists are very similar to recreational viewers. Depending on what brings the tourists to a particular location, they tend to be more or less sensitive to visual quality. If the point of the visit is to enjoy scenery, then visual quality may be an important element in their trip (sightseeing tourists). However, if their travel is intended to take advantage of indoor activities, visual quality is of less importance. Moreover, sightseeing tourists visiting the area for the first time, or on an infrequent basis, would not be as familiar with the views, and thus would be less apt to notice incremental changes that have transformed the Port's visual environment over time. Consequently, their level of sensitivity would be considered low.

Because the residents of Wilmington would be exposed to views for prolonged period of time and typically have higher expectations that their visual surrounding be maintained, they are generally considered to be a highly sensitive viewer group. This is because their familiarity with the view, their investment in the area (as, for example, homeowners or long-time residents), and their sense of ownership of the view tends to be stronger than that of other types of viewers. In a way, the view from residences and their yards represents a visual extension of residents' property, and changes in this view are noticeable and can result in strong positive or negative reactions. However, in this situation, the visual environment is already highly developed, has a highly industrial character, and does not contain a very strong natural element. Therefore, the visual sensitivity of residents is considered to be moderate.

Commuters and workers are also considered to have lower viewer sensitivity because their attention is focused on driving or work activities. As a consequence, they are exposed to fleeting views during travel and only occasional views from the work place.

Finally, it is important to note that this discussion addresses average viewer sensitivity. Some viewers are more or less sensitive than their activity or ownership would indicate. Individuals' reactions to views vary greatly depending upon a

number of factors, including how much they know or care about the view, their personal tastes, and their opinions about the activity or location that they are viewing.

3.1.4.1.2 Key Observation Points

As part of the process of analyzing potential changes to visual quality due to the proposed Project or its alternatives, a series of important observation vantage points (Key Observation Points, or KOPs) were identified. Twenty-two candidate KOPs were initially identified and photographed for the impact analysis. The candidate KOPs were public vantage points throughout Wilmington and the tidelands. Many of the candidate KOPs were eliminated for several reasons, including visual obstructions from the KOPs (i.e., flat terrain, vegetation, or buildings blocking the view), lack of proposed project features that would show up in the KOPs, redundancies with other KOPs that were chosen, and/or the lack of representative sensitive viewer groups. Six KOPs were identified as providing a representative cross-section for scenic quality, viewer types, and viewer sensitivities. The locations of these KOPs and their relationship to the proposed project site are illustrated on Figure 3.1-7. Figures 3.1-8 through 3.1-13 show the existing views from each of the KOPs identified.

- KOP A (Figure 3.1-8) is located on Avalon Boulevard in the Wilmington Community looking south to the Port. Area residents, working commuters, and recreationists/tourists would be considered sensitive viewers at this location because of their exposure to changes at this location.
- KOP B (Figure 3.1-9) is located 200 feet north of the northeast corner of Avalon Boulevard and Broad Avenue looking southwest towards the site of the proposed elevated parkway. Existing views include the LADWP Marine Tank Farm storage tanks with distant views of Port cranes and the Vincent Thomas Bridge in the background.
- KOP C (Figure 3.1-10) is located on Fries Street looking northeast from Berth 181. Sensitive viewers at this location would be workers at the Port.
- KOP D (Figure 3.1-11) is located along C Street looking southwest between Avalon Boulevard and Marine Avenue. This is the Railroad Green Area of the Project. Sensitive viewers in this area are the residents of Wilmington.
- KOP E (Figure 3.1-12) is located at the 700 block of Avalon Boulevard between Anaheim and G Streets. This is an outlying area and is included for contextual reference. Sensitive viewers at this location are primarily area residents.
- KOP F (Figure 3.1-13) is located eastbound along I-110 near the C Street offramp. This portion of I-110 is known as the Harbor Freeway. Viewers at this location include recreational motorists and other commuters in the area.

3.1.4.1.3 Analytical Framework

The analytical framework to determine proposed project–related impacts on aesthetic resources in the vicinity of the proposed Project includes the following:

- identification of key visual elements in the proposed project area and characterization of overall visual quality,
- identification of user groups with sensitive views into the proposed project area and photographic documentation of representative views (KOPs),
- qualitative analysis through use of visualizations of changes to views as a result of implementation of the proposed Project,
- evaluation of the significance of the impacts based upon the requirements of CEQA, and
- formulation of mitigation measures that would lessen the degree of significance, as needed.

3.1.4.2 Thresholds of Significance

3.1.4.2.1 CEQA Criteria

Review of Recommended Thresholds

Appendix G of CEQA (Environmental Checklist) recommends four thresholds to determine the effect that a project would have on visual resources. According to these recommended thresholds, the proposed Project would have an impact on visual resources if it would:

- result in a substantial adverse effect on a scenic vista,
- substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway,
- substantially degrade the existing visual character or quality of the site or its surroundings, or
- create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) was developed as a supplement to the CEQA checklist. The guide divides visual resources into four elements in the visual environment: aesthetics (character and quality of the visual landscape), obstruction of views (visual access to focal points and panoramas), shading (the effect of shadows on adjacent land uses), and nighttime illumination (the effect of nighttime lighting on adjacent land uses). The guide suggests that each CEQA threshold be evaluated within the context of a visual element and that some thresholds address multiple elements. The guide provides 14 factors to help assess

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Figure 3.1-7
KOP Locations
Wilmington Waterfront Development Project

Figure 3-1.8 - KOP A Existing Viewshed Conditions - Avalon Boulevard between Harry Bridges Boulevard and C Street, View Direction South

Figure 3-1.9 - KOP B Existing Viewshed Conditions - Avalon Boulevard between Harry Bridges Boulevard and A Street, View Direction South

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Figure 3-1.8 and Figure 3-1.9
Photographs of the Existing Setting at KOP Locations
Wilmington Waterfront Development Project

Figure 3.1-10 - KOP C Existing Viewshed Conditions - Fries Street South of Peir A Street, View Direction North Northeast

Figure 3.1-11 - KOP D Existing Viewshed Conditions -C Street between Avalon Boulevard and Marine Avenuet, View Direction Southwest

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Figure 3.1-10 and Figure 3.1-11
Photographs of the Existing Setting at KOP Locations
Wilmington Waterfront Development Project

Figure 3.1-12 - KOP E Existing Viewshed Conditions - Avalon Boulevard between Anaheim Street and G Street, View Direction South

Figure 3.1-13 - KOP F Existing Viewshed Conditions - Northbound Travel Lanes of I-110 near the C Street offramp, View Direction East

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Figure 3.1-12 and Figure 3.1-13
Photographs of the Existing Setting at KOP Locations
Wilmington Waterfront Development Project

when an impact would trigger a threshold and be considered a potentially significant, adverse impact.

The CEQA threshold criteria listed in the bullets above are presented as they relate to the elements from the *L.A. CEQA Thresholds Guide* in Table 3.1-1. For example, the CEQA criterion related to adverse effects on scenic vistas addresses the visual elements listed in the guide pertaining to aesthetics and the obstruction of views.

Table 3.1-1. Relationship between CEQA Threshold Criteria and *L.A. CEQA Thresholds Guide* Visual Elements

CEQA Threshold Criteria	L.A.CEQA Thresholds Guide *Visual Elements*			
	Aesthetics	*Obstruction of Views*	*Shading*	*Nighttime Illumination*
Would the project have a substantial adverse effect on a scenic vista?	Overlap (Factors 1–7)	Overlap (Factors 8–11)		
Would the project substantially damage scenic resources (including—but not limited to—trees, rock outcroppings, and historic buildings) within a state scenic highway?	Overlap (Factors 1–7)			
Would the project substantially degrade the existing visual character or quality of the site or its surroundings?	Overlap (Factors 1–7)		Overlap (Factor 12)	
Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?				Overlap (Factors 13 and 14)

Factors for Determining Significance

The key to applying the CEQA Appendix G thresholds is the ability to determine what constitutes a substantial effect on visual resources. To assist in this analysis, the *L.A. CEQA Thresholds* guide provides 14 factors to help assess when an impact would pass over the threshold to become a substantial, and therefore significant, adverse effect. These factors are also listed in Table 3.1-1 in relation to the CEQA threshold to which they pertain. The factors encourage a more detailed analysis of project components and their effects on visual resources than suggested by the CEQA threshold criteria alone. They are organized by visual element and are listed below.

Aesthetics

1. Would the removal, alteration, or demolition of existing features or elements that substantially contribute to the valued visual character or image of the project area be relatively noticeable?

2. Would the amount of natural open space to be graded or developed adversely affect the visual character of the area?
3. Would proposed structures in natural open space areas be effectively integrated into the aesthetics of the site through appropriate design?
4. Would there be a high degree of contrast between proposed features and existing features that represent the valued aesthetic image of an area? Contrast could be represented as a beneficial or adverse image and would need to result in an adverse change to the image of the area to be considered a significant impact.
5. Would buildings detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements?
6. Would project elements contribute negatively to the aesthetic value of an area by changing visual character through the introduction of obtrusive or inharmonious elements?
7. Would the project be inconsistent with applicable guidelines and regulations related to aesthetics and views?

Obstruction of Views

8. Would there be a substantial negative effect on the nature and quality of recognized or valued views such as natural topography, settings, man-made or natural features of visual interest, and resources such as mountains or the ocean?
9. Would there be a substantial negative effect on views from a designated scenic highway, corridor, or parkway?
10. Would there be substantial obstruction (total blockage, substantial interruption, or substantial diminishment) of recognized or valued views?
11. Would recognized views available from a length of public roadway, bike path, or trail (as opposed to a single, fixed vantage point) be adversely affected?

Shading

12. Would there be substantial shading of shadow-sensitive uses for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. Pacific Standard Time (between late October and early April), or for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. Pacific Daylight Time (between early April and late October)?

Nighttime Illumination

13. Would there be a substantial adverse change in ambient illumination levels as a result of project sources?
14. Would light spill off the project site and adversely affect adjacent light-sensitive areas?

Project Thresholds of Significance

The guidance provided by the CEQA Appendix G environmental checklist and *L.A.CEQA Thresholds* was evaluated for application to the proposed Project. Based upon proposed project elements and the visual landscape of the Port, the following thresholds are used for determining significance of the proposed project's impacts on visual resources. These impacts encompass the CEQA Appendix G thresholds as well as the visual elements included in the *L.A. CEQA Thresholds Guide* as discussed above and indicated in Table 3.1-1.

AES-1: A project would have a significant impact if it would result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.

AES-2: A project would have a significant impact if it would substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.

AES-3: A project would have a significant impact if it would substantially degrade the existing visual character or quality of the site or its surroundings.

AES-4: A project would have a significant impact if it would result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.

AES-5: A project would have a significant impact if it would create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

As mentioned above, the Wilmington Waterfront Development Program Lighting Guidelines would be project design features and their implementation has been assumed in the analysis below.

3.1.4.3 Impacts and Mitigation

This section includes a discussion of the potential aesthetics and visual impacts associated with the construction and operation of the proposed Project. The impact analysis is based on qualitative assessments prepared for the proposed project elements. As part of the effort to document the proposed Project's potential effect on visual resources, simulations from key observation points were prepared to compare the existing visual setting with how it may look if the proposed Project were implemented. These visualizations are shown in Figures 3.1-14 through 3.1-19.

Impact AES-1: Construction and operation of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.

Although there are some visually interesting elements within the various viewsheds from which the proposed project area is visible, there are no identified scenic views specifically valued for their aesthetic qualities within the landscape. KOP F does include a panoramic view of the working Port as seen from the I-110 Harbor Freeway (Figure 3.1-13). However, from within the vicinity of the proposed project area, as shown in Figures 3.1-8 and 3.1-9, there are only limited views of the water from within the Avalon Development District (KOP A), and limited views of the Vincent Thomas Bridge are only visible in the far background (KOP B). Views of the water from Banning's Landing are limited to the main channel and harbor, and views from Berth 181 of the waterfront (KOP C as shown in Figure 3.1-10) are not accessible to the public. The few visually interesting elements within the vicinity are limited to a small number of historic buildings, including Bekin's Storage Warehouse (KOP D in Figure 3.1-11)—all of which would be preserved as part of the proposed Project.

Furthermore, one objective of the proposed Project is to improve the economic viability and environmental conditions of the area by providing new open spaces, enhancing commercial/retail areas in the area and along the waterfront, and improving the connectivity of the Wilmington community with the waterfront. The proposed Project would improve existing views and create opportunities for new views within the landscape by constructing new attractive features such as the elevated park and land bridge (Figures 3.1-14 and 15), and enhancements along the waterfront (Figure 3.1-16) and within the Avalon Development District in the southern portion of the Wilmington community, which includes the proposed Railroad Green Park (Figure 3.1-17).

The proposed Observation Tower would also provide the public with increased opportunities to view the surrounding harbor. The tower design takes inspiration from the sail of a ship and would be consistent with the industrial-maritime character of the landscape. As shown in Figures 3.1-18 and 3.1-19, which represent visual simulations of proposed project features from KOP E and KOP F, respectively, this feature would represent an architecturally interesting element and community landmark.

Although construction of the proposed project elements would temporarily result in the use of large construction equipment and visible construction-related activity, as described above, there are no scenic vistas or significant scenic resources in the proposed project vicinity that would be affected by construction. Therefore, the construction phase would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.

KOP A Existing Viewshed Conditions - Avalon Boulevard Between Harry Bridges Boulevard and C Street, View Direction South

KOP A Visualization of Proposed Project - Avalon Boulevard between Harry Bridges Boulevard and A Street, View Direction South

Source: Sasaki Associates

Figure 3.1-14
Photograph of the Existing Setting and Proposed Project Visualization at KOP A
Wilmington Waterfront Development Project

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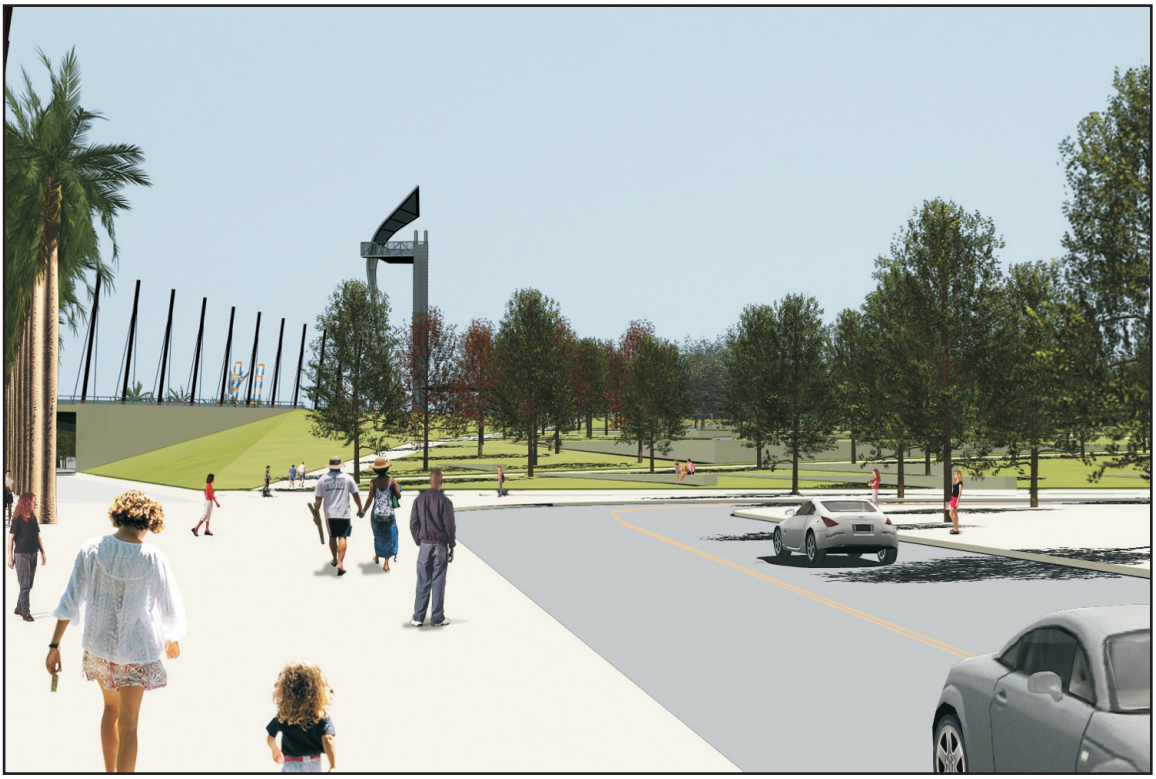
KOP B Existing Viewshed Conditions - Avalon Boulevard between Harry Bridges Boulevard and A Street, View Direction South



KOP B Visualization of the Proposed Project- Avalon Boulevard between Harry Bridges Boulevard and A Street, View Direction South

Source: Sasaki Associates

Figure 3.1-15
Photograph of the Existing Setting and Proposed Project Visualization at KOP B
Wilmington Waterfront Development Project

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KOP C Existing Viewshed Conditions - Fries Street South of Pier A Street, View Direction North Northeast

KOP C Visualization of the Proposed Project - Fries Street South of Pier A Street, View Direction North Northeast

Source: Sasaki Associates

Figure 3.1-16
Photograph of the Existing Setting and Proposed Project Visualization at KOP C
Wilmington Waterfront Development Project

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KOP D Existing Viewshed Conditions -C Street between Avalon Boulevard and Marine Avenue, View Direction Southwest

KOP D Visualization of the Proposed Project - C Street between Avalon Boulevard and Marine Avenue, View Direction Southwest

Source: Sasaki Associates

Figure 3.1-17
Photograph of the Existing Setting and Proposed Project Visualization at KOP D
Wilmington Waterfront Development Project

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KOP E Existing Viewshed Conditions - Avalon Boulevard between Anaheim Street and G Street, View Direction South

KOP E Visualization of the Proposed Project- Avalon Boulevard between Anaheim Street and G Street, View Direction South

Source: Sasaki Associates

Figure 3.1-18
Photograph of the Existing Setting and Proposed Project Visualization at KOP E
Wilmington Waterfront Development Project

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KOP F Existing Viewshed Conditions - Northbound Travel Lanes of I-110 near the C Street offramp, View Direction East

KOP F Visualization of the Proposed Project - Northbound Travel Lanes of I-110 near the C Street offramp, View Direction East

Source: Sasaki Associates

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Figure 3.1-19
Photograph of the Existing Setting and Proposed Project Visualization at KOP F
Wilmington Waterfront Development Project

Impact Determination

No scenic vistas or significant scenic resources have been identified in the proposed project vicinity. Therefore, construction and operation of the proposed Project would not adversely affect any scenic vistas through obstruction of views. Furthermore, the views of and from the proposed project site would be improved and new viewing opportunities would be created. For these reasons, no significant adverse visual impacts would result from the proposed Project.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact AES-2: Construction and operation of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.

There are no designated scenic highways, corridors, or parkways in Wilmington. The closest scenic corridors are in San Pedro, and include portions of John S. Gibson Boulevard, Pacific Avenue, Front Street, and Harbor Boulevard. KOP F (Figure 3.1-13) depicts the view of the proposed project vicinity from I-110 near John S. Gibson Boulevard. As this figure shows, views of the proposed project area from these corridors are dominated by the working Port and its disparate array of industrial facilities, including storage structures, large vessels, docks, piers, cranes, and other large utilitarian shipping equipment. These visual elements are considered to have relatively low visual quality due to the high degree of manmade development and the low degree of intactness and unity in the viewshed.

Furthermore, the majority of the proposed project components would be located far enough away from scenic corridors in San Pedro (ranging from 1 to 2 miles) that views of the proposed Project from those corridors would be limited. As shown in the visualization of the proposed project from KOP F (Figure 3.1-19), the proposed features are almost indiscernible from the existing working facilities when viewed from this scenic corridor. Therefore, although some elements of the proposed Project would be visible from these corridors during both construction and operation, these elements would not block the views or degrade the visual quality of the views as seen from these corridors.

A portion of the proposed Waterfront Red Car Line would be constructed along the scenic corridor and would include extension of the California Coastal Trail. However, the trolley line would be modeled after the historic line and would represent an aesthetic enhancement in the area. The line would be at the same grade as the roadway, and neither construction nor operation would obstruct the panoramic

views of the working port from the roadway. Furthermore, the proposed Project would result in several additional aesthetic improvements in the landscape that would improve the scenic qualities of the surrounding area, as discussed in Impact AES-3 below.

As discussed above, views of the proposed project area from these corridors are dominated by the working Port and its disparate array of industrial facilities, including storage structures, large vessels, docks, piers, cranes, and other large utilitarian shipping equipment. Construction of the proposed project elements would temporarily result in the use of large construction equipment and visible construction-related activity. Because there are no designated scenic highways, corridors, or parkways in Wilmington and the closest scenic corridors are in San Pedro, the temporary use of large construction equipment and cranes would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.

Impact Determination

Views from scenic corridors in San Pedro towards the proposed Project are of the highly developed working port and are considered to have a low degree of intactness and unity. Most of the elements that would be introduced as part of the proposed Project would not be visible from these corridors. The elements that would be visible would be located far away and would be similar to the existing environment such that they would be difficult to discern within the viewshed. Therefore, the proposed Project construction and operation would not have a negative effect on views from any designated scenic highway, corridor, or parkway during either construction or operation. The impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-3: Construction and operation of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.

As detailed in Chapter 2, "Project Description," several aesthetic improvements would be implemented as part of the proposed Project. These include enhancements within the Wilmington community in the area between Lagoon Avenue and Broad Avenue, the construction of a passive Railroad Green that would cut diagonally between Island and Marine Avenues, and the construction of a 10-acre raised park space to the south of the community. In addition, improvements along Avalon Boulevard and the waterfront would provide a link between Wilmington and the waterfront.

Land uses within the Avalon Development District are underused and many lots are vacant. Industrial/commercial buildings that are present are vacant or in poor shape and do not include any visually interesting or unique characteristics that substantially contribute to the valued image of the Wilmington community. However, some historic and potentially historic buildings are present within the Avalon Development District. The historic Bekins Storage Warehouse building is located in the area (Figure 3.1-10), but would be preserved and converted to a Waterfront Red Car Museum and is not proposed for demolition. Others would be avoided and are not part of the proposed project footprint, as discussed in Chapter 3.4, "Cultural Resources." Several aesthetic enhancements would also be added including the Railroad Green Park (Figure 3.1-17).

South of Harry Bridges Boulevard along Avalon Boulevard, the facilities to be removed would include two large LADWP liquid bulk storage tanks and associated ancillary structures (Figures 3.1-8 and 3.1-9). These features are not elements that are considered to have aesthetic value and do not contribute to the valued visual character of the Wilmington community. As shown in Figures 3.1-14 and 3.1-15, the proposed elevated park and land bridge would represent aesthetic improvements in this area.

The proposed waterfront enhancements would also be visually integrated into the surrounding landscape, as shown in Figures 3.1-16 and 3.1-19. All of the proposed project elements have been designed not only to integrate with the existing character of the surrounding landscape, but also to enhance its visual character. Therefore, there would not be a high degree of contrast between the proposed and existing features.

In addition, several planning documents have specifically been developed to guide development of the Wilmington waterfront area, including the Wilmington Waterfront Master Plan (Port of Los Angeles 2007) as implemented by the Wilmington Waterfront Development Program (Port of Los Angeles 2007). The Development Program contains guidelines that would be implemented as the proposed Project is developed that are aimed at preserving and enhancing the existing aesthetic character of the Wilmington community. These guidelines incorporate and build upon applicable guidelines and policies of the Port as well as the City, including the Wilmington-Harbor City CP, which is part of the General Plan. The guidelines are specific to building height, building setbacks, building orientation and the location of entrances, architectural treatment and materials, street frontage treatment, treatment of historic buildings, parking and access, and loading and service access.

Although construction of the proposed project elements would temporarily result in the use of large construction equipment and visible construction-related activity, as described above, the existing character of the proposed project area is already marked by the presence of working equipment, including trucks, cranes, and other large machinery. In addition, as discussed in Impact AES-1, there are no scenic vistas or significant scenic resources in the proposed project vicinity that would be affected by construction. Therefore, the construction phase is not anticipated to result in substantial changes to the visual character of the proposed project vicinity.

Impact Determination

Because both construction and operation of the proposed Project would not degrade the existing visual character or quality of the site or its surroundings, impacts on the visual quality or character of the proposed project area would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-4: Construction and operation of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.

The proposed Project does not include the construction of features that would result in shading of shadow-sensitive uses. Although the proposed park and land bridge would be elevated and would effectively create a tunnel for the Harbor Pacific Rail Line and roadway below, the area immediately surrounding the proposed project site is primarily dominated by industrial uses that are not sensitive to and would not be affected by periodic shading. The raised parkway and land bridge would enable those using the open space facilities to enjoy the green space and surrounding views without the obstruction of large areas of shadow. Similarly, because of its placement adjoining Banning's Landing, the proposed Observation Tower would be well away from shade-sensitive uses (i.e., residents along C Street and further north); it would also provide improved opportunities for the public to enjoy panoramic views of the harbor and working Port.

Impact Determination

For the reasons stated above, the proposed project construction and operation would not result in substantial shading of shadow-sensitive uses. No significant adverse impact is anticipated with respect to shading.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact AES-5: Construction and operation of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

The existing nighttime lighting environment of the proposed project site and surrounding area is dominated by the lighting of the Port, which results in a high degree of ambient lighting. The major sources of existing illumination are the down lights and floodlights attached to the tops of tall light poles, as well as street and roadway lighting. Additionally, when ships are loaded or unloaded at nighttime, floodlights attached to the bottom of the crane boom and sides of the crane structure illuminate the crane and area around it.

The proposed Project would include additional lighting, primarily for pedestrian safety and aesthetic enhancement along the proposed trail connections, Railroad Green, streetscape areas, and elevated park and land bridge. This would include lighting along walkways and trails (both at ground level and pole lighting), lighting within the proposed water features, and other elements of decorative lighting throughout the proposed project area. The Observation Tower would also include lighting elements to enhance the aesthetics of the tower at night and would be similar to the blue LED lights on the Vincent Thomas Bridge. The intent of the lighting scheme is to improve safety considerations and provide a unified theme for the new facilities. There are no large sources of flood lighting being proposed that would have the potential to result in sources of spill-light.

Per the Port's leasing policy, all tenants are required to complete a lighting study. The lighting study would be conducted in order to assess and mitigate any potentially significant adverse lighting impacts on sensitive uses. In addition, lighting design would comply with the policies outlined in Section 3.1.3, "Applicable Regulations and Policy Documents," Illuminating Engineering Society of North America (IESNA) standards, the City of Los Angeles Bureau of Street Lighting, and the International Dark-Sky Association (IDA). Finally, lighting would be designed in accordance with the Wilmington Waterfront Development Program Lighting Guidelines and incorporated as project design features as discussed in Chapter 2, "Project Description." This would ensure that lighting fixtures planned as part of the proposed Project would be those that focus light to avoid spillover light effects.

In addition, lighting elements of the proposed Project would be designed as a unifying factor that is to be coordinated and integrated with the signage, landscape, and architectural components under consideration. Furthermore, the proposed lighting features at night would be balanced between providing adequate lighting for security and visual interest, while minimizing lighting which would considered excessive. The proposed Project would have a minimal increase in nighttime light conditions given the high level of existing nighttime lighting necessary for Port operations.

There would be no nighttime construction. Therefore, there would be no sources of construction-related light or glare.

Impact Determination

The proposed lighting design would comply with the policies outlined in the Wilmington Waterfront Development Program and would represent a minimal increase in light and glare sources compared to existing conditions. For these reasons, the proposed Project would not result in any significant impacts from spillover light or from an increase in ambient lighting or glare.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

3.1.4.3.1 Summary of Impact Determinations

Table 3.1-2 summarizes the impact determinations of the proposed Project related to Aesthetics, as described in the detailed discussion in Section 3.1.4.3.1. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the conclusions of the technical reports.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.1-2. Summary Matrix of Potential Impacts and Mitigation Measures for Aesthetics Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.1 Aesthetics			
AES-1: Construction and operation of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.	No impact would occur	No mitigation is required	No impact would occur
AES-2: Construction and operation of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
AES-3: Construction and operation of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required	Less than significant
AES-4: Construction and operation of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.	No impact would occur	No mitigation is required	No impacts would occur
AES-5: Construction and operation of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.	No impact would occur	No mitigation is required	No impact would occur

3.1.4.4 Mitigation Monitoring

After the implementation of Best Management Practices and existing design and lighting guidelines by the Port, no significant adverse impacts from aesthetics would occur as a result of the proposed Project; therefore, no mitigation is required.

3.1.5 Significant Unavoidable Impacts

Based on the design considerations including Wilmington Waterfront Lighting Design Guidelines and adherence to applicable aesthetic and lighting policies, the proposed Project would not result in any significant unavoidable impacts.

3.2

AIR QUALITY

3.2.1 Introduction

Emissions from construction and operation of the proposed Project would affect air quality in the immediate proposed project area and the surrounding region. Therefore, this section of the draft EIR provides a description of affected air quality resources, discusses the impacts of the proposed Project, and presents mitigation measures that would reduce significant impacts. In certain cases, impacts would remain significant and unavoidable.

3.2.2 Environmental Setting

The proposed project site is in the Harbor District of the City of Los Angeles in the southwest coastal area of the South Coast Air Basin (SCAB). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County; covering an area of approximately 6,000 square miles, bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego County line.

3.2.2.1 Regional Climate and Meteorology

The climate of the proposed project region is classified as Mediterranean, characterized by warm, rainless summers and mild, wet winters. The major influence on the regional climate is the Eastern Pacific High (a strong persistent area of high atmospheric pressure over the Pacific Ocean), topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the High are a key factor in the area's weather patterns.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when it is centered west of northern California. In this location,

the High effectively shelters Southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the High produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally from 1,000 to 2,500 feet above mean sea level (msl) during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lower atmosphere. The mountain ranges that surround the Los Angeles Basin constrain the horizontal movement of air and also inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources of over 15 million people, are responsible for the high pollutant concentrations that can occur in the SCAB. In addition, the warm temperatures and high solar radiation during the summer months promote the formation of ozone, which reaches its highest levels during the summer.

The proximity of the Eastern Pacific High and a thermal low pressure system in the desert interior to the east produce a sea breeze regime that prevails within the proposed project region for most of the year, particularly during the spring and summer months. Sea breezes at the Port typically increase during the morning hours from the southerly direction and reach a peak in the afternoon as they blow from the southwest. These winds generally subside after sundown. During the warmest months of the year, however, sea breezes could persist well into the nighttime hours. Conversely, during the colder months of the year, northerly land breezes increase by sunset and into the evening hours. Sea breezes transport air pollutants away from the coast and towards the interior regions in the afternoon hours for most of the year.

During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the Great Basin region can produce a “Santa Ana” condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often ventilate the SCAB of air pollutants.

The Palos Verdes Hills have a major influence on wind flow in the Port. For example, during afternoon southwest sea breeze conditions, the Palos Verdes Hills often block this flow and create a zone of lighter winds in the Inner Harbor area of the Port. During strong sea breezes, this flow can bend around the north side of the Hills and end up as a northwest breeze in the Inner Harbor area. This topographic feature also deflects northeasterly land breezes that flow from the coastal plains to a more northerly direction through the Port.

3.2.2.2 Criteria Pollutants and Air Monitoring

3.2.2.2.1 Criteria Pollutants

Air quality at a given location can be characterized by the concentration of various pollutants in the air. Units of concentration are generally expressed as parts per million by volume (ppmv) or micrograms per cubic meter ($\mu g/m^3$) of air. The

significance of a pollutant concentration is determined by comparing the concentration to an appropriate national or state ambient air quality standard. These standards represent the allowable atmospheric concentrations at which the public health and welfare are protected. They include a reasonable margin of safety to protect the more sensitive individuals in the population.

EPA establishes the National Ambient Air Quality Standards (NAAQS). For most pollutants, maximum concentrations shall not exceed an NAAQS more than once per year; and they shall not exceed the annual standards. The California Air Resources Board (CARB) establishes the California Ambient Air Quality Standards (CAAQS), which are generally more stringent and include more pollutants than the NAAQS. California standards for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (µm) in diameter (PM_{10}), and particulate matter less than 2.5 µm in diameter ($PM_{2.5}$) are values not to be exceeded. All other standards are not to be equaled or exceeded.

Pollutants that have corresponding national or state ambient air quality standards are known as criteria pollutants. These pollutants can harm human health and the environment, and cause property damage. They are called "criteria" air pollutants because they are regulated by developing human health–based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. “Primary standards” are the set of limits based on human health; “secondary standards” are those intended to prevent environmental and property damage. The criteria pollutants of greatest concern for the proposed Project are ozone, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. NO_X (nitrogen oxides) and SO_X (sulfur oxides) are the generic terms for NO_2 and SO_2, respectively, because NO_2 and SO_2 are naturally highly reactive and may change composition when exposed to oxygen, other pollutants, and/or sunlight in the atmosphere. These oxides are produced during combustion.

As discussed above, one of the main concerns with criteria pollutants is that they contribute directly to regional human health problems. The known adverse effects associated with these criteria pollutants are shown in Table 3.2-1.

Of the criteria pollutants of concern, ozone is unique because it is not directly emitted from sources related to the proposed Project. Rather, ozone is a secondary pollutant, formed from the precursor pollutants volatile organic compounds (VOC) and (NO_X). VOC and NO_X react to form ozone in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, ozone levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, ozone impacts are indirectly addressed in this study by comparing emissions of VOC and NO_X generated by the proposed Project to daily emission thresholds set by the SCAQMD. These emission thresholds are discussed in Section 3.2.4.2, “Thresholds of Significance.”

Table 3.2-1. Adverse Effects Associated with the Criteria Pollutants

Pollutant	*Adverse Effects*
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	(1) Aggravation of angina pectoris and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO_2)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO_2)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).[a]
Suspended particulate matter ($PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.[a]

Source: EPA 2008c.

[a] More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: Office of Environmental Health Hazard Assessment, *Particulate Matter Health Effects and Standard Recommendations,* www.oehha.ca.gov/air/toxic_contaminants/PM10notice.html#may, May 9, 2002; and EPA, *Air Quality Criteria for Particulate Matter*, October 2004.

CAAQS have also been established for lead, sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. They are not shown in this table because they are not pollutants of concern for the proposed Project.

Generally, concentrations of photochemical pollutants, such as ozone, are highest during the summer months and coincide with the season of maximum solar insolation. Concentrations of inert pollutants, such as CO, tend to be the greatest during the winter months and are a product of light wind conditions and surface-based temperature inversions that are frequent during that time of year. These conditions limit atmospheric dispersion. However, in the case of PM_{10} impacts from fugitive dust sources, maximum concentrations may occur during high wind events

or near manmade ground-disturbing activities, such as vehicular activities on roads and earth moving during construction activities.

Because most of the proposed project–related emission sources would be diesel-powered, diesel particulate matter (DPM) is a key pollutant evaluated in this analysis. DPM is one of the components of ambient PM_{10} and $PM_{2.5}$. DPM is also classified as a toxic air contaminant (TAC) by CARB. As a result, DPM is evaluated in this study both as a criteria pollutant (as a component of PM_{10} and $PM_{2.5}$) and as a TAC.

3.2.2.2.2 Local Air Monitoring Levels

EPA designates all areas of the U.S. according to whether they meet the NAAQS. A nonattainment designation means that a primary NAAQS has been exceeded more than the number of times allowed by the standard in a given area. EPA currently designates the SCAB as a "severe-17" nonattainment area for 8-hour ozone, a serious nonattainment area for PM_{10}, and a nonattainment area for $PM_{2.5}$. SCAB is in attainment of the NAAQS for CO, SO_2, NO_2, and lead (EPA 2008a). States with nonattainment areas must prepare a State Implementation Plan (SIP) that demonstrates how those areas will come into attainment.

CARB also designates areas of the state according to whether they meet the CAAQS. A nonattainment designation means that a CAAQS has been exceeded more than the number of times allowed by the standard. CARB currently designates the SCAB as a nonattainment area for 1-hour ozone and a nonattainment area for both PM_{10} and $PM_{2.5}$. The air basin is in attainment of the CAAQS for CO, SO_2, NO_2, sulfates, and lead and is unclassified for hydrogen sulfide and visibility-reducing particles.

LAHD has been conducting its own air quality monitoring program since February 2005. The main objective of the program is to estimate ambient levels of DPM near the Port. The secondary objective of the program is to estimate ambient particulate matter levels within adjacent communities due to Port emissions. To achieve these objectives, the program measures ambient concentrations of PM_{10}, $PM_{2.5}$, and elemental carbon $PM_{2.5}$ (which indicates fossil fuel combustion sources) at four locations in the Port vicinity (Port of Los Angeles 2008d). The station locations are:

Wilmington Station—Saints Peter and Paul School. This station measures aged urban emissions during offshore flows and a combination of marine aerosols, aged urban emissions, and fresh emissions from Port operations during onshore flows. It also provides information on the relative strengths of these source combinations.

Coastal Boundary Station—Berth 47 in the Outer Harbor. This station measures aged urban and Port emissions and marine aerosols during onshore flows and aged urban emissions and fresh Port emissions during offshore flows. Meteorological data from this station and the San Pedro Station (described below) were used in this air quality analysis to model human health risks and criteria pollutant impacts associated with the proposed Project.

Source-Dominated Station—Terminal Island Treatment Plant. This station is surrounded by three terminals and has the potential to receive emissions from offroad equipment, onroad trucks, and rail. During onshore flows, this station measures marine aerosols and fresh emissions from several nearby diesel-fired sources (trucks, trains, and ships). During offshore flows, it measures aged urban emissions and Port emissions.

San Pedro Station—the Liberty Hill Plaza Building, Adjacent to the Port Administrative Property on Palos Verdes Street. This location is near the western edge of Port operational emission sources and adjacent to residential areas in San Pedro. During onshore flows, aged urban emissions, marine aerosols, and fresh Port emissions have the potential to affect this site. During nighttime offshore flows, the station measures aged urban emissions and Port emissions. Meteorological data from this station and the Coastal Boundary Station were used in this air quality analysis to model human health risks and criteria pollutant impacts.

The Port has collected PM_{10} data for the proposed Project at its Wilmington Station and $PM_{2.5}$ data at all four of its stations for 3 years. However, to show trends in criteria pollutant concentrations other than PM_{10} and $PM_{2.5}$ over the past 3 years, it was necessary to use data from the network of monitoring stations operated by SCAQMD.

Of the SCAQMD monitoring stations, the most representative for the proposed project vicinity is the North Long Beach Station because it is closest to the proposed project site. Table 3.2-2 shows the highest pollutant concentrations recorded for 2005 to 2007, the most recent complete 3-year period of data available. As shown in the table, the following standards were exceeded at the North Long Beach Station over the 3-year period: ozone (state 1- and 8-hour standards), PM_{10} (state and national 24-hour and annual standards), and $PM_{2.5}$ (national 24-hour standard and national and state annual standards). No standards were exceeded for CO, NO_2, SO_2, lead, and sulfates, although some data were not available for SO_2, lead, and sulfates between 2005 and 2007.

Pollutant sampling data are available for February 2006 through 2007 from the Port monitoring program at the time of this assessment. Samples were collected as 24-hour averages every 3 days. The data are summarized in Table 3.2-3. Data collected concurrently at the SCAQMD North Long Beach Station are also presented for comparison. The table shows that PM_{10} concentrations at the Wilmington Station are lower than those at the North Long Beach Station. For $PM_{2.5}$, concentrations at the Port monitoring sites are lower than those at the North Long Beach Station for maximum 24-hour averages and are comparable to concentrations at the North Long Beach Station for period averages. For elemental carbon $PM_{2.5}$, the Source-Dominated Station has the highest concentrations, and the Coastal Boundary Station has the lowest concentrations. Elemental carbon $PM_{2.5}$ was not measured at the North Long Beach Station.

Table 3.2-2. Maximum Pollutant Concentrations Measured at the North Long Beach Monitoring Station

Pollutant	*Averaging Period*	*National Standard*	*State Standard*	*Highest Monitored Concentration*			
				2004	*2005*	*2006*	*2007*
Ozone (ppm)[a]	1 hour	NA	0.09	0.090	**0.091**	0.081	**0.099**
	8 hours	0.08	0.07	**0.074**	0.069	0.058	**0.073**
CO (ppm)	1 hour	35	20	4.2	4.2	4.2	3.3
	8 hours	9	9	3.36	3.51	3.36	2.59
NO_2 (ppm)	1 hour	NA	0.18	0.12	0.136	0.102	0.107
	Annual	0.053	0.030	0.028	0.024	0.022	0.020
SO_2 (ppm)	1 hour	NA	0.25	0.042	0.041	0.027	0.037
	24 hours	0.14	0.04	0.013	0.010	0.010	0.010
	Annual	0.03	n/a	0.005	0.002	0.002	0.003
PM_{10} ($\mu g/m^3$)[b]	24 hours	150	50	**72.0**	**66.0**	**78.0**	**232.0**
	Annual	NA	20	**33.1**	**29.5**	**30.9**	**33.5**
$PM_{2.5}$ ($\mu g/m^3$)[c]	24 hours	35[*]	NA	**66.6**	53.8	58.5	**82.8**
	Annual	15	12	**17.9**	**15.9**	**14.1**	**14.6**
Lead ($\mu g/m^3$)	30 days	NA	1.5	Not available	Not available	Not available	Not available
	Calendar quarter	1.5	NA	0.01	0.01	0.01	0.01
Sulfates ($\mu g/m^3$)	24 hours	NA	25		Not available	Not available	Not available

Note: Exceedances of the standards are highlighted in bold.
[a] The state 1- and 8-hour ozone standards were exceeded on 0 days in 2004, 0 days in 2005, 0 days in 2006, and 1 day in 2007. The national 8-hour ozone standard was not exceeded.
[b] The state 24-hour PM_{10} standard was exceeded 2 days in 2004, 4 days in 2005, 5 days in 2006, and 6 days in 2007. The national PM_{10} standard was exceeded once in 2007.
[c] The national 24-hour $PM_{2.5}$ standard was exceeded on 1 day in 2004, 0 days in 2005, 0 days in 2006, and 1 days in 2007.
[*] The national 24-hour $PM_{2.5}$ standard was changed from 65 to 35 to be applied to the 2008 year.
Source: SCAQMD (www.aqmd.gov); CARB (http://www.arb.ca.gov/adam/welcome.html); EPA (http://www.epa.gov/aqspubl1/)

Table 3.2-3. Maximum Pollutant Concentrations Measured for the Port of Los Angeles Air Quality Monitoring Program

Pollutant	*Averaging Period*	*Port of Los Angeles Monitoring Stations*				*SCAQMD Monitoring Station*
		Wilmington Community Station	*Coastal Boundary Station*	*San Pedro Station*	*Source-Dominated Station*	*North Long Beach Station*
PM_{10} ($\mu g/m^3$)[a,b,c]	24 hours	60.5	--	--	--	78
	Period average	27.8	--	--	--	30.9
$PM_{2.5}$ ($\mu g/m^3$)[b]	24 hours	36.2	25.9	23.8	31.4	58.5
	Period average	12.4	9.8	10.7	13.5	14.1
Elemental carbon $PM_{2.5}$ ($\mu g/m^3$)[d]	24 hours	5.2	4.6	6.7	9.3	--
	Period average	1.5	1.1	1.5	2.5	--

Notes:

[a]For PM_{10}, the SCAQMD North Long Beach Station measures a 24-hour sample every 6 days, compared to every 3 days for the Port monitoring stations. Therefore, only one-half of the Port monitoring station samples (every other sample) has a corresponding sample from the North Long Beach Station. For $PM_{2.5}$, all monitoring sites measure a 24-hour sample every 3 days.

[b]The Port PM_{10} and $PM_{2.5}$ data were collected between February 2006 and January 2007. The Port's elemental carbon $PM_{2.5}$ data were collected between February 2005 and January 2006. Data from the SCAQMD North Long Beach Station were collected between February 2006 and December 2006.

[c]PM_{10} is not measured at the Coastal Boundary, San Pedro, or Source-Dominated Stations.

[d]Elemental carbon $PM_{2.5}$ is not measured at the SCAQMD North Long Beach Station.

Source: Port of Los Angeles (2008d)

Air quality within the SCAB has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly due to lower-polluting onroad motor vehicles, more stringent regulation of industrial sources, and SCAQMD's implementation of emission reduction strategies. This trend towards cleaner air has occurred in spite of continued population growth.

3.2.2.2.3 Toxic Air Contaminants

TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). TACs include air pollutants that can produce adverse human health effects, including carcinogenic effects, after short-term (acute) or long-term (chronic) exposure. Examples of TAC sources within the SCAB include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources.

The SCAQMD determined in the Multiple Air Toxics Exposure Study II (MATES II) that about 70% of the background airborne cancer risk in the SCAB is due to particulate emissions from diesel-powered on- and offroad motor vehicles (SCAQMD 2000). The higher risk levels were found in the urban core areas in south central Los Angeles County, in Wilmington adjacent to the Port, and near freeways.

In January 2008, the SCAQMD released the draft MATES III study (SCAQMD 2008a). Mates III determined that diesel exhaust remains the major contributor to air toxics risk, accounting for approximately 84% of the total risk. Compared to the MATES II study, the MATES III study found a decreasing risk for air toxics exposure, with the population-weighted risk down by 17% from the analysis in MATES II.

Furthermore, CARB released a report titled Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach (CARB 2006) that indicates that the two ports contributed approximately 21% of the total diesel PM emissions in the air basin during 2002. These emissions are reported to result in elevated cancer risk levels over the entire 20- by 20-mile study area.

As discussed in Section 3.2.3.4 the Port of Los Angeles, in conjunction with the Port of Long Beach, has developed the San Pedro Bay's Clean Air Action Plan (CAAP) that targets all emissions, but is focused primarily on TACs. The Port of Los Angeles has also developed the Sustainable Construction Guidelines as discussed in Section 3.2.3.4 to reduce emissions, including TAC's, from construction. Additionally, all major development projects will include a health risk assessment to further assess TAC emissions and to target mitigation to reduce the impact on public health.

3.2.2.2.4 Secondary $PM_{2.5}$ Formation

Within the SCAB, $PM_{2.5}$ particles are both directly emitted into the atmosphere (e.g., primary particles) and are formed through atmospheric chemical reactions from precursor gases (e.g., secondary particles). Primary $PM_{2.5}$ includes diesel soot, combustion products, road dust, and other fine particles. Secondary $PM_{2.5}$, which includes products such as sulfates, nitrates, and complex carbon compounds, are formed from reactions with directly emitted NO_X, SO_X, VOCs, and ammonia (SCAQMD 2006).

Generated emissions of NO_X, SO_X, and VOCs from the proposed Project would contribute toward secondary $PM_{2.5}$ formation some distance downwind of the emission sources. However, the air quality analysis in this draft EIR focuses on the effects of direct $PM_{2.5}$ emissions generated by the proposed Project and their ambient impacts. This approach is consistent with the recommendations of the SCAQMD (SCAQMD 2006).

3.2.2.2.5 Ultrafine Particles

Although EPA and the State of California currently monitor and regulate PM_{10} and $PM_{2.5}$, new research is being done on ultrafine particles (UFPs), particles classified as less than 0.1 micron in diameter. UFPs are formed usually by a combustion cycle, independent of fuel type. With diesel fuel, UFPs can be formed directly from the fuel during combustion. With gasoline and natural gas (liquefied or compressed), the UFPs are derived mostly from the lubricant oil. UFPs are emitted directly from the tailpipe as solid particles (soot—elemental carbon and metal oxides) and semivolatile particles (sulfates and hydrocarbons) that coagulate to form particles.

The research regarding UFPs is at its infancy but suggests the UFPs might be more dangerous to human health than the larger PM_{10} and $PM_{2.5}$ particles (termed fine particles) due to size and shape. Because of the smaller size, UFPs are able to travel more deeply into the lung (the alveoli) and are deposited in the deep lung regions more efficiently than fine particles. UFPs are inert; therefore, normal bodily defense does not recognize them. UFPs might have the ability to travel across cell layers and enter into the bloodstream and/or into individual cells. With a large surface area–to–volume ratio, other entities might attach to the particle and travel into the cell as a kind of "hitchhiker."

Current UFP research primarily involves roadway exposure. Preliminary studies suggest that over 50% of an individual's daily exposure is from driving on highways. Levels appear to drop off rapidly as one moves away from major roadways. Little research has been done directly on ships and offroad vehicles. CARB is currently measuring and studying UFPs at the San Pedro Bay Ports. Work is being done on filter technology, including filters for ships, which appears promising. LAHD began collecting UFP data at its four air quality monitoring stations in late 2007 and early 2008, actively participates in CARB testing at the Port, and will comply with all future regulations regarding UFPs; additionally, measures included in the CAAP aim to reduce all emissions throughout the Port.

3.2.2.2.6 Atmospheric Deposition

The fallout of air pollutants to the surface of the earth is known as atmospheric deposition. Atmospheric deposition occurs in both a wet and dry form. Wet deposition occurs in the form of precipitation or cloud water and is associated with the conversion in the atmosphere of directly emitted pollutants into secondary pollutants such as acids. Dry deposition occurs in the form of directly emitted pollutants or the conversion of gaseous pollutants into secondary PM. Atmospheric deposition can produce watershed acidification, aquatic toxic pollutant loading, deforestation, damage to building materials, and respiratory problems.

CARB and the California Water Resources Control Board are in the process of examining the need to regulate atmospheric deposition for the purpose of protecting both fresh and salt water bodies from pollution. Port emissions deposit into both local waterways and regional land areas. Construction emission sources from the

proposed Project would produce DPM, which contains trace amounts of toxic chemicals. Through its CAAP, the Port will reduce air pollutants from its future operations, which will work towards the goal of reducing atmospheric deposition for purposes of water quality protection. The CAAP will reduce air pollutants that generate both acidic and toxic compounds, include emissions of NO_X, SO_X, and DPM.

3.2.2.2.7 Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). GHGs are emitted by natural processes and human activities. Examples that are produced both by natural processes and industry include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons [HFCs] and perfluorocarbons [PFCs]) and sulfur hexafluoride (SF_6).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without these natural GHGs, the earth's surface would be about 61°F cooler (AEP 2007). However, emissions from fossil fuel combustion for activities such as electricity production and vehicular transportation have elevated the concentration of GHGs in the atmosphere above natural levels. According to the Intergovernmental Panel on Climate Change, (IPCC) the atmospheric concentration of CO_2 in 2005 was 379 ppm compared to the pre-industrial levels of 280 ppm (IPCC 2007). In addition, the *Fourth U.S. Climate Action Report* concluded, in assessing current trends, that CO_2 emissions increased by 20% from 1990 to 2004, while CH_4 and N_2O emissions decreased by 10 and 2%, respectively

There appears to be a close relationship between the increased concentration of GHGs in the atmosphere and global temperatures. Scientific evidence indicates a trend of increasing global temperatures near the earth's surface over the past century due to increased human-induced levels of GHGs.

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. For example, some observed changes include shrinking glaciers, thawing permafrost, later freezing and earlier break-up of ice on rivers and lakes, a lengthened growing season, shifts in plant and animal ranges, and earlier flowering of trees (IPCC 2001). Other, longer term environmental impacts of global warming may include sea level rise, changing weather patterns with increased storm and drought severity, changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack (e.g., estimates include a 30 to 90% reduction in snow pack in the Sierra Nevada mountain range). Current data suggest that in the next 25 years, in every season of the year, California could experience unprecedented heat, longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. More specifically, the California Climate Change Center (2006) predicted that California could witness the following events:

- Temperature rises between 3 and 10.5ºF
- 6 to 20 inches or more increase in sea level
- 2 to 4 times as many heat-wave days in major urban centers
- 2 to 6 times as many heat-related deaths in major urban centers
- 1 to 1.5 times more critically dry years
- 10 to 55% increase in the risk of wildfires

Currently, there are no federal standards for GHGs emissions. Recently, the U.S. Supreme Court ruled that the harms associated with climate change are serious and well recognized, that EPA must regulate GHGs as pollutants, and that, unless the agency determines that GHGs do not contribute to climate change, EPA must promulgate regulations for GHG emissions from new motor vehicles (*Massachusetts et al. v. Environmental Protection Agency* [549 U.S. 497 127 S. Ct. 1438 (2007)]). Additionally, in *Center for Biological Diversity v. National Highway Traffic Safety Administration*[538 F.3d 1172 (9th Cir. 2008)], the U.S. Ninth Circuit held that a complete GHG analysis is required in NEPA documents. However, no federal regulations have been set at this time. Currently, control of GHGs is generally regulated at the state level and approached by setting emission reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans.

To date, 12 states, including California, have set state GHG emission targets. Executive Order S-3-05 and the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, promulgated the California target to achieve 1990 GHG levels by the year 2020. The target-setting approach allows progress to be made in addressing climate change and is a forerunner to the setting of emission limits. A companion bill, Senate Bill (SB) 1368, similarly addresses global warming, but from the perspective of electricity generators selling power into the state. The legislation requires that imported power meet the same GHG standards that power plants in California meet. SB 1368 also sets standards for CO_2 for any long-term power production of electricity at 1,000 pounds per megawatt hour.

The World Resources Institute's GHG Protocol Initiative identifies six GHGs generated by human activity that are believed to be contributors to global warming (WRI/WBCSD 2007):

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

These are the same six GHGs that are identified in California AB 32 and by the EPA. Appendix C contains descriptions of the natural and manmade sources of emissions for each of these GHGs.

The different GHGs have varying global warming potential (GWP). GWP is the ability of a gas or aerosol to trap heat in the atmosphere. By convention, CO_2 is assigned a GWP of 1. By comparison, CH_4 has a GWP of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis. N_2O has a GWP of 310, which means that it has a global warming effect 310 times greater than CO_2 on an equal-mass basis. To account for their GWPs, GHG emissions are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its GWP, and adding the results together to produce a single, combined emission rate representing all GHGs. Appendix C lists the GWP for each GHG.

The proposed Project's air quality analysis includes estimates of GHG emissions generated by the proposed Project for existing and future conditions, as presented in Sections 3.2.2.3 and 3.2.4.3, respectively. In keeping with international convention, the GHG emissions in this report are expressed in metric units (metric tons [tonnes] in this case).

Port's Climate Action Plan and Sustainability Plan

In May 2007, the City of Los Angeles Mayor's Office released the Green LA initiative, which is an action plan to lead the nation in fighting global warming. The Green LA Plan presents a citywide framework for confronting global climate change to create a cleaner, greener, sustainable Los Angeles. The Green LA Plan directs the Port to develop an individual Climate Action Plan, consistent with the goals of Green LA, to examine opportunities to reduce GHG emissions from operations.

In accordance with this directive, the Port prepared a Harbor Department Climate Action Plan (December 2007) detailing GHG emissions related to municipally controlled Port activities (such as Port buildings and Port workforce operations) and outlining current and proposed actions to reduce GHG from these operations. The Port is a member of the California Climate Action Registry (CCAR) and The Climate Registry (TCR). The Port has submitted GHG emissions inventories for LAHD-controlled operations for 2006 and 2007, and will begin submitting annual GHG inventories for trucks, ships, and rail to CCAR, beginning in 2008 for the year 2006. The Port, as a Department of the City of Los Angeles and as a port associated with a major city, is a participant in Clinton Climate Initiative (CCI) as a C40 City[1].

The Port is developing a Sustainability Plan in accordance with the Mayor's Office Directive that will incorporate Port environmental programs and reports, including the Port's Climate Action Plan. The Port is also a signatory to the California

1 The Clinton Climate Initiative (CCI) is a program through the William J. Clinton Foundation that applies a measurable business approach to fighting climate change globally. Specifically, the CCI focuses on working with the C40 Large Cities Climate Leadership Group, a group of large cities worldwide dedicated to reducing greenhouse gas emissions. Since cities contribute about 75%of all heat-trapping greenhouse gases, they are critical to slowing the pace of global warming.

Sustainable Goods Movement Program and is participating in the University of Southern California Sustainable Cities Program, which is looking at GHGs associated with international goods movement.

3.2.2.3 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of the project that exists at the time the NOP is published. These environmental conditions would normally constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. For purposes of this EIR, the CEQA baseline for determining the significance of potential project impacts is 2008.

CEQA baseline emissions include emissions from sources that were operating in the baseline year of 2008 and would include those sources planned for demolition, or which would no longer be operational, at the completion of the proposed Project.

Table 3.2-4, below, presents peak daily existing 2008 emissions, which include two 59,000-square feet LADWP oil tanks, industrial land uses in the Avalon Development District and Waterfront Development District, and Banning's Landing located on the south side of Water Street.

Table 3.2-4. CEQA Baseline Emissions: Peak Daily Emissions

	Pollutant Emission Rates (pounds/day)					
Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Mobile	10	99	13	<1	12	2
Area	2	6	2	<1	<1	<1
Stationary	<1	<1	2	<1	<1	<1
Total	**11**	**105**	**17**	**<1**	**12**	**2**

URBEMIS2007 model results are provided in Appendix C.
Mobile sources include onroad traffic (trucks and cars).
Area sources include activities such as landscaping and surface repainting.
Stationary sources include electricity and natural gas consumption.

Source: URBEMIS2007 (see Appendix C).

Operational emissions calculated for the CEQA baseline include mobile, area, and stationary sources. Mobile sources include onroad traffic, such as patrons visiting an establishment or employees driving into work. Area sources contribute to pollutants on site, and include activities such as landscaping and surface repainting. Stationary sources are considered regional in nature, as the main source of pollutants is generally located off site. Stationary sources include electricity and natural gas consumption.

3.2.2.3.1 Greenhouse Gas Emissions

Table 3.2-5 presents an estimate of CH_4, N_2O, and CO_2 emissions generated within California borders from the CEQA baseline year operations in the form of CO_2e. As discussed further in Section 3.2.4.1, the analysis of GHG emissions within the state is consistent with the goals of the CCAR. The emission sources for which baseline GHG emissions were calculated are the same as for the criteria pollutants and include mobile, stationary, and area sources. The GHG emission calculation methodology is described in Appendix C.

Table 3.2-5. Estimate of CEQA Baseline Greenhouse Gas Emissions (pounds per day) [a]

Emission Source	*CO_2e*
Mobile	7,434
Area	2,013
Stationary	1,532
Total Emissions	**10,979**

[a]URBEMIS2007 model results are provided in Appendix C.
Mobile sources include onroad traffic (trucks and cars).
Area sources include activities such as landscaping and surface repainting.
Stationary sources include electricity and natural gas consumption.

Source: Jones & Stokes 2008.

3.2.2.4 Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. The locations of these groups include residences, schools, playgrounds, daycare centers, and hospitals. The nearest sensitive receptors to the proposed project area are residents in south Wilmington. Additionally, the Hawaiian Avenue Elementary School and Saints Peter and Paul Elementary School in Wilmington are approximately 1 mile from the proposed project site. The nearest convalescent home, the Harbor View House, is approximately 2 miles southeast of the proposed project site. The nearest hospital is the Little Company of Mary San Pedro Hospital, approximately 2 miles southwest of the proposed project site. Residents and grammar schools in northeast San Pedro also are in proximity to the proposed project site.

The proposed Project is particular in that, in addition to the existing nearby sensitive receptors, it proposes to construct a new sensitive land use near existing industrial uses. As such, patrons of the new facilities would represent new sensitive receptors and may be affected by the existing surrounding land uses found at the Port.

Potential impacts to these new sensitive receptors are evaluated further under Section 3.2.4.3 as Impact AQ-7.

3.2.3 Applicable Regulations

The federal Clean Air Act of 1969 (CAA) and its subsequent amendments established air quality regulations and the NAAQS, and delegated enforcement of these standards to the states. In California, CARB is responsible for enforcing air pollution regulations. CARB has, in turn, delegated the responsibility of regulating stationary emission sources to the local air agencies. In the SCAB, the local air agency is the SCAQMD.

The following is a summary of the key federal, state, and local air quality rules, policies, and agreements that apply to the proposed Project and its related activities.

3.2.3.1 Federal Regulations

3.2.3.1.1 State Implementation Plan

In federal nonattainment areas, the CAA requires preparation of a State Implementation Plan that details how the state will attain the NAAQS within mandated timeframes. In response to this requirement, the SCAQMD and SCAG have jointly developed the 2007 Air Quality Management Plan (AQMP). The 2007 AQMP addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP builds upon the approaches taken in the 2003 AQMP for the SCAB for the attainment of federal air quality standards. Additionally, the plan highlights the significant amount of reductions necessary and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet federal criteria pollutant standards within the timeframes allowed under the federal CAA (SCAQMD 2007a). The 2007 AQMP has been submitted as part of the SIP to EPA for approval.

3.2.3.1.2 Emission Standards for Offroad Diesel Engines

To reduce emissions from offroad diesel equipment, EPA established a series of increasingly strict emission standards for new offroad diesel engines. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006. Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards, which likely will require add-on emission control equipment to reach attainment, will be phased in from 2008 to 2015. These standards apply to construction equipment. (DieselNet 2005)

3.2.3.1.3 Emission Standards for Onroad Trucks

To reduce emissions from onroad, heavy-duty diesel trucks, EPA established a series of increasingly strict emission standards for new engines, starting in 1988. EPA promulgated the final and cleanest standards with the *2007 Heavy-Duty Highway Rule* (EPA 2000). The PM emission standard of 0.01 gram per horsepower-hour (g/hp-hr) is required for new vehicles beginning with model year 2007. Also, the NO_X and nonmethane hydrocarbon (NMHC) standards of 0.20 and 0.14 g/hp-hr, respectively, would be phased in together between 2007 and 2010 on a percent of sales basis: 50% from 2007 to 2009 and 100% in 2010. Currently, the strictest standards will be phased in starting in 2007 (EPA 2000).

3.2.3.1.4 Highway Diesel Fuel Rule

With the Highway Diesel Fuel Rule, EPA set sulfur limitations for onroad diesel fuel to 15 ppm starting June 1, 2006 (EPA 2006).

3.2.3.2 State Regulations

3.2.3.2.1 California Clean Air Act

The California Clean Air Act (CCAA) of 1988, as amended in 1992, outlines a program to attain the CAAQS by the earliest practical date. Because the CAAQS are more stringent than the NAAQS, attainment of the CAAQS will require more emissions reductions than what would be required to show attainment of the NAAQS. Consequently, the main focus of attainment planning in California has shifted from the federal to state requirements. Similar to the federal system, the state requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

3.2.3.2.2 Heavy Duty Diesel Truck Idling Regulation

This CARB rule affected heavy-duty diesel trucks in California starting February 1, 2005. The rule requires that heavy-duty trucks not idle for longer than 5 minutes at a time. However, truck idling for longer than 5 minutes while queuing is allowed if the queue is located more than 100 feet from any homes or schools.

3.2.3.2.3 California Diesel Fuel Regulations

With this rule, CARB set sulfur limitations for diesel fuel sold in California for use in on- and offroad motor vehicles (CARB 2004c). Harbor craft were originally excluded from the rule but were later added by a 2004 rule amendment, and again

updated in 2008 (CARB 2004b; 2008). Under this rule, diesel fuel used in motor vehicles except harbor craft has been limited to 500 ppm sulfur since 1993. The sulfur limit was reduced to 15 ppm on September 1, 2006. The phase-in period was from June 1, 2006, to September 1, 2006 (a federal diesel rule similarly limited sulfur content nationwide to 15 ppm by October 15, 2006). Diesel fuel used in harbor craft in the SCAQMD was limited to 500 ppm sulfur starting January 1, 2006, and 15-ppm sulfur starting September 1, 2006. The sulfur limit will be reduced to 1.5% by weight starting July 1, 2009, and again to 0.1% by weight starting January 1, 2012.

3.2.3.2.4 Statewide Portable Equipment Registration Program

The Statewide Portable Equipment Registration Program (PERP) establishes a uniform program to regulate portable engines and portable engine-driven equipment units (CARB 2005). Once registered in this program, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts. The PERP generally would apply to proposed dredging and barge equipment.

3.2.3.2.5 Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, state-wide GHG emission reduction targets as follows:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80% below 1990 levels.

Some literature equates these reductions to 11% by 2010 and 25% by 2020.

3.2.3.2.6 AB 32—California Global Warming Solutions Act of 2006

The purpose of AB 32 is to reduce statewide GHG emissions to 1990 levels by 2020. This act instructs CARB to adopt regulations that reduce emissions from significant sources of GHGs and establish a mandatory GHG reporting and verification program by January 1, 2008. AB 32 requires CARB to adopt GHG emission limits and emission reduction measures by January 1, 2011, both of which are to become effective on January 1, 2012. CARB must also evaluate whether to establish a market-based cap and trade system. AB 32 does not identify a significance level of GHG for CEQA purposes, nor has CARB adopted such a significance threshold.

CARB identified early actions in its April 20, 2007, report (CARB 2007):

- Group 1—Three new GHG-only regulations are proposed to meet the narrow legal definition of "discrete early action greenhouse gas reduction measures" in Section 38560.5 of the Health and Safety Code. These include the Governor's Low Carbon Fuel Standard, reduction of refrigerant losses from motor vehicle air conditioning maintenance, and increased methane capture from landfills. These actions are estimated to reduce GHG emissions between 13 and 26 million metric tons (MMT)-CO_2e annually by 2020 relative to projected levels. If approved for listing by the Governing Board, these measures will be brought to hearing in the next 12 to 18 months and take legal effect by January 1, 2010. When these actions take effect, they would influence GHG emissions associated with vehicle fuel combustion and air conditioning, but would not otherwise affect project site design or implementation.
- Group 2—CARB is initiating work on another 23 GHG emission reduction measures in the 2007–2009 time period, with rulemaking to occur as soon as possible where applicable. These GHG measures relate to the following sectors: agriculture, commercial, education, energy efficiency, fire suppression, forestry, oil and gas, and transportation.
- Group 3—CARB staff has identified 10 conventional air pollution control measures that are scheduled for rulemaking in the 2007–2009 period. These control measures are aimed at criteria and toxic air pollutants, but will have concurrent climate co-benefits through reductions in CO_2 or non-Kyoto pollutants (i.e., DPM, other light-absorbing compounds and/or ozone precursors) that contribute to global warming.

3.2.3.2.7 SB 97—CEQA: Greenhouse Gas Emissions

SB 97 would require the Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency would be required to certify and adopt those guidelines by January 1, 2010. The OPR would be required to periodically update the guidelines to incorporate new information or criteria established by the State Air Resources Board pursuant to the California Global Warming Solutions Act of 2006.

3.2.3.2.8 OPR Technical Advisory

On June 19, 2008, as part of its continuing service to professional planners, land use officials, and CEQA practitioners, OPR, in collaboration with the California Resources Agency, CalEPA, and CARB, has provided a new technical advisory containing informal guidance for public agencies as they address the issue of climate change in their CEQA documents. This technical advisory provides OPR's perspective on the issue and precedes the development of draft implementing regulations for CEQA, in accordance with SB 97. The regulations are expected to be

finalized in January 2009. OPR requested that CARB develop GHG CEQA thresholds. CARB released the draft thresholds for industrial, commercial, and residential projects on October 24, 2008. These thresholds, which are advisory, are expected to go to CARB's Board in December (see, http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/prelimdraftproposal102408.pdf).

3.2.3.2.9 Executive Order S-01-07

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. Essentially, the order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020, and (2) that a Low Carbon Fuel Standard for transportation fuels be established for California.

3.2.3.2.10 SB 1368 GHG Standard for Electrical Generation

SB 1368 authorizes the California Public Utilities Commission (CPUC), in consultation with the California Energy Commission (CEC) and CARB, to establish GHG emissions standards for baseload generation for investor-owned utilities. It requires the CEC to adopt a similar standard for local publicly owned or municipal utilities. The CPUC adopted rules implementing the legislation in January 2007. The CEC adopted similar regulations in June 2007.

3.2.3.2.11 California Climate Action Registry

Established by the California Legislature in 2000, CCAR is a private non-profit organization originally formed by the State of California. CCAR serves as a voluntary GHG registry to protect and promote early actions to reduce GHG emissions by organizations. CCAR provides leadership on climate change by developing and promoting credible, accurate, and consistent GHG reporting standards and tools for organizations to measure, monitor, third-party verify, and reduce their GHG emissions consistently across industry sectors and geographical borders.

CCAR members voluntarily measure, verify, and publicly report their GHG emissions, are leaders in their respective industry sectors, and are actively participating in solving the challenge of climate change. In turn, the State of California offers its best efforts to ensure that CCAR members receive appropriate consideration for early actions in light of future state, federal, or international GHG regulatory programs. Registry members are well prepared to participate in market based solutions and upcoming regulatory requirements. LAHD is a voluntary member of CCAR and has made the following commitments:

- identify sources of GHG emissions, including direct emissions from vehicles, onsite combustion, fugitive and process emissions, and indirect emissions from electricity, steam, and co-generation;
- calculate GHG emissions using CCAR's General Reporting Protocol (Version 3.0, April 2008); and
- report final GHG emissions estimates on the CCAR website.

LAHD has been a member of CCAR since March 29, 2006, and has submitted GHG inventories of LAHD-controlled activities for 2006 and 2007. Organizations that join CCAR are specifically recognized by AB 32. As a result, LAHD is assured that CARB will incorporate emissions reporting protocols developed by CCAR into the state's new mandatory GHG emissions reporting program to the maximum extent feasible.

3.2.3.2.12 California Climate Change Adaptation Strategy

With the passage and implementation of AB 32, California is leading the way in the mitigation of climate change through reductions in GHG emissions. In concert with these efforts, the California Resources Agency has undertaken the complicated task of developing California's first comprehensive Climate Adaptation Strategy (CAS). A new priority in the climate change arena, adaptation promises to offer solutions to climate impacts as a result of past and current emissions. Consequently, efforts to adapt to expected climate change impacts through careful planning and preparation must occur in parallel to ongoing mitigation efforts.

California is experiencing significant climate change impacts, including shifting precipitation patterns, increasing temperatures, sea level rise, increasing severity and duration of wildfires, earlier melting of snow pack, and effects on habitats and biodiversity. These and other effects are predicted to intensify in the coming decades and significantly impact the state's public health, natural and manmade infrastructure, and ecosystems. Some uncertainty remains regarding exactly how these impacts will occur, but there is enough information now to increase our resiliency to these impacts.

To prepare for the expected impacts of climate change, California is developing a statewide CAS in coordination with efforts targeting greenhouse gas mitigation policies. The CAS will synthesize the most up-to-date information on expected climate change impacts to California for policy-makers and resource managers, provide strategies to promote resiliency to these impacts, and develop implementation plans for short and long term actions. The California Resources Agency will coordinate the CAS with California Environmental Protection Agency (Cal/EPA); the Climate Action Team; the Business, Transportation and Housing Agency; California Department of Public Health; and other key stakeholders.

The CAS will have six different Climate Adaptation Working Groups that will identify and prioritize climate adaptation strategies on a per-sector basis, including:

- Biodiversity and Habitat
- Infrastructure (roads, levees, buildings, etc.)
- Oceans and Coastal Resources
- Public Health
- Water
- Working Landscapes (forestry and agriculture)

Climate change impacts on the ocean and coast, including sea level rise, are expected to be the most devastating. The Oceans and Coastal Resources working group has developed an outline for assessing climate change and sea level rise impacts. This will include adaptation strategies for coastal habitats and infrastructure along the 1,100 miles of California's coastline. This group has recently submitted their cross-sector analysis, which will undergo review through stakeholder meetings, workshops, and final review/approval by the Ocean Protection Council. (California Climate Change Portal, http://www.climatechange.ca.gov/adaptation/index.html. Last updated 11/14/2008)

3.2.3.3 Regional and Local Regulations

Through the attainment planning process, the SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB (SCAQMD 2007b). The SCAQMD rules most pertinent to the proposed Project are listed below. With the possible exception of dredging equipment during construction, the emission sources associated with the proposed Project are considered mobile sources. Therefore, they are not subject to the SCAQMD rules that apply to stationary sources, such as Regulation XIII (New Source Review), Rule 1401 (New Source Review of Toxic Air Contaminants), or Rule 431.2 (Sulfur Content of Liquid Fuels).

SCAQMD Rule 402—Nuisance. This rule prohibits discharge of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403—Fugitive Dust. This rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area that remains visible beyond the emission source property line. During proposed project construction, best available control measures identified in the rule would be required to minimize fugitive dust emissions from proposed earth-moving and grading activities. These measures would include site prewatering and rewatering as necessary to maintain sufficient soil moisture content. Additional requirements apply to construction projects on property with 50 or more acres of disturbed surface area, or for any earth-moving operation with a daily earth-moving or throughput volume of 5,000 cubic yards or more three times during the most recent 365-day period. These

requirements include submittal of a dust control plan, maintaining dust control records, and designating a SCAQMD-certified dust control supervisor.

SCAQMD Regulation XIII. This regulation sets forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the national ambient air quality standards, and that future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.

In addition to nonattainment air contaminants, this regulation will also limit emission increases of ammonia and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

SCAQMD Regulation XIV. This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units which emit TACs. The rule establishes allowable risks for permit units requiring new permits.

SCAQMD Rule 1403—Asbestos Emissions from Demolition/Renovation Activities. The purpose of this rule is to limit emissions of asbestos, a TAC, from structural demolition/renovation activities. The rule requires people to notify the SCAQMD of proposed demolition/renovation activities and to survey these structures for the presence of asbestos-containing materials (ACMs). The rule also includes notification requirements for any intent to disturb ACM; emission control measures; and ACM removal, handling, and disposal techniques. All proposed structural demolition activities associated with proposed project construction would need to comply with the requirements of Rule 1403.

3.2.3.4 Los Angeles Harbor Department Clean Air Policy

The Port of Los Angeles implemented a Clean Air Program that has in place since 2001, and began monitoring and measuring air quality in surrounding communities in 2004. Through the Port-wide Emissions Inventory (PEI) process, the Port has been able to identify emission sources and their relative contributions in order to develop effective emissions reduction strategies. The Port's Clean Air Program has included progressive programs such as alternative maritime power (AMP), use of emulsified fuel and diesel oxidation catalysts (DOCs) in yard equipment, alternative fuel testing, switch locomotive modernization program, and the VSRP.

In late 2004, the Port developed a plan to reduce air emissions through a number of near-term measures. The measures primarily focused on decreasing NO_X, but also PM and SO_X emissions. In August 2004, a policy shift occurred, and Mayor James

K. Hahn established the No Net Increase Task Force to develop a plan that would achieve the goal of No Net Increase (NNI) in air emissions at the Port relative to 2001 levels. The plan identified 68 measures to be applied over the next 25 years that would reduce PM and NO_X emissions to the baseline year of 2001. The 68 measures included (1) near-term measures, (2) agency regulatory efforts, (3) technological innovations, and (4) longer-term measures still in development.

The Port, in conjunction with the Port of Long Beach and with guidance from SCAQMD, CARB, and EPA, has adopted the San Pedro Bay Ports Clean Air Action Plan (SPBP CAAP) to expand upon existing and develop new emission-reduction strategies. The SPBP CAAP was initiated in response to a new mayor and Board of Harbor Commissioners; the Port began work on the Draft SPBP CAAP. The SPBP CAAP was released as a draft Plan for public review on June 28, 2006, and was approved by both the Los Angeles and Long Beach Boards of Harbor Commissioners on November 20, 2006. The SPBP CAAP focuses on reducing emissions with two main goals: (1) reduce Port-related air emissions in the interest of public health and (2) accommodate growth in trade. The draft Plan includes near-term measures implemented largely through the CEQA process, tariffs, and new leases at both Ports.

3.2.3.5 Port of Los Angeles Sustainable Construction Guidelines

In February 2008, the Port's Board of Harbor Commissioners adopted the Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions (Port Construction Guidelines). These guidelines will be used to establish air emission criteria for inclusion in construction bid specifications. The Port Construction Guidelines will reinforce and require sustainability measures during performance of the contracts, balancing the need to protect the environment, be socially responsible, and provide for the economic development of the Port. Future Board resolutions will expand the Guidelines to cover other aspects of construction, as well as planning and design. These guidelines support the forthcoming Port Sustainability Program.

The intent of the Port Construction Guidelines is to facilitate the integration of sustainable concepts and practices into all capital projects at the Port, and to phase in the implementation of these procedures in a practical yet aggressive manner. Significant features of the Port Construction Guidelines include, but are not limited to the following:

1. All ships & barges used primarily to deliver construction related materials for LAHD construction contracts shall comply with the Vessel Speed Reduction Program and use low-sulfur fuel within 40 nautical miles of Point Fermin.
2. Harbor craft shall meet U.S. EPA Tier 2 engine emission standards and this requirement will increase to U.S. EPA Tier 3 engine emission standards by January 1, 2011.
3. All dredging equipment shall be electric.

4. Onroad heavy-duty trucks shall comply with EPA 2004 onroad emission standards for PM_{10} and NO_x and shall be equipped with a CARB verified Level 3 device. Emission standards will increase to EPA 2007 onroad emission standards for PM_{10} and NO_x by January 1, 2012.
5. Construction equipment (excluding onroad trucks, derrick barges, and harbor craft) shall meet U.S. EPA Tier-2 nonroad standards. The requirement will increase to Tier 3 by January 1, 2012, and Tier 4 by January 1, 2015. In addition, construction equipment shall be retrofitted with a California Air Resources Board (CARB) certified Level 3 diesel emissions control device.
6. Comply with SCAQMD Rule 403 regarding Fugitive Dust and other fugitive dust control measures.
7. Additional Best Management Practices, based largely on Best Available Control Technology (BACT), will be required on construction equipment (including onroad trucks) to further reduce air emissions.

This EIR analysis requires that the proposed Project would adopt all applicable Sustainable Construction Guidelines as mitigations. These measures are incorporated into the emission calculations for the mitigated proposed Project and Alternatives scenarios. Section 3.2.4.3 identifies the mitigation and monitoring requirements for these measures.

3.2.4 Impact Analysis

This section presents a discussion of the potential air quality impacts associated with the construction and operation of the proposed Project. Mitigation measures are provided where feasible for impacts found to be significant.

3.2.4.1 Methodology

The emission estimates, dispersion modeling, and health risk estimates presented in this document were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available for this study. The estimates and modeling, as discussed below, were compared to the Significance Criteria described in detail in Section 3.2.4.2 to determine their level of significance.

- Air pollutant emissions of VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ were estimated for construction and operation of the proposed Project. To determine their significance, the emissions were compared to Significance Criteria AQ-1 and AQ-3. The criteria pollutant emission calculations are presented in Appendix C.
- Dispersion modeling of CO, NO_X, PM_{10}, and $PM_{2.5}$ construction emissions was performed to estimate maximum offsite pollutant concentrations in the air from emission sources attributed to proposed project construction. The predicted

ambient concentrations associated with construction of the proposed Project were compared to Significance Criteria AQ-2.

- Dispersion modeling of vehicle traffic also was performed at a worst-case roadway intersection affected by truck trips generated by the proposed Project. The maximum predicted CO "hot spot" concentrations near the intersection were compared to Significance Criterion AQ-5.
- The potential for odors generated by the proposed Project at sensitive receptors in the vicinity was assessed qualitatively and compared to Significance Criterion AQ-6.
- A qualitative assessment of how TAC emissions would result in a significant health risk to sensitive receptors was conducted for the proposed Project. Because the proposed Project would introduce a new sensitive land use (17-acre park) in an already highly industrial area, the impact analysis for TAC considers the potential impact of the surrounding industrial uses on the proposed Project and was addressed in AQ-7.
- The consistency of the proposed Project with the AQMP was addressed in accordance with Significance Criterion AQ-8.
- GHG emissions were addressed in AQ-9.

Finally, mitigation measures were applied to the proposed activities that would exceed a significance criterion, and then evaluated as to their effectiveness in reducing impacts of the proposed Project.

The numerical results presented in the tables of this report were rounded, often to the nearest whole number, for presentation purposes. As a result, the sum of tabular data in the tables could differ slightly from the reported totals. For example, if emissions from Source A equal 1.2 lb/day and emissions from Source B equal 1.4 lb/day, the total emissions from both sources would be 2.6 lb/day. However, in a table, the emissions would be rounded to the nearest lb/day, such that Source A would be reported as 1 lb/day, Source B would be reported as 1 lb/day, and the total emissions from both sources would be reported as 3 lb/day. Although the rounded numbers create an apparent discrepancy in the table, the underlying addition is accurate.

3.2.4.1.1 Methodology for Determining Construction Emissions

Proposed construction activities for the proposed Project would involve the use of offroad construction equipment, dredging equipment, cranes, pile drivers, onroad trucks, tugboats, and heavy duty haul trucks. Because these sources would primarily use diesel fuel, they would generate emissions of diesel exhaust in the form of VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. In addition, offroad construction equipment traveling over unpaved surfaces and performing earthmoving activities such as site clearing or grading would generate fugitive dust emissions in the form of PM_{10} and $PM_{2.5}$. Worker commute vehicles and haul trucks would generate vehicle exhaust and paved road dust emissions.

Construction emissions were estimated using the following methodology. LAHD supplied the equipment usage and scheduling data needed to calculate emissions for the proposed construction activities (LAHD 2008). Emission factors from CARB's OFFROAD2007 and EMFAC2007, and the Port of Los Angeles Inventory of Air Emissions were identified for each type of equipment, heavy-duty trucks, and marine vessels, respectively. In some cases, the horsepower rating of the equipment was required in order to estimate emissions.

To estimate peak daily construction emissions for comparison to SCAQMD emission thresholds, emissions were first calculated for the individual construction activities (e.g., parking areas, promenade, industrial development, etc.). Peak daily emissions then were determined by summing emissions from overlapping construction activities as indicated in the proposed construction schedule (available in Appendix C). The SCAQMD emission thresholds are discussed in Section 3.2.4.2. The combination of construction activities producing the highest daily emissions was selected as the peak day.

The specific approaches to calculating emissions for the various emission sources during construction of the proposed Project are discussed below. Table 3.2-6 includes a synopsis of the regulations and agreements that were assumed as part of the proposed Project in the construction calculations. The construction emission calculations are presented in Appendix C.

Sustainable Construction Guideline measures planned for future implementation at a project level are treated as mitigation in this study. Therefore, the unmitigated emissions of the proposed Project construction assume no Sustainable Construction Guidelines measure implementation.

Table 3.2-6. Regulations and Agreements Assumed in the Unmitigated Construction Emissions

Offroad Construction Equipment	*Onroad Trucks*	*Tugboats*	*Fugitive Dust*
Emission Standards for Nonroad Diesel Engines— Tier 1, 2, 3, and 4 standards gradually phased in over all years due to normal construction equipment fleet turnover. **California Diesel Fuel Regulations**—15 ppm sulfur starting September 1, 2006.	**Emission Standards for Onroad Trucks**—Tiered standards gradually phased in over all years due to normal truck fleet turnover. **California Diesel Fuel Regulations**—15 ppm sulfur starting September 1, 2006. **Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling**—Diesel trucks subject to idling limits starting February 1, 2005.	**California Diesel Fuel Regulations—**15 ppm sulfur starting September 1, 2006. 1.5% sulfur by weight starting July 1, 2009.	**SCAQMD Rule 403 Compliance—**61% reduction in fugitive dust. Rule 403 activities include, but are not limited to, watering three times per day, covering stockpiled materials, stabilizing transport material, and covering haul vehicles prior to exiting the site.
Note: This table is not a comprehensive list of all applicable regulations; rather, the table lists key regulations and agreements that substantially affect the emission calculations for the proposed Project. A description of each regulation or agreement is provided in Section 3.2.3.			

Offroad Construction Equipment

Emissions of VOC, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ from diesel-powered construction equipment were calculated using emission factors derived from the CARB OFFROAD2007 Emissions Model (CARB 2007). Using the SCAB fleet information, the OFFROAD model was run for each of the construction years of 2009 through 2017. Emission factors were calculated based on each type of equipment, horsepower rating of the equipment, and the corresponding equipment activity levels. The OFFROAD model output shows that, on a per-horsepower-hour basis, emission factors will steadily decline in future years as older equipment is replaced with newer, cleaner equipment that meets the already adopted future state and federal offroad engine emission standards.

Onroad Trucks Used during Construction

Emissions from onroad, heavy-duty diesel trucks during construction were calculated using emission factors generated by the EMFAC2007 onroad mobile source emission factor model for a truck fleet representative of the County of Los Angeles (CARB 2007). The EMFAC2007 model output shows that, on a per-mile basis, emission factors will steadily decline in future years, as older trucks are replaced with newer, cleaner trucks that meet the required state and federal onroad engine emission standards.

Other assumptions regarding onroad trucks during construction are as follows:

- Trucks hauling debris or fill materials would travel 90% of the trip distance on site at 25 mph and 10% at 10 mph. All other construction-related trucks would travel off site at 55 mph for 40 miles, 25 mph for 0.5 mile, and 10 mph for 0.25 mile.
- Nonincidental truck idling times would be 20 minutes for concrete truck trips and 5 minutes for all other truck trips.

Tugboats Used during Construction

During construction, tugboats would be used to haul dredge sediment in barges off site for disposal at sea.

Emissions from tugboat main and auxiliary engines were calculated using Entec (2002) emission factors for medium- and high-speed diesel marine engines, respectively, as reported by Starcrest (Starcrest 2007). Although many tugboats at the Port have been repowered with Tier 2 marine engines as part of the ongoing Tugboat Retrofit Project, the emission calculations conservatively used uncontrolled Entec emission factors for all construction phases without mitigation.

The diesel fuel used in tugboats is assumed to have an average sulfur content of 15 ppm, which is the sulfur content limit for California harbor craft, in accordance with California Diesel Fuel Regulations (CARB 2004c).

Other assumptions regarding tugboats during construction are as follows:

- During dredging activities, a tugboat would operate at 4 hours per day hauling a barge off site for sediment disposal at sea. The round-trip distance would be 2 nm.

Fugitive Dust during Construction

The evaluation of fugitive dust incorporates all sources of dust (e.g., demolition and grading) that might be produced during the construction phase. The SCAQMD factors were used to determine the fugitive dust generated by heavy-duty equipment, trucks, and automobiles travelling both on and off site. Fugitive dust emissions (PM_{10}) from loading, dumping, and construction equipment traveling over unpaved surfaces were estimated using the emissions factors in the Western Regional Air Partnership's (WRAP) *Fugitive Dust Handbook* (WRAP 2004). A general emission factor for all types of construction activity is 0.11 ton of PM_{10}/acre/month and is based on a 1996 best available control measure study conducted by Midwest Research Institute (MRI) for the SCAQMD. The single composite factor of 0.11 ton of PM_{10}/acre/month assumes that all construction activity produces the same amount of dust on a per-acre basis. In other words, the amount of dust produced is not dependent on the type of construction but merely on the area of land being disturbed by the construction activity. A second assumption is that most land affected by construction activity does not involve large-scale cut and fill operations. For the large-scale excavation operations for the proposed Project, a worst-case composite emission factor of 0.42 ton of PM_{10}/acre/month was used. Unmitigated emissions were reduced by 61% from uncontrolled levels to reflect required compliance with SCAQMD Rule 403. According to SCAQMD guidance, watering the site three times per day pursuant to Rule 403 would reduce fugitive dust emissions by 61% (SCAQMD 2005). The dust-control methods for the proposed Project would be specified in the dust-control plan that must be submitted to the SCAQMD per Rule 403.

Fugitive dust emissions from earth-moving activities are proportional to the surface area of the land being disturbed. Peak daily emissions for construction activities were calculated assuming that the total surface area of each proposed project component would be disturbed at any one time during construction.

Worker Commute Trips during Construction Activities

Emissions from worker trips during construction were calculated using the EMFAC2007 emission factors in conjunction with crew information supplied by the LAHD. LAHD's construction estimates provided detailed information about the number of crew and man hours required for each proposed project component. The

number of vehicle trips was determined based on default averages for passenger vehicles in the SCAB (SCAQMD 2007b).

3.2.4.1.2 Methods for Determining Operational Emissions

Operational emissions would be generated by the consumption of electricity and natural gas (cooking, space heating, and water heaters) and the operation of onroad vehicles. The sources would generate emissions of gasoline and diesel engine exhaust in the form of VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Onroad motor vehicles would generate vehicle exhaust and paved road dust emissions in addition to tire and brake wear. Normal maintenance activities, including landscaping and the reapplication of architectural coatings, would also result in emissions.

- Information on proposed operational emission sources was obtained from Port staff, the traffic study conducted as part of this draft EIR (see Section 3.11, Transportation and Circulation," and Appendix I), and the Port of Los Angeles Inventory of Air Emissions 2005 (Starcrest 2007).
- Table 3.2-6 includes a synopsis of the regulations that were assumed in the unmitigated emissions calculations. Current in-place regulations are treated as proposed project elements rather than mitigation because they represent enforceable rules with or without proposed Project approval. Only current regulations and agreements were assumed as part of the unmitigated proposed project emissions for the various analysis years.
- CAAP measures planned for future implementation at a project level are treated as mitigation in this study. Therefore, the unmitigated emissions of the proposed Project assume no future CAAP measure implementation.
- The specific approaches to calculating emissions for the various emission sources during operation of the proposed Project are discussed below.

The operational emission calculations are presented in Appendix C.

Motor Vehicle Emissions

The proposed project component land uses would generate motor-vehicle trips that would emit air pollutants. Emissions from motor vehicles during operations for the proposed Project were calculated via the URBEMIS2007 model, using emissions factors generated by the EMFAC2007 onroad mobile source emission factor model (CARB 2007a). The motor vehicle fleet age distribution incorporated into EMFAC2007 was used for the SCAB fleet mix.

Other assumptions regarding motor vehicles during operations are as follows:

- Emission calculations are based on the daily trip generation data provided by Fehr & Peers (2008; see Appendix I).
- The URBEMIS2007 model was used to calculate the emissions from vehicle exhaust, tire wear, brake wear, and paved road dust using SCAQMD default assumptions for vehicle fleet mix, travel distance, and average travel speeds.

Roadway Intersection Modeling

Within an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations are generally found within close proximity to congested intersection locations. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (i.e., congested intersection) increases. For purposes of providing a conservative, worst-case impact analysis, CO concentrations are typically analyzed at congested intersection locations, because if impacts are less than significant in close proximity of the congested intersections, impacts will also be less than significant at more distant sensitive receptor locations.

The roadway intersection modeling for the proposed Project was conducted using the CARB line source dispersion model, CALINE4. The model input data, setup, and modeling results are briefly described in this section.

Modeled Intersection Selection and Traffic Volume

To ascertain the proposed Project's potential to generate localized air quality impacts, the Traffic Impact Assessment for the proposed Project (Fehr and Peers/Kaku Associates 2008; see Appendix I) was reviewed to determine the potential for the creation of localized carbon monoxide hot spots at congested intersection locations for operational years 2015 and 2020. The SCAQMD recommends a hot spot evaluation of potential localized CO impacts when vehicle to capacity (V/C) ratios are increased by 2% or more at intersections with a level of service (LOS) of C or worse. The traffic impact analysis identified 13 key intersection locations along routes that accommodate much of the traffic traveling within the proposed project area. Of the key intersection locations, one intersection for year 2015 and three intersections for year 2020 were selected for further analysis based on SCAQMD's screening level criteria. As shown in Table 3.2-7, Marine Avenue at Harry Bridges Boulevard experiences a 4.14% increase in V/C with LOS C in 2015. As shown in Table 3.2-8, Marine Avenue at Harry Bridges Boulevard experiences a 5.35% increase in V/C with LOS C, Avalon Boulevard at Anaheim Street experiences a 2.57% increase in V/C with LOS E, and Alameda Street at Anaheim Street experiences an increase in V/C of 3.38% with LOS C in 2020.

Table 3.2-7. Intersection CO Hot-Spot Screening Analysis 2015

Intersection	*Peak Period*[a]	*2015 Without Project*		*2015 With Project*		*Project Percent Change in V/C*	*Potentially Significant CO Hot-Spot?*[a]
		V/C	*LOS*	*V/C*	*LOS*		
Figueroa Street at C Street	AM	0.398	A	0.404	A	1.51	No
	PM	0.379	A	0.398	A	5.01	No
Figueroa Street at Harry Bridges Boulevard	AM	Does Not Exist in Future					
	PM						
N. Fries Avenue at Anaheim Street	AM	0.508	A	0.524	A	3.15	No
	PM	0.524	A	0.555	A	5.92	No
Fries Avenue at C Street	AM	0.268	A	0.281	A	4.85	No
	PM	0.184	A	0.224	A	21.74	No
Fries Avenue at Harry Bridges Boulevard	AM	0.390	A	0.438	A	12.31	No
	PM	0.499	A	0.555	A	11.22	No
Marine Avenue at C Street	AM	0.205	A	0.216	A	5.37	No
	PM	0.151	A	0.168	A	11.26	No
Marine Avenue at Harry Bridges Boulevard	AM	0.486	A	0.500	A	2.88	No
	PM	0.677	B	0.705	C	4.14	**Yes**
Avalon Boulevard at Anaheim Street	AM	0.694	B	0.701	C	1.01	No
	PM	0.908	E	0.924	E	1.76	No
Avalon Boulevard at C Street	AM	0.198	A	0.208	A	5.05	No
	PM	0.301	A	0.314	A	4.32	No
Avalon Boulevard at Harry Bridges Boulevard	AM	0.423	A	0.432	A	2.13	No
	PM	0.679	B	0.672	B	-1.03	No
Broad Avenue at C Street	AM	0.238	A	0.247	A	3.78	No
	PM	0.327	A	0.343	A	4.89	No
Broad Avenue at Harry Bridges Boulevard	AM	0.369	A	0.380	A	2.98	No
	PM	0.512	A	0.540	A	5.47	No
Alameda Street at Anaheim Street	AM	0.545	A	0.548	A	0.55	No
	PM	0.661	B	0.673	B	1.82	No

[a] Potentially Significant CO Hot-Spot based on SCAQMD's screening criteria of 2% increase in V/C with LOS C or worse.

Source: Fehr and Peers/Kaku Associates (2008; see Appendix I).

Table 3.2-8. Intersection CO Hot-Spot Screening Analysis 2020

Intersection	*Peak Period*[a]	*2020 Without Project*		*2020 With Project*		*Project Percent Change in V/C*	*Potentially Significant CO Hot-Spot?*[a]
		V/C	*LOS*	*V/C*	*LOS*		
Figueroa Street at C Street	AM	0.458	A	0.477	A	4.15	No
	PM	0.394	A	0.422	A	7.11	No
Figueroa Street at Harry Bridges Boulevard	AM	Does Not Exist in Future					
	PM						
N. Fries Avenue at Anaheim Street	AM	0.527	A	0.549	A	4.17	No
	PM	0.541	A	0.575	A	6.28	No
Fries Avenue at C Street	AM	0.274	A	0.304	A	10.95	No
	PM	0.188	A	0.247	A	31.38	No
Fries Avenue at Harry Bridges Boulevard	AM	0.402	A	0.513	A	27.61	No
	PM	0.511	A	0.612	B	19.77	No
Marine Avenue at C Street	AM	0.210	A	0.233	A	10.95	No
	PM	0.155	A	0.183	A	18.06	No
Marine Avenue at Harry Bridges Boulevard	AM	0.497	A	0.521	A	4.83	No
	PM	0.691	B	0.728	C	5.35	**Yes**
Avalon Boulevard at Anaheim Street	AM	0.716	C	0.731	C	2.09	**Yes**
	PM	0.935	E	0.959	E	2.57	**Yes**
Avalon Boulevard at C Street	AM	0.203	A	0.226	A	11.33	No
	PM	0.308	A	0.332	A	7.79	No
Avalon Boulevard at Harry Bridges Boulevard	AM	0.437	A	0.449	A	2.75	No
	PM	0.694	B	0.693	B	-0.14	No
Broad Avenue at C Street	AM	0.244	A	0.263	A	7.79	No
	PM	0.334	A	0.361	A	8.08	No
Broad Avenue at Harry Bridges Boulevard	AM	0.378	A	0.415	A	9.79	No
	PM	0.525	A	0.581	A	10.67	No
Alameda Street at Anaheim Street	AM	0.562	A	0.571	A	1.60	No
	PM	0.680	B	0.703	C	3.38	**Yes**

[a] Potentially Significant CO Hot-Spot based on SCAQMD's screening criteria of 2% increase in V/C with LOS C or worse.

Source: Fehr and Peers/Kaku Associates (2008; see Appendix I).

Meteorology Inputs

The AM, PM, and weekend peak hours were modeled for the intersections with the worst-case meteorology per the guidance provided in *The Transportation Project-Level Carbon Monoxide Protocol* (Niemeier et al. 1997). Specifically, either the morning or early evening (which has the same meteorology for coastal locations) winter period with a ground-based inversion was considered with low wind speed and temperature, as specified in the Caltrans Protocol.

Modeled CO Concentration

The CALINE4 model predicts 1-hour CO concentrations at each receptor location. The 8-hour CO concentrations were estimated using a persistence factor of 0.7, recommended in the guidance for the urban location. The background 1- and 8-hour CO concentrations for the 2015 and 2020 project years were obtained from the SCAQMD website. The predicted 1- and 8-hour CO ambient concentrations are 5.1 and 3.9 ppm, respectively.

Traffic volumes were based on the traffic study and the projected changes in traffic volumes in future years for both with and without the proposed Project.

Marine Pleasure Craft

The proposed project component land uses would generate marine pleasure craft trips that would emit air pollutants. Emissions from marine pleasure craft during operations for the proposed Project were calculated using emissions factors generated by the OFFROAD2007 mobile source emission factor model (CARB 2007a).

3.2.4.1.3 Greenhouse Gas Emissions

Greenhouse gas emissions associated with the proposed Project were calculated based on methodologies provided in the CCAR General Reporting Protocol, version 3.0 (CCAR 2008). This protocol is the guidance document that LAHD and other CCAR members must use to prepare annual Port-wide GHG inventories for CCAR. Therefore, for consistency, the CCAR General Reporting Protocol also was used in this study. However, to adapt the protocol for CEQA purposes, a modification to the protocol's operational and geographical boundaries was necessary.

The construction sources for which GHG emissions were calculated include:

- offroad diesel construction equipment,
- onroad trucks,
- other motor vehicles, and
- crane/derrick barges.

The operational emission sources for which GHG emissions were calculated include:

- onroad trucks,
- other motor vehicles,
- electricity consumption, and
- natural gas consumption.

The adaptation of the CCAR General Reporting Protocol methodologies to these proposed emission sources for the proposed Project is described in Appendix C.

Greenhouse Gas Operational and Geographical Boundaries

Under the CCAR General Reporting Protocol, emissions associated with construction and operation of the proposed Project would be divided into three categories:

- Scope 1: direct emissions from sources owned or operated by LAHD,
- Scope 2: indirect emissions from purchased and consumed electricity, and
- Scope 3: indirect emissions from sources not owned or operated by LAHD.

Examples of Scope 1 sources are cargo-handling equipment, LAHD vehicles, and Port-based tugboats. An example of Scope 2 emissions would be indirect GHG emissions from electricity consumption on the proposed Project site. Emissions from mobile sources; including trucks, ships, and construction equipment, would be considered Scope 3 emissions, because LAHD generally does not own this equipment.

CCAR does not require Scope 3 emissions to be reported because they are considered to belong to another reporting entity (i.e., whoever owns, leases, or operates the sources), and that entity would report these emissions as Scope 1 emissions in its own inventory. Virtually all tugboats and construction equipment fall under this category. As a result, when used for CEQA purposes, the CCAR definition of operational boundaries would omit a large portion of the GHG emission sources associated with the proposed Project. Therefore, the operational and geographical boundaries were determined differently from the General Reporting Protocol to make the GHG analysis more consistent with CEQA and to avoid the omission of a significant number of mobile sources.

For the purposes of this CEQA document, GHG emissions were calculated for all proposed project–related sources (Scopes 1, 2, and 3). Because CCAR does not require reporting of Scope 3 emissions, CCAR has not developed a protocol for determining the operational or geographical boundaries for some Scope 3 emissions sources. Therefore, for Scope 3 sources, this document assumes emissions stay within the State of California. In the case of electricity consumption, all GHG emissions were included regardless of whether they are generated by in-state or out-of-state power plants.

This approach is consistent with the CCAR goal of reporting all GHG emissions within the State of California (CCAR 2007). This document acknowledges that GHG emissions extend beyond state borders. However, origin and destination data for out-of-state emissions over the life of the project do not exist and would be speculative on a project-specific level. Emissions outside state boundaries are discussed in Chapter 4, “Cumulative Impacts.”

This methodology is consistent with other types of air quality analyses that address emissions within an area over which the regulating agency has control. For example, while the document discloses that criteria pollutants are emitted from ships, trucks, and railroads outside state boundaries and that these pollutants contribute to worldwide pollution rates, the scope of analysis is limited to SCAB to be consistent with thresholds established by SCAQMD.

3.2.4.2 Thresholds of Significance

The following thresholds were used in this study to determine the significance of the air quality impacts of the proposed Project. The thresholds were primarily based on standards established by the City of Los Angeles in the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006), except for AQ-9 (Greenhouse Gas Emissions) which is separately defined and evaluated.

3.2.4.2.1 Construction Thresholds

The *L.A. CEQA Thresholds Guide* references the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) and EPA AP-42 for calculating and determining the significance of construction emissions. Each lead city department has the responsibility to determine the appropriate standards. The following factors are to be used in a case-by-case evaluation of impact significance for a proposed project:

- combustion emissions from construction equipment;
- type, number of pieces, and usage for each type of construction equipment;
- estimated fuel usage and type of fuel (diesel, gasoline, natural gas) for each type of equipment;
- emission factors for each type of equipment;
- fugitive dust;
- grading, excavation, and hauling:
- amount of soil to be disturbed on site or moved off site;
- emission factors for disturbed soil;
- duration of grading, excavation, and hauling activities; and
- type and number of pieces of equipment to be used;
- other mobile source emissions;
- number and average length of construction worker trips to the project site, per day; and
- duration of construction activities.

For the purposes of this study, the air quality thresholds of significance for construction activities are based on emissions and concentration thresholds established by the SCAQMD (2007b). The following factors are used to determine significance for construction-related air emissions.

AQ-1: A project would have a significant impact if its construction-related emissions would exceed any of the SCAQMD thresholds of significance in Table 3.2-9.

Table 3.2-9. SCAQMD Thresholds for Construction Emissions

Air Pollutant	*Emission Threshold (pounds/day)*
Volatile organic compounds (VOCs)	75
Carbon monoxide (CO)	550
Nitrogen oxides (NO_X)	100
Sulfur oxides (SO_X)	150
Particulates (PM_{10})	150
Particulates ($PM_{2.5}$)	55
Lead	3
Source: SCAQMD 2008b	

AQ-2: A project would have a significant impact if its construction would result in offsite ambient air pollutant concentrations that exceed the SCAQMD thresholds of significance in Table 3.2-10.[2]

Table 3.2-10. SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Proposed Project Construction[3]

Air Pollutant	*Ambient Concentration Threshold*
Nitrogen dioxide (NO_2)	
1-hour average	0.18 ppm (338 µg/m^3)
Annual average	.03 ppm
Particulates (PM_{10})	
24-hour average	10.4 µg/m^3
Annual average	1.0 µg/m^3

[2] The SCAQMD has published look-up reference tables of localized thresholds based on three factors: (1) location within the basin, (2) distance to the nearest sensitive receptor, and (3) project site area. These thresholds are used for project sites up to 5 acres in area. Because the proposed project site exceeds 5 acres, these thresholds are not applicable. As such, dispersion modeling was performed in accordance with the methods used by the SCAQMD when developing these Localized Significance Thresholds.

[3] These ambient concentration thresholds target those pollutants SCAQMD has determined are most likely to cause or contribute to an exceedance of the NAAQS or CAAQS. Although the thresholds represent the levels at which the SCAQMD considers the impacts to be significant, they are not necessarily the same as the NAAQS or CAAQS.

Air Pollutant	*Ambient Concentration Threshold*
Particulates ($PM_{2.5}$)	
24-hour average	10.4 $\mu g/m^3$
Sulfates	
24-hour average	1.0 $\mu g/m^3$
Carbon monoxide (CO)	
1-hour average	20 ppm (23,000 $\mu g/m^3$)
8-hour average	9.0 ppm (10,000 $\mu g/m^3$)

Notes:
The NO_2 and CO thresholds are absolute thresholds; the maximum predicted impact from construction activities is added to the background concentration for the proposed project vicinity and compared to the threshold.
The PM_{10} and $PM_{2.5}$ threshold is an incremental threshold; the maximum predicted impact from construction activities (without adding the background concentration) is compared to the threshold.

Because construction emissions vary from day-to-day and move from location-to-location over the course of a year, SCAQMD does not currently require an analysis of annual PM_{10} or NO_2 pollutant concentrations from construction activities (SCAQMD 2008b). Therefore, this study analyzed 24-hour PM_{10} and 1-hour NO_2 concentrations.
Source: SCAQMD (2007a).

3.2.4.2.2 Operation Thresholds

The *L.A. CEQA Thresholds Guide* provides specific significance thresholds for operational air quality impacts that also are based on SCAQMD standards. The following factors are used to determine significance for operations-related air emissions.

AQ-3: A project would have a significant impact if its operational emissions would exceed any of the SCAQMD thresholds of significance in Table 3.2-11. For determining CEQA significance, these thresholds are compared to the net change in proposed project emissions relative to CEQA baseline (2008) conditions.

Table 3.2-11. SCAQMD Thresholds for Operational Emissions

Air Pollutant	*Emission Threshold (pounds/day)*
Volatile organic compounds (VOCs)	55
Carbon monoxide (CO)	550
Nitrogen oxides (NO_X)	55
Sulfur oxides (SO_X)	150
Particulates (PM_{10})	150
Particulates ($PM_{2.5}$)	55
Lead	3
Source: SCAQMD (2007a); City of Los Angeles (2006).	

AQ-4: A project would have a significant impact if its operations would result in offsite ambient air pollutant concentrations that would exceed any of the SCAQMD thresholds of significance in Table 3.2-12.[4]

Table 3.2-12. SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Proposed Project Operations[5]

Air Pollutant	*Ambient Operation Threshold*
Nitrogen dioxide (NO_2)	
1-hour average	0.18 ppm (338 $\mu g/m^3$)
annual average	0.03 ppm (56 $\mu g/m^3$)
Particulates (PM_{10})	
24-hour average	2.5 $\mu g/m^3$
annual average	1 $\mu g/m^3$
Fine Particulates ($PM_{2.5}$)	
24-hour average	2.5 $\mu g/m^3$
Carbon monoxide (CO)	
1-hour average	20 ppm (23,000 $\mu g/m^3$)
8-hour average	9.0 ppm (10,000 $\mu g/m^3$)

Notes:
The NO_2 and CO thresholds are absolute thresholds; the maximum predicted impact from proposed project operations is added to the background concentration for the proposed project vicinity and compared to the threshold.

The PM_{10} threshold is an incremental threshold. For CEQA significance, the maximum increase in concentration relative to the CEQA baseline is compared to the threshold.
The SCAQMD has also established a threshold for sulfates, but it is currently not requiring a quantitative comparison to the threshold (Koizumi 2005a).
Source: SCAQMD (2007a).

AQ-5: A project would have a significant impact if the project-generated onroad traffic would result in either of the following conditions at an intersection or roadway within 0.25 mile of a sensitive receptor:

- the project would cause or contribute to an exceedance of the California 1- or 8-hour CO standards of 20 or 9.0 ppm, respectively; or
- the incremental increase due to the project would be equal to or greater than 1.0 ppm for the California 1-hour CO standard or 0.45 ppm for the 8-hour CO standard.

[4] The SCAQMD has published look-up reference tables of localized thresholds based on three factors: (1) location within the basin, (2) distance to the nearest sensitive receptor, and (3) project site area. These thresholds are used for project sites up to 5 acres in area. Because the proposed project site exceeds 5 acres, these thresholds are not applicable. As such, dispersion modeling was performed in accordance with the methods used by the SCAQMD when developing these Localized Significance Thresholds.
[5] These ambient concentration thresholds target those pollutants the SCAQMD has determined are most likely to cause or contribute to an exceedance of the NAAQS or CAAQS. Although the thresholds represent the levels at which the SCAQMD considers the impacts to be significant, the thresholds are not necessarily the same as the NAAQS or CAAQS.

AQ-6: A project would have a significant impact if it would create an objectionable odor at the nearest sensitive receptor.

AQ-7: A project would have a significant impact if it would expose receptors to significant levels of TACs. Impacts would be significant if:

- the maximum incremental cancer risk for residential receptors would be greater than or equal to 10 in 1 million, or
- the noncancer hazard index is greater than or equal to 1.0 (project increment) or 3.0 (facilitywide).

AQ-8: A project would have a significant impact if it would conflict with or obstruct implementation of an applicable AQMP.

AQ-9: A project would have a significant impact if it would produce GHG emissions that exceed CEQA thresholds.

CEQA Threshold. To date, there is little guidance and no local, regional, state, or federal regulations to establish a threshold of significance to determine the project-specific impacts of GHG emissions on global warming. In addition, the City has not established such a threshold. Therefore, LAHD, for purposes of the proposed Project, is using the following as its CEQA threshold of significance:

- A project would result in a significant CEQA impact if CO_2e emissions would exceed CEQA baseline emissions.

In absence of further guidance, this threshold is thought to be the most conservative, as any increase over baseline is designated as significant.

3.2.4.3 Impacts and Mitigation

3.2.4.3.1 Construction Impacts

Impact AQ-1: The proposed Project would result in construction-related emissions that exceed a SCAQMD threshold of significance.

Impact Determination

Construction of the proposed Project would result in the generation of emissions of CO, VOCs, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Emissions would originate from mobile and stationary construction equipment exhaust, tugboat and small boat exhaust, delivery truck exhaust, employee vehicle exhaust, and dust from clearing the land and exposed soil eroded by wind. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period,

specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content.

Overall, a 99-month active construction period is anticipated, starting in the third quarter of 2009 and concluding around the fourth quarter of 2017. The total amount of construction, the duration of construction, and the intensity of construction activity could have a substantial effect on the amount and concentration of construction emissions and the resulting impacts occurring at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecast. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner burning construction equipment fleet mix, and/or (2) a less-intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). The construction equipment mix and duration for each construction stage is detailed in the construction spreadsheets provided in the air quality appendix (Appendix C).

Table 3.2-13 presents the maximum daily criteria pollutant emissions associated with construction of the proposed Project before mitigation. Maximum emissions for each construction phase were determined by totaling the daily emissions from those construction activities that overlap in the proposed construction schedule. In the case where more than one possible combination of activities would occur during the course of a construction phase, total daily emissions were calculated for all possible combinations, and the combination producing the greatest emissions was reported in Table 3.2-13.

Because of the different combinations of construction activities, the highest peak daily emission levels for VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ would vary from year to year. A brief summary of the highest estimated peak daily construction emissions for each criteria pollutant is discussed below.

During the second half of January and first half of February 2011, activities 6, 8, 9, 10, 11, 12, 13, 14, 14a, 28, and 39 would all occur simultaneously, resulting in the greatest VOC, CO, NO_X and SO_2 emissions. During the latter half of February 2011, activities 6, 8, 10, 11, 12, 13, 14a, 18, 28, 37, and 39 would all occur simultaneously, resulting in the greatest PM_{10} and $PM_{2.5}$ emissions.

As shown in Table 3.2-13, the peak daily construction emissions would exceed the SCAQMD daily emissions thresholds for NO_X and PM_{10} without mitigation. Therefore, without mitigation, the air quality impacts associated with the proposed construction activities would be significant for NO_X and PM_{10}.

Table 3.2-13. Peak Daily Emissions Associated with Construction Activities—Proposed Project without Mitigation

Construction Activity	*Peak Daily Emissions (lb/day)*					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
1. Railroad Green (Landscaping/Hardscaping)	3	11	32	<1	14	4
2. Demolish Approximately 55,000 Square Feet of Existing Building	8	26	74	<1	5	3
3. Demolish Existing Sidewalks, Back of Curb to Right-of-Way (ROW)	4	13	39	<1	14	4
4. Construct New Sidewalk, including Tree Wells	3	11	32	<1	14	4
5. Place New Street Trees	3	11	32	<1	1	1
6. Waterfront Red Car Museum in Bekins Building	<1	1	<1	<1	<1	<1
7. Clear and Grub	5	16	46	<1	46	11
8. Demolish Pavement	5	16	46	<1	68	15
9. Demolish Utilities	5	16	46	<1	2	2
10. Remove and replace Existing 32” Storm Drain with 48” Reinforced Concrete Pipe (RCP)	3	10	28	<1	2	1
11. Realign 12” Oil Line	3	10	26	<1	2	1
12. Realign 12” Sewer	3	10	26	<1	2	1
13. Realign 12” Water	3	10	26	<1	2	1
14. Piles and Pile Caps	3	9	26	<1	7	2
14a. Set Pile Caps	4	14	41	<1	8	3
15. 80’ Steel Masts	3	11	32	<1	8	2
16. Bridge Deck	3	11	28	<1	7	2
17. Water Feature	2	6	14	<1	7	2
18. Foundation Piles	2	8	24	<1	32	7
19. Set Up for Concrete Pour	5	17	43	<1	33	8
19a. Concrete Pour	6	23	59	<1	34	9
20. Retaining Walls	2	6	14	<1	4	1
21. Rough Fill/Grade	2	6	15	<1	32	7
22. Surface Fill/Grade	2	6	15	<1	32	7
23. Realign and Reconstruct Avalon Boulevard	4	12	30	<1	2	1
24. Realign and Reconstruct Broad Avenue	4	12	30	<1	2	1
25. Realign and Reconstruct Water Street	3	12	28	<1	2	1
26. 1st Parking Lot South of Water Street at Fries	4	12	30	<1	6	2

Construction Activity	*Peak Daily Emissions (lb/day)*					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Avenue						
27. 2nd Parking Lot South of Water Street at Avalon Boulevard	4	12	30	<1	6	2
28. Remove Existing Wharf Structure	8	23	132	<1	11	7
29. Install Perimeter Sheet Pile Bulkheads	7	21	128	<1	6	6
30. Piles in Water	7	19	124	<1	6	6
31. Waterfront Boardwalk	2	8	20	<1	8	2
32. Public Dock	<1	2	4	<1	2	<1
33. Hardscaping	3	10	27	<1	35	8
34. Landscaping	3	9	25	<1	12	3
35. Trees	3	9	25	<1	1	1
36. Water Feature on Tunnel	<1	1	<1	<1	<1	<1
37. Prepare Concrete	5	16	39	<1	33	8
37.1 Pour Concrete	4	14	36	<1	33	8
37.2 Steel Work	3	11	30	<1	33	8
37.3 Miscellaneous	3	11	30	<1	33	8
38. Commercial	<1	1	<1	<1	10	2
39. Light Industrial	<1	<1	<1	<1	13	3
40. Demolish two Tanks	3	10	25	<1	5	2
41. Remediate Soil under Tanks	3	9	24	<1	52	11
42. Clear and Grub	2	6	14	<1	44	10
43. Demolish Pavement	2	6	14	<1	23	5
44. Demolish Utilities	2	6	14	<1	1	1
45. Rough Fill/Grading	3	11	23	<1	67	15
46. Surface Fill/Grading	3	11	23	<1	67	15
47. Hardscaping	3	9	20	<1	22	5
48. Landscaping	2	8	17	<1	44	10
49. Trees	2	8	17	<1	1	1
50. Parking Lot West of Land Bridge	3	10	21	<1	9	3
51. Demolish Concrete Pavement	2	6	13	<1	16	4
52. Demolish Asphalt Concrete (AC) Pavement	2	6	13	<1	6	1
53. Clear and Grub	2	6	13	<1	16	4
54. New Concrete Pathway	3	12	24	<1	31	7

Construction Activity	*Peak Daily Emissions (lb/day)*					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
55. Landscaping	2	8	17	<1	8	2
56. Construct Track and Catenary Wires	<1	1	<1	<1	11	2
57. Construct Stations	<1	1	<1	<1	11	2
58. Restaurant Space at Waterfront	<1	<1	<1	<1	2	<1
59. Light Industrial	<1	<1	<1	<1	13	3
Maximum Concurrent Daily Emissions	**35**	**119**	**398**	**<1**	**172**	**47**
Thresholds	75	550	**100**	150	**150**	55
Significant?	No	No	**Yes**	No	**Yes**	No

Notes:

PM_{10} and $PM_{2.5}$ emissions numbers assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas three times per day.

Emissions might not add precisely due to rounding. For more explanation, refer to the discussion in Section 3.2.4.1.

The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

In a case where more than one possible combination of activities occurred during the course of a construction phase, total daily emissions were calculated for all possible combinations, and the combination producing the greatest emissions was reported.

Source: URBEMIS2007 (see Appendix C).

Mitigation Measures

Mitigation measures for the proposed project construction were derived, where feasible, from the Sustainable Construction Guidelines and in consultation with LAHD. The proposed NNI measures and Port Community Advisory Committee (PCAC)–recommended measures were also considered for mitigation. A complete proposed project feasibility review of the NNI and PCAC measures is included in Appendix C. Unless otherwise noted, LAHD and its contractors will be responsible for the implementation of the following mitigation either directly or through the lease agreement process.

The following mitigation measures would reduce criteria pollutant emissions associated with proposed project construction. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4, "Mitigation Monitoring."

MM AQ-1: Harbor Craft Engine Standards.

All harbor craft used during the construction phase of the proposed Project will, at a minimum, be repowered to meet the cleanest existing marine engine emission standards or EPA Tier 2. Additionally, where available, harbor craft will meet the proposed EPA Tier 3 (which are proposed to be phased-in beginning of 2009) or cleaner marine engine emission standards.

This harbor craft measure will be met unless one of the following circumstances exists, and the contractor is able to provide proof of its existence:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the proposed Project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must have attempted to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the proposed Project has the controlled equipment available for lease.

MM AQ-2: Dredging Equipment Electrification.

All dredging equipment will be electric.

MM AQ-3: Fleet Modernization for Onroad Trucks

1. Trucks hauling materials such as debris or fill will be fully covered while operating off Port property
2. Idling will be restricted to a maximum of 5 minutes when not in use.
3. EPA Standards:

    a. Prior to December 31, 2011: All onroad heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2004 onroad emission standards for PM_{10} and NO_X (0.10 g/bhp-hr and 2.0 g/bhp-hr, respectively).

    In addition, all onroad heavy heavy-duty trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will be equipped with a CARB-verified Level 3 device.

    b. From January 1, 2012 on: All onroad heavy-duty diesel trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2007 onroad emission standards for PM_{10} and NO_X (0.01 g/bhp-hr and 0.20 g/bhp-hr, respectively).

A copy of each unit's certified EPA rating and each unit's CARB or SCAQMD operating permit, will be provided at the time of mobilization of each applicable unit of equipment

This onroad truck measure will be met unless one of the following circumstances exists, and the contractor is able to provide proof of its existence:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the proposed Project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must have attempted to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the proposed Project has the controlled equipment available for lease.

MM AQ-4: Fleet Modernization for Construction Equipment

1. Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards.
2. Idling will be restricted to a maximum of 5 minutes when not in use.
3. Tier Specifications:

    - Prior to December 31, 2011: All offroad diesel-powered construction equipment greater than 50 horsepower (hp) will meet Tier-2 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device.
    - From January 1, 2012, to December 31, 2014: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-3 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device.
    - From January 1, 2015 on: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-4 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device.

    This above tier specifications will be met unless one of the following circumstances exists, and the contractor is able to provide proof of its existence:

    - A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.

- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the proposed Project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must have attempted to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the proposed Project has the controlled equipment available for lease.

MM AQ-5: Additional Fugitive Dust Controls.

The calculation of fugitive dust (PM_{10}) from proposed project earth-moving activities assumes a 61% reduction from uncontrolled levels to simulate rigorous watering of the site and use of other measures (listed below) to ensure compliance with SCAQMD Rule 403.

The construction contractor will reduce fugitive dust emissions by 90% from uncontrolled levels[6]. The proposed project construction contractor will specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan. Their will shall include holiday and weekend periods when work may not be in progress.

Measures to reduce fugitive dust include, but are not limited to, the following:

- Active grading sites will be watered 1 additional time per day beyond that required by Rule 403.
- Contractors will apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more).
- Construction contractors will provide temporary wind fencing around sites being graded or cleared.
- Trucks hauling dirt, sand, or gravel will be covered in accordance with Section 23114 of the California Vehicle Code.
- Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site. Pave road and road shoulders.
- The use of clean-fueled sweepers will be required pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each

[6] Fugitive dust emissions will be reduced 75% from uncontrolled emissions and then an additional 60% from unmitigated emissions.

day if visible soil is carried onto paved roads on site or roads adjacent to the site to reduce fugitive dust emissions.

- A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity including resolution of issues related to PM_{10} generation.
- Traffic speeds on all unpaved roads will be reduced to 15 mph or less.
- Temporary traffic controls such as a flag person will be provided during all phases of construction to maintain smooth traffic flow.
- Construction activities that affect traffic flow on the arterial system will be conducted during off-peak hours to the extent practicable.
- The use of electrified truck spaces for all truck parking or queuing areas will be required.

The grading contractor will suspend all soil disturbance activity when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas will be stabilized if construction is delayed.

MM AQ-6: Best Management Practices.

The following types of measures are required on construction equipment (including onroad trucks):

1. Use diesel oxidation catalysts and catalyzed diesel particulate traps
2. Maintain equipment according to manufacturers' specifications
3. Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use
4. Install high-pressure fuel injectors on construction equipment vehicles
5. Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors
6. Improve traffic flow by signal synchronization
7. Enforce truck parking restrictions
8. Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc.
9. Re-route construction trucks away from congested streets or sensitive receptor areas

LAHD will implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD will determine the BMPs once the contractor identifies and secures a final equipment list and project scope. The LAHD will then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs will be based on Best

Available Control Technology (BACT) guidelines and may also include changes to construction practices and design to reduce or eliminate environmental impacts.

MM AQ-7: General Mitigation Measure.

For any of the above mitigation measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port.

MM AQ-8: Special Precautions near Sensitive Sites.

All construction activities located within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals), will notify each of these land uses in writing at least 30 days prior to construction activity.

MM AQ-9: Construction Recycling.

Demolition and/or excess construction materials will be separated on site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of construction materials will be provided on site. Materials with recycled content will be used in project construction. Chippers on site during construction will be used to further reduce excess wood for landscaping cover.

Table 3.2-14 summarizes all construction mitigation measures and regulatory requirements assumed in the mitigated emission calculations.

Table 3.2-14. Regulations, Agreements, and Mitigation Measures Assumed in the Construction Emissions with Mitigation

Offroad Construction Equipment	*Onroad Trucks*	*Tugboats*	*Fugitive Dust*
Part 1. Regulations and Agreements Included in the Mitigated Emission Calculations			
Emission Standards for Nonroad Diesel Engines Tier 1, 2, 3, and 4 standards gradually phased in over all years due to normal construction equipment fleet turnover. **California Diesel Fuel Regulations** 15 ppm sulfur starting September 1, 2006.	**Emission Standards for Onroad Trucks** Tiered standards gradually phased in over all years due to normal truck fleet turnover. **California Diesel Fuel Regulations** 15 ppm sulfur starting September 1, 2006. **Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling** Diesel trucks are subject to idling limits.	**California Diesel Fuel Regulations** 500 ppm sulfur starting January 1, 2006, and 15 ppm sulfur starting September 1, 2006.	**SCAQMD Rule 403 Compliance** 61% reduction in fugitive dust due to watering three times per day.

Offroad Construction Equipment	*Onroad Trucks*	*Tugboats*	*Fugitive Dust*
Part 2. Mitigation Measures Included in the Mitigated Emission Calculations			
MM AQ-2: Dredging Equipment Electrification. **MM AQ-4: Fleet Modernization for Construction Equipment** This measure is more stringent than Emission Standards for Nonroad Diesel Engines (above).	**MM AQ-3: Fleet Modernization for Onroad Trucks** This measure is more stringent than Emission Standards for Onroad Trucks (above).	**MM AQ-1: Harbor Craft Engine Standards** Cleanest existing marine engine emission standards or EPA Tier 2 or Tier 3, where available.	**MM AQ-5: Additional Fugitive Dust Controls** 90% reduction.
Part 3. Mitigation Measures Not Included in the Mitigated Emission Calculations[a]			
MM AQ-6: Best Management Practices. **MM AQ-7: General Mitigation Measure.** **MM AQ-8: Special Precautions near Sensitive Sites.** **MM AQ-9: Construction Recycling**			

[a] These mitigation measures were not included in the calculations because their effectiveness has not been established.

Source: LAHD (2008).

Residual Impacts

Table 3.2-15 presents the peak daily criteria pollutant emissions associated with construction of the proposed Project after the application of Mitigation Measures MM AQ-1 through MM AQ-9. Peak daily emissions for each construction phase were determined by totaling the daily emissions from those construction activities that overlap in the proposed construction schedule.

As with the unmitigated case, VOC, CO, NO_X, and SO_2 emissions are greatest during the second half of January and first half of February 2011. Also, as with the unmitigated case, PM_{10} and $PM_{2.5}$ emissions are greatest during the latter half of February 2011.

During construction, Mitigation Measures MM AQ-1 through MM AQ-5 would lower the maximum daily construction emissions of all criteria pollutants. PM_{10} and $PM_{2.5}$ emissions would be reduced to less-than-significant levels. However, even with mitigation incorporated, NO_X emissions would remain above the threshold and thus would result in a significant and unavoidable impact.

Mitigation Measures MM AQ-6 through MM AQ-9, which were not included in the mitigated emissions calculations, could further reduce construction emissions, depending on their effectiveness. However, impacts related to NO_X emissions would remain significant and unavoidable.

Table 3.2-15. Peak Daily Emissions Associated with Construction Activities—Proposed Project with Mitigation

Activity	*Daily Emissions (lb/day)*					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
1. Railroad Green (Landscaping/Hardscaping)	1	10	19	<1	5	1
2. Demolish Approximately 55,000 Square Feet of Existing Building	2	24	44	<1	3	1
3. Demolish Existing Sidewalks, Back of Curb to ROW	1	12	23	<1	5	1
4. Construct New Sidewalk, including Tree Wells	1	10	19	<1	5	1
5. Place New Street Trees	1	10	19	<1	<1	<1
6. Waterfront Red Car Museum in Bekins Building	<1	<1	<1	<1	<1	<1
7. Clear and Grub	1	15	27	<1	18	4
8. Demolish Pavement	1	15	27	<1	27	6
9. Demolish Utilities	1	15	27	<1	<1	<1
10. Remove and Replace Existing 32” Storm Drain with 48” RCP	1	9	17	<1	1	<1
11. Realign 12” Oil Line	1	9	15	<1	1	<1
12. Realign 12” Sewer	1	9	15	<1	<1	<1
13. Realign 12” Water	1	9	15	<1	<1	<1
14. Piles and Pile Caps	1	9	16	<1	3	1
14a. Set Pile Caps	1	13	24	<1	3	1
15. 80’ Steel Masts	1	10	19	<1	3	1
16. Bridge Deck	1	10	17	<1	3	1
17. Water Feature	<1	5	5	<1	3	1
18. Foundation Piles	1	8	15	<1	13	3
19. Set Up for Concrete Pour	2	15	27	<1	13	3
19a. Concrete Pour	2	17	32	<1	13	3
20. Retaining Walls	<1	5	8	<1	1	<1
21. Rough Fill/Grade	<1	5	6	<1	13	3
22. Surface Fill/Grade	<1	5	6	<1	13	3

Activity	*Daily Emissions (lb/day)*					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
23. Realign and Reconstruct Avalon Boulevard	1	11	18	<1	<1	<1
24. Realign and Reconstruct Broad Avenue	1	11	18	<1	<1	<1
25. Realign and Reconstruct Water Street	1	10	10	<1	1	<1
26. 1st Parking Lot South of Water Street at Fries Avenue	1	11	18	<1	2	<1
27. 2nd Parking Lot South of Water Street at Avalon Boulevard	1	11	18	<1	2	<1
28. Remove Existing Wharf Structure	5	49	92	<1	9	6
29. Install Perimeter Sheet Pile Bulkheads	2	47	64	<1	1	1
30. Piles in Water	1	45	54	<1	1	1
31. Waterfront Boardwalk	1	7	9	<1	3	1
32. Public Dock	0	2	1	<1	1	<1
33. Hardscaping	1	9	10	<1	14	3
34. Landscaping	1	9	10	<1	5	1
35. Trees	1	9	10	<1	<1	<1
36. Water Feature on Tunnel	<1	<1	<1	<1	<1	<1
37. Prepare Concrete	2	15	17	<1	13	3
37.1 Pour Concrete	1	13	14	<1	13	3
37.2 Steel Work	1	9	11	<1	13	3
37.3 Miscellaneous	1	9	11	<1	13	3
38. Commercial	<1	<1	<1	<1	4	1
39. Light Industrial	<1	<1	<1	<1	5	1
40. Demolish two tanks	1	9	10	<1	12	3
41. Remediate Soil under Tanks	1	8	9	<1	21	4
42. Clear and Grub	<1	6	3	<1	18	4
43. Demolish Pavement	<1	6	3	<1	9	2
44. Demolish Utilities	<1	6	3	<1	<1	<1
45. Rough Fill/Grading	1	11	5	<1	26	6
46. Surface Fill/Grading	1	11	5	<1	26	6
47. Hardscaping	1	8	5	<1	9	2
48. Landscaping	1	8	4	<1	18	4
49. Trees	1	8	4	<1	<1	<1
50. Parking Lot West of Land Bridge	<1	10	5	<1	3	1
51. Demolish Concrete Pavement	<1	6	3	<1	6	1

Activity	*Daily Emissions (lb/day)*					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
52. Demolish AC Pavement	<1	6	3	<1	2	<1
53. Clear and Grub	<1	6	3	<1	6	1
54. New Concrete Pathway	1	11	7	<1	12	3
55. Landscaping	1	8	4	<1	3	1
56. Construct Track and Catenary Wires	<1	<1	<1	<1	5	1
57. Construct Stations	<1	<1	<1	<1	5	1
58. Restaurant Space at Waterfront	<1	<1	<1	<1	1	<1
59. Light Industrial	<1	<1	<1	<1	5	1
Maximum Concurrent Daily Emissions	**14**	**135**	**250**	**<1**	**71**	**19**
Thresholds	75	550	100	150	150	55
Significant?	No	No	**Yes**	No	No	No

Notes:

Emissions might not add precisely due to rounding. For more explanation, refer to the discussion in Section 3.2.4.1.

The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

Source: URBEMIS2007 (see Appendix C)

Impact AQ-2: The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a SCAQMD threshold of significance.

In addition to regional emissions, SCAQMD has developed a methodology that can be used to evaluate localized impacts that may result from construction-period emissions. For small projects (5 acres or less), SCAQMD has developed a set of Localized Significance Thresholds that are used much like the regional significance thresholds. For larger projects, like the proposed Project, dispersion modeling of criteria pollutant emissions is typically performed. As such, dispersion modeling of construction emissions was performed to assess the impact of the proposed Project on local ambient air concentrations during project construction. Peak offsite concentrations of NO_2, CO, PM_{10}, and $PM_{2.5}$ were modeled and compared to the SCAQMD significance thresholds listed in Table 3.2-10. The analysis was performed using the U.S. Environmental Protection Agency's AERMOD Modeling System, version 07026, based on the *Guideline on Air Quality Models* (40 CFR 51, Appendix W, November 2005). One year's worth of consecutive hourly meteorological data recorded at the Saints Peter and Paul School in Wilmington, about ¾-mile northwest of the project site, was used in AERMOD to simulate the meteorological conditions.

The modeling analysis included diesel exhaust emissions from construction equipment, onsite trucks, and tugboats assisting wharf demolition and construction,

and fugitive dust emissions from earth disturbance activities. The combination of construction activities producing the highest daily onsite emissions was selected for the modeling analysis for each pollutant. The possible combinations of construction activities were determined from a detailed construction schedule provided by Port staff. For NO_2 and CO, the modeled construction scenario would occur during Phase I and would consist of the following activities assumed to occur simultaneously:

- Waterfront Red Car Museum in Bekins Building
- General Site Preparation
  - Demolish Pavement
  - Demolish Utilities
- Public Utilities and Infrastructure
  - Remove and replace existing 32-inch storm drain with 48-inch reinforced concrete pipe
  - Realign 12-inch oil line
  - Realign 12-inch sewer
  - Realign 12-inch water line
- Pedestrian (Water) Bridge
  - Piles and pile caps
  - Set pile caps
- Waterfront Promenade
  - Remove existing wharf structure, demolish bulkhead, and install rock slope protection
- Light Industrial Development

This worst-case combination of construction activities would occur for about 1 month (in year 2011) during the approximately 8-year construction schedule for Phases I and II.

For PM_{10} and $PM_{2.5}$, the modeled construction scenario would occur during Phase I and would consist of the following activities assumed to occur simultaneously:

- Waterfront Red Car Museum in Bekins Building
- General Site Preparation
  - Demolish Pavement
- Public Utilities and Infrastructure
  - Remove and replace existing 32-inch storm drain with 48-inch reinforced concrete pipe
  - Realign 12-inch oil line

- Realign 12-inch sewer
- Realign 12-inch water line

- Pedestrian (Water) Bridge
  - Set pile caps
- Interim Land Bridge (Rail/Street Tunnel)
  - Foundation piles
- Waterfront Promenade
  - Remove existing wharf structure, demolish bulkhead, and install rock slope protection
- Observation Tower
  - Prepare concrete
- Light Industrial Development

This worst-case combination of construction activities would occur for about 2 weeks (in year 2011) during the approximately 8-year construction schedule for Phases I and II.

These two modeled construction scenarios are conservative because they assume each listed activity would occur at full strength simultaneous with every other listed activity. In practice, some of these activities may actually occur one after another by the same construction crew and equipment fleet. For example, under "Public Utilities and Infrastructure," the 4 listed subactivities are assumed to occur simultaneously by 4 different crews in the modeling analysis. As a result, the modeling analysis assumes the simultaneous use of 16 pieces of diesel construction equipment for "Public Utilities and Infrastructure" rather than 4 pieces of equipment for any one of the 4 subactivities.

Regular-spaced rectangular receptor grids were used in AERMOD to provide adequate spatial coverage surrounding the proposed project area to assess ground-level pollution concentrations and identify maximum-impact locations. AERMOD was modeled with a 164-foot spacing receptor grid measuring 1.25 by 1.25 miles, centered over the project site; combined with a 328-foot spacing grid measuring 2.5 by 2.5 miles, also centered over the proposed project site. Receptor grid points located on water were not included in the dispersion analysis.

Table 3.2-16 presents the maximum offsite ground-level concentrations of NO_2, CO, PM_{10}, and $PM_{2.5}$ from construction without mitigation. The table shows that the maximum offsite concentrations of NO_2, PM_{10}, and $PM_{2.5}$ would exceed the SCAQMD significance thresholds. The maximum offsite CO concentrations would not exceed SCAQMD thresholds.

Figure 3.2-1 shows the locations of the maximum offsite pollutant concentrations, both with and without mitigation. All of the maximum locations except for 1-hour CO are predicted to occur along the eastern proposed project site boundary, south of

A Street. The location of the maximum 1-hour CO concentration is predicted to occur along the western proposed project site boundary, near the intersection of Water Street and Fries Avenue.

Without mitigation, landside construction equipment would be the primary contributor to the maximum NO_2 and CO concentrations. Fugitive dust would be the primary contributor to the maximum PM_{10} and $PM_{2.5}$ concentrations.

Table 3.2-16. Maximum Offsite Ambient Concentrations—Proposed Project Construction without Mitigation

Pollutant	*Averaging Time*	*Background Concentration ($\mu g/m^3$)*	*Maximum Concentration (without Background) ($\mu g/m^3$)*	*Total Ground-Level Concentration ($\mu g/m^3$)*	*SCAQMD Threshold ($\mu g/m^3$)*
NO_2	1 hour	260	1,466	**1,726**	338
CO	1 hour	4,892	1,277	6,169	23,000
	8 hours	4,077	150	4,227	10,000
PM_{10}	24 hours	-	104	**104**	10.4
$PM_{2.5}$	24 hours	-	28.7	**28.7**	10.4

Notes:

Exceedances of the thresholds are indicated in bold. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the concentrations without background are compared to the thresholds. The thresholds for NO_2 and CO are absolute thresholds; therefore, the total concentrations (with background) are compared to the thresholds.

NO_2 concentrations were calculated by modeling NO_X emissions and using the ozone limiting method in AERMOD. A conservative ozone background concentration of 0.099 ppm was assumed. The conversion of NO_X to NO_2 is dependent on the hourly ozone concentration and hourly NO_X emission rates. NO_X to NO_2 conversion is increased with higher ozone concentrations.

Particulate emissions associated with fugitive dust were modeled in AERMOD with the particle settling algorithm. The following weight fractions were used, which are consistent with the *Final Localized Significance Threshold Methodology* (SCAQMD 2003): 0.0787 less than one micron; 0.1292 from 1.0 to 2.5 microns; and 0.7922 from 2.5 to 10 microns. The particle density was assumed to be 2.3 g/cm.

Source: Castle Environmental Consulting (2008).

Impact Determination

Maximum offsite ambient pollutant concentrations associated with proposed project construction would be significant for NO_2 (1-hour average), PM_{10} (24-hour average), and $PM_{2.5}$ (24-hour average).

Mitigation Measures

Implement mitigation measures MM AQ-1 through MM AQ-9.

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SOURCE: ESRI USA Imagery (2006)

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Figure 3-2.1
Location of Maximum Offsite Pollutant Concentrations during Project Construction
Wilmington Waterfront Development Project

Residual Impacts

Table 3.2-17 presents the maximum offsite ground-level concentrations of NO_2, CO, PM_{10}, and $PM_{2.5}$ from construction with mitigation. The maximum offsite concentrations of NO_2, PM_{10}, and $PM_{2.5}$ after mitigation would be reduced but would still exceed the SCAQMD significance thresholds. Therefore, with mitigation, maximum offsite ambient pollutant concentrations associated with proposed project construction would remain significant for NO_2 (1-hour average), PM_{10} (24-hour average), and $PM_{2.5}$ (24-hour average). The maximum offsite CO concentrations would remain less than significant.

Figure 3.2-1 shows the locations of the maximum offsite pollutant concentrations, both with and without mitigation. All of the maximum locations except for 1-hour CO are predicted to occur along the eastern proposed project site boundary, south of A Street. The location of the maximum 1-hour CO concentration is predicted to occur along the western proposed project site boundary, near the intersection of Water Street and Fries Avenue.

With mitigation, landside construction equipment would remain the primary contributor to the maximum NO_2 and CO concentrations. Fugitive dust would remain the primary contributor to the maximum PM_{10} and $PM_{2.5}$ concentrations.

Table 3.2-17. Maximum Offsite Ambient Concentrations—Proposed Project Construction with Mitigation

Pollutant	*Averaging Time*	*Background Concentration ($\mu g/m^3$)*	*Maximum Concentration (without background) ($\mu g/m^3$)*	*Total Ground-Level Concentration ($\mu g/m^3$)*	*SCAQMD Threshold ($\mu g/m^3$)*
NO_2	1 hour	260	1,220	**1,480**	338
CO	1 hour	4,892	1,409	6,301	23,000
	8 hours	4,077	158	4,235	10,000
PM_{10}	24 hours	-	40.7	**40.7**	10.4
$PM_{2.5}$	24 hours	-	10.7	**10.7**	10.4

Notes:
Exceedances of the thresholds are indicated in bold. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the concentrations without background are compared to the thresholds. The thresholds for NO_2 and CO are absolute thresholds; therefore, the total concentrations (with background) are compared to the thresholds.
NO_2 concentrations were calculated by modeling NO_x emissions and using the ozone limiting method in AERMOD. A conservative ozone background concentration of 0.099 ppm was assumed. The conversion of NO_X to NO_2 is dependent on the hourly ozone concentration and hourly NO_X emission rates. NO_x to NO_2 conversion is increased with higher ozone concentrations.
Particulate emissions associated with fugitive dust were modeled in AERMOD with the particle settling algorithm. The following weight fractions were used, which are consistent with the *Final Localized Significance Threshold Methodology* (SCAQMD 2003): 0.0787 less than one micron; 0.1292 from 1.0 to 2.5 microns; and 0.7922 from 2.5 to 10 microns. The particle density was assumed to be 2.3 g/cm.
Source: Castle Environmental Consulting (2008).

3.2.4.3.2 Operations Impacts

Impact AQ-3: The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.

Table 3.2-18 presents the unmitigated peak daily criteria pollutant emissions associated with operation of the proposed Project. Emissions were estimated for three project study years: 2011, 2015, and 2020. Interim year 2011 was chosen to represent a time when specific components of the proposed Project would be operational while a bulk of the construction would occur at the same time. Year 2015 represents the end of phase one of the proposed Project. Year 2020 represents the completion of Phase 2 and full project buildout.

For emissions found in Table 3.2-18, mobile sources include trips generated by the proposed project, both on- and offroad (automobile trips and marine pleasure craft). Area sources contribute to pollutants on site, and include activities such as landscaping and surface repainting. Stationary sources are considered regional in nature, as the main source of pollutants is generally located off site. Stationary sources include electricity and natural gas consumption.

Table 3.2-18. Peak Daily Operational Emissions without Mitigation

	Peak Daily Emissions (lb/day)					
Emission Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Project Year 2011						
Mobile	2	27	4	<1	5	1
Area	1	4	1	<1	<1	<1
Stationary	<1	<1	1	<1	<1	<1
Total (Project Year 2011)	*3*	*31*	*5*	*<1*	*5*	*1*
Thresholds	55	550	55	150	150	55
Significant?	No	No	No	No	No	No
Project Year 2015						
Mobile	32	430	36	<1	50	10
Area	1	6	1	<1	<1	<1
Stationary	<1	1	5	<1	<1	<1
Total (Project Year 2015)	*33*	*437*	*42*	*1*	*50*	*10*
Thresholds	55	550	55	150	150	55
Significant?	No	No	No	No	No	No
Project Year 2020						
Mobile	35	536	44	1	84	17
Area	2	8	2	<1	<1	<1
Stationary	<1	1	8	1	<1	<1
Total (Project Year 2020)	*37*	*545*	*54*	*1*	*84*	*17*

Emission Source	*Peak Daily Emissions (lb/day)*					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Thresholds	55	550	55	150	150	55
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

Emissions might not precisely add to the given total due to rounding. For further explanation, refer to the discussion in Section 3.2.4.1.

The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

Source: URBEMIS2007 (see Appendix C)

Due to the lengthy construction period, operational activities would overlap with construction. Table 3.2-19 shows the combined total of construction and operational emissions for years 2011 and 2015 during which construction and operation activities would occur simultaneously.

Table 3.2-19. Peak Daily Construction and Operational Emissions without Mitigation

	Peak Daily Emissions (lb/day)					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Project Year 2011						
Maximum Daily Construction Emissions	35	119	398	<1	172	47
Maximum Daily Operational Emissions	3	31	5	<1	5	1
Total (Construction and Operation—Project Year 2011)	*38*	*150*	***403***	*<1*	***177***	*48*
Thresholds	55	550	55	150	150	55
Significant?	No	No	**Yes**	No	**Yes**	No
Project Year 2015						
Maximum Daily Construction Emissions	6	22	44	<1	77	17
Maximum Daily Operational Emissions	33	437	42	1	50	10
Total (Construction and Operation—Project Year 2015)	*39*	*459*	***86***	*1*	*127*	*27*
Regional Thresholds	55	550	55	150	150	55
Significant?	No	No	**Yes**	No	No	No

Notes:

Emissions might not precisely add to the given total due to rounding. For further explanation, refer to the discussion in Section 3.2.4.1.

The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

Source: URBEMIS2007 (see Appendix C).

Impact Determination

The proposed Project's unmitigated peak daily operational emissions are not expected to exceed SCAQMD Significance Thresholds for any criteria pollutants in all study years. The unmitigated air quality impacts associated with the proposed Project are expected to be less than significant for all criteria pollutants during all years. However, for 2011 the combined total of construction and operational impacts is expected to be significant for NO_X and PM_{10}, while for 2015, the combined total is expected to be significant for NO_X.

Mitigation Measures

Implement Mitigation Measures MM AQ-1 through MM AQ-9 for construction emissions.

Residual Impacts

Table 3.2-20 shows the combined total of peak daily construction and operational emissions for 2011 and 2015 after the application of mitigation measures MM AQ-1 through MM AQ-9. As shown therein, emissions of PM_{10} would be reduced to a less-than-significant level. However, NO_X emissions remain significant for year 2011.

Table 3.2-20. Peak Daily Construction and Operational Emissions with Mitigation

	Peak Daily Emissions (lb/day)					
	VOC	*CO*	*NO_X*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
Project Year 2011						
Maximum Daily Construction Emissions	14	135	250	<1	71	19
Maximum Daily Operational Emissions	3	31	5	<1	5	1
Total (Construction and Operation—Project Year 2011)	**17**	**166**	**255**	**<1**	**76**	**20**
Thresholds	55	550	**55**	150	150	55
Significant?	No	No	**Yes**	No	No	No
Project Year 2015						
Maximum Daily Construction Emissions	1	21	10	<1	30	6
Maximum Daily Operational Emissions	33	437	42	1	50	10
Total (Construction and Operation—Project Year 2015)	**34**	**458**	**52**	**1**	**80**	**16**
Thresholds	55	550	55	150	150	55
Significant?	No	No	No	No	No	No

Notes:

Emissions might not precisely add to the given total due to rounding. For further explanation, refer to the discussion in Section 3.2.4.1.

The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

Source: URBEMIS2007 (see Appendix C).

Impact AQ-4: The proposed Project would not result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.

In addition to regional emissions, SCAQMD has developed a methodology that can be used to evaluate localized impacts that may result from operation-period emissions. For small projects (5 acres or less), SCAQMD has developed a set of Localized Significance Thresholds that are used much like the regional significance thresholds. For larger projects, like the proposed Project, dispersion modeling of criteria pollutant emissions, such as that for Impact AQ-2, is typically performed. When analyzing localized impacts, only onsite emission sources are modeled. In the case of operational emissions, only area sources are included; stationary and mobile source emissions are generated offsite and therefore are not considered.

Impact Determination

For the proposed Project, operational emissions were presented earlier in Table 3.2-18. As shown therein, the bulk of proposed Project emissions are generated by mobile sources. Mobile source emissions, as they pertain to sensitive receptors, are further analyzed under Impact AQ-5. For area sources, it can be deduced, based on the relatively small amounts of emissions, that SCAQMD concentration thresholds would not be exceeded. As such, operation impacts to sensitive receptors would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-5: The proposed Project would not generate onroad traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.

The proposed Project's CO concentrations for a.m. and p.m. 1- and 8-hour CO levels for project years 2015 and 2020 are presented in Tables 3.2-21 and 3.2-22, respectively. As shown therein, the proposed Project would not have a significant impact upon 1- or 8-hour local CO concentrations due to mobile source emissions.

Because significant impacts would not occur at the intersections with the highest traffic volumes located adjacent to sensitive receptors, no significant impacts are anticipated to occur at any other locations in the study area because the conditions yielding CO hotspots would not be worse than those occurring at the analyzed intersections. Consequently, the sensitive receptors that are included in this analysis would not be significantly affected by CO emissions generated by the net increase in

traffic that would occur under the proposed Project. Because the proposed Project does not cause an exceedance, or exacerbate an existing exceedance of an ambient air quality standard (AAQS), the proposed Project's localized operational air quality impacts would be less than significant.

Table 3.2-21. Project Buildout (Year 2015)—Local Area CO Dispersion Analysis

Intersection	*Peak Period* [a]	*Maximum 1-Hour 2015 Base Concentration (ppm)* [b]	*Maximum 1-Hour 2015 with-Project Concentration (ppm)* [c]	*Significant 1-Hour Concentration Impact?* [d]	*Maximum 8-Hour 2015 Base Concentration (ppm)* [e]	*Maximum 8-Hour 2015 With-Project Concentration (ppm)* [f]	*Significant 8-Hour Concentration Impact?* [d]
Marine Avenue at Harry Bridges Boulevard	AM	5.8	5.8	No	4.4	4.4	No
	PM	5.9	5.9	No	4.5	4.5	No

Notes:
CALINE4 dispersion model output sheets and EMFAC 2007 emissions factors are provided in Appendix C.
[a]Peak hour traffic volumes are based on the Traffic Impact Analysis prepared for the proposed Project by Fehr and Peers (2008 see Appendix I).
[b]SCAQMD 2015 1-hour ambient background concentration (5.1 ppm) + 2015 base traffic CO 1-hour contribution.
[c]SCAQMD 2015 1-hour ambient background concentration (5.1 ppm) + 2015 with-project traffic CO 1-hour contribution.
[d]The state standard for the 1-hour average CO concentration is 20 ppm, and the 8-hour average concentration is 9.0 ppm.
[e]SCAQMD 2015 8-hour ambient background concentration (3.9 ppm) + 2015 base traffic CO 8-hour contribution.
[f]SCAQMD 2015 8-hour ambient background concentration (3.9 ppm) + 2015 with-project traffic CO 8-hour contribution.
Source: URBEMIS2007 (see Appendix C).

Table 3.2-22. Year 2020—Local Area CO Dispersion Analysis

Intersection	*Peak Period* [a]	*Maximum 1-Hour 2020 Base Concentration (ppm)* [b]	*Maximum 1-Hour 2020 with-Project Concentration (ppm)* [c]	*Significant 1-Hour Concentration Impact?* [d]	*Maximum 8-Hour 2020 Base Concentration (ppm)* [e]	*Maximum 8-Hour 2020 with-Project Concentration (ppm)* [f]	*Significant 8-Hour Concentration Impact?* [d]
Marine Avenue at Harry Bridges Boulevard	AM	5.6	5.6	No	4.3	4.3	No
	PM	5.6	5.7	No	4.3	4.3	No
Avalon Boulevard at Anaheim Street	AM	5.7	5.7	No	4.3	4.3	No
	PM	5.8	5.8	No	4.4	4.4	No
Alameda Street at Anaheim Street	AM	5.9	5.9	No	4.5	4.5	No
	PM	6.0	6.1	No	4.5	4.5	No

Notes:
CALINE4 dispersion model output sheets and EMFAC 2007 emissions factors are provided in Appendix C.
[a]Peak hour traffic volumes are based on the Traffic Impact Analysis prepared for the proposed Project by Fehr and Peers, 2008 (see Appendix I).
[b]SCAQMD 2020 1-hour ambient background concentration (5.1 ppm) + 2020 base traffic CO 1-hour contribution.
[c]SCAQMD 2020 1-hour ambient background concentration (5.1 ppm) + 2020 with-project traffic CO 1-hour contribution.
[d]The state standard for the 1-hour average CO concentration is 20 ppm, and the 8-hour average concentration is 9.0 ppm.
[e]SCAQMD 2020 8-hour ambient background concentration (3.9 ppm) + 2020 base traffic CO 8-hour contribution.
[f]SCAQMD 2020 8-hour ambient background concentration (3.9 ppm) + 2020 with-project traffic CO 8-hour contribution.
Source: URBEMIS2007 (see Appendix C).

Because the proposed Project does not cause an exceedance, or exacerbate an existing exceedance of an AAQS, the proposed Project's localized operational air quality impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-6: The proposed Project would not create an objectionable odor at the nearest sensitive receptor.

Impact Determination

Construction

Potential sources that may emit odors during construction activities include equipment exhaust and asphalt paving. Odors from these sources would be localized and generally confined to the proposed project site. The proposed Project would utilize typical construction techniques, and the odors would be typical of most construction sites. Additionally, any odors would be short-term, sporadic, and temporary, occurring when equipment is operating and during paving activities. Odor impacts during construction would be less than significant.

Operation

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed Project does not include any uses identified by the SCAQMD as being associated with odors and therefore would not produce objectionable odors.

It is reasonably foreseeable that occasional odor from surrounding industrial land uses, including the Harbor Generating Station, may interfere with recreational users' enjoyment of the proposed Project elements, including the land bridge once operational. The occasional odor would not constitute a significant adverse impact due to the infrequent and short-duration of exposure and the reasonable expectation of the presence of odors in an industrial area by recreational users.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-7: The proposed Project would expose receptors to significant levels of TACs.

The proposed Project is located in an industrial area and is adjacent to several sources of toxic air contaminant emissions—most notably, the Harbor Generating Station to the west, the Ports of Los Angeles and Long Beach to the south and southeast, and Port-related diesel trucks traveling along Harry Bridges Boulevard to the north. Although proposed Project operations are not expected to produce significant health risk impacts on the surrounding community, people visiting the proposed project site could be exposed to elevated levels of TACs from these adjacent emission sources. Of particular concern are sensitive receptors, including those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality).

Impacts from the Harbor Generating Station

In 2004, LADWP conducted a health risk assessment of TAC emissions from the Harbor Generating Station (HGS), a power plant that operates adjacent to the proposed project site. The HRA was conducted in anticipation of the proposed Project to determine whether the HGS would expose park visitors to high health risks and therefore constrain the HGS from any future facility modifications (LADWP 2004).

The emission sources assessed in the HRA included 7 combustion turbines, 5 cooling towers, a diesel emergency generator, a diesel power washer, and fugitive VOC emissions from an oil/water separator, storage tanks, and piping. The combustion turbines use natural gas as their primary fuel, although they are also permitted to burn diesel fuel (distillate oil No. 2) in the event of a natural gas curtailment and are regularly tested on diesel fuel.

The HRA evaluated individual lifetime cancer risk for proposed project site visitors from HGS emissions. Cancer risk is the probability or chance of contracting cancer over a human life span (assumed to be 70 years). For CEQA purposes, a project's incremental cancer risk is considered significant if it is equal to or greater than 10 chances per million. The HRA estimated the maximum cancer risk at the proposed project site to be 6.3 per million when evaluated with 70-year residential exposure assumptions (i.e., 24-hour-per-day exposure, 350 days per year, for 70 years). To estimate the cancer risk posed to children that may visit the proposed project site, the HRA also estimated the cancer risk posed to children over an exposure period of 9 years. The 9-year child cancer risk at the location of the proposed project site is 1.2 per million.

The HRA also evaluated non-cancer impacts, which include the chronic hazard index and acute hazard index. Chronic toxicity is defined as adverse health effects from

long-term chemical exposure. Acute toxicity is defined as adverse health effects caused by a short-term chemical exposure, typically 1 hour for most chemicals. A chronic or acute hazard index equal to or greater than 1.0 indicates that adverse health effects could occur. The maximum chronic and acute hazard indices computed for emissions from the HGS are 0.3 and 0.96, respectively, on the park site (LADWP 2004).

In November 2008, LADWP elected to perform a subsequent HRA for the Harbor Generating Station to account for various design features of the proposed Project that were not well defined in the 2004 study. Results of the subsequent HRA are expected from LADWP in late 2008 or early 2009.

Impacts from the Ports of Los Angeles and Long Beach

As mentioned in Section 3.2.2.2.3, CARB published an exposure assessment in 2006 that evaluated the impacts from airborne particulate matter emissions from diesel-fueled engines associated with port activities at the Ports of Los Angeles and Long Beach (CARB 2006). The study focused on the on-Port property emissions from locomotives, onroad heavy duty trucks, and cargo handling equipment used to move containerized and bulk cargo such as yard tractors, top picks, side picks, rubber tired gantry cranes, and forklifts. The study also evaluated the at-berth and over-water emissions impacts from ocean-going vessel main and auxiliary engine emissions as well as commercial harbor craft such as passenger ferries and tugboats.

The CARB study estimated that DPM emissions from the Ports result in potential cancer risk levels exceeding 500 in a million near the Port boundaries, including the proposed project site. Farther away from the Ports, the potential cancer risk levels decrease but continue to exceed 50 in a million for more than 15 miles.

The CARB study also estimated potential non-cancer health impacts. Based on this study, average numbers of cases per year that would be expected in a 20- by 20-mile (400 square mile) study area are:

- 29 premature deaths[7] (for ages 30 and older)
- 750 asthma attacks
- 6,600 days of work loss
- 35,000 minor restricted activity days

Hotelling emissions from ocean-going vessel auxiliary engines and emissions from cargo handling equipment are the primary contributors to the higher pollution-related health risks near the ports.

Impacts from Harry Bridges Boulevard

Harry Bridges Boulevard is a major route for heavy duty diesel trucks traveling between the Port of Los Angeles and the Intermodal Container Transfer Facility

[7] A death in which one dies before one's potential life expectancy.

(ICTF). In general, concentrations of airborne particles have been shown to be high near transportation corridors and decline as one moves further from the source. The distance from the roadway and truck traffic densities were key factors affecting the strength of the association with adverse health effects (CARB 2004a). The association of traffic-related emissions with adverse health effects was seen within 1,000 feet of transportation corridors and was strongest within 300 feet (Zhu 2002). There is growing evidence that close proximity to heavily traveled roadways increases the potential for adverse health effects such as child lung function, asthma, and increased medical visits (Brunekreef 1997; Lin 2000; Venn 2001; Kim 2004; and English 1999).

Existing Toxic Air Contaminant Levels in the Proposed Project Vicinity

As discussed in Section 3.2.2.2.3, SCAQMD published the draft MATES-III in January 2008. The objective of MATES-III was to characterize the ambient air toxic concentrations and potential human exposures in the South Coast Air Basin. The effort included two years of ambient monitoring for air toxics. MATES-III developed an updated toxics emissions inventory and conducted air dispersion modeling to estimate ambient levels and the potential health risks of air toxics.

A network of 10 fixed sites was used to monitor TACs once every 3 days for 2 years. One of these fixed monitoring sites was at 1903 Santa Fe Avenue in Long Beach (referred to as the "Wilmington site"), about 3 miles northeast of the proposed project site. The risk at the Wilmington site was estimated at approximately 1,270 per million based on the monitored data. This risk estimate represents the cumulative contribution from all TAC emission sources in the basin, including the specific sources adjacent to the proposed project site, as mentioned above. The risk of 1,270 per million at the Wilmington site is slightly higher than the basinwide average risk of 1,194 per million. The monitoring results indicate that diesel exhaust is the major contributor to air toxics risk throughout the air basin, accounting for about 84% of the total (SCAQMD 2008a).

MATES-III also conducted dispersion modeling to estimate cancer risk in 1.25 by 1.25 mile grid cells covering the entire air basin, including areas not covered by the fixed monitoring sites. The grid cells covering the two ports, including the proposed project site, were predicted to have risk values ranging from 1,100 to 2,900 in a million. The grid cell with the highest modeled risk in the air basin was at the Ports.

Summary of CARB Land Use Siting Guidance

In 2005, the California Air Resources Board published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). This document considers the potential health impacts associated with proximity of sensitive receptors to various categories of air pollution sources so planners can explicitly consider this issue in the land use planning processes. According to the Handbook, sensitive land uses deserve special attention because children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the non-cancer effects of air pollution. Examples of non-cancer effects are asthma attacks, heart attacks, and increases in daily mortality and hospitalization for heart and

respiratory diseases. There is also substantial evidence that children are more sensitive than adults to cancer-causing chemicals (CARB 2005).

Because of the difficulty in quantifying non-cancer effects from air pollution, the Handbook generally used estimates of cancer health impacts as an indicator of non-cancer impacts to provide a picture of relative risk. The CARB study looked at 8 specific source categories:

- Freeways and high traffic roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

CARB's recommendation for ports is to avoid siting new sensitive land uses immediately downwind of ports in the most heavily affected zones. For freeways and high traffic roads, CARB recommends that sensitive land uses should be at least 1,000 feet from freeways and high traffic roads.

Impact Determination

The proposed Project is located adjacent to substantial Port-related activities that generate emissions of DPM and other TACs. The northern portion of the proposed project site is also located within 1,000 feet of Harry Bridges Boulevard, a major route for Port-related diesel trucks. In addition, studies conducted by CARB (2006) and SCAQMD (2008a) show that the area in the vicinity of the Ports, including the proposed project site, exhibits levels of DPM and health risks that are higher than most other areas within the air basin.

Because the proposed Project would attract sensitive individuals to a location that most likely has a higher risk than their place of residence, a recreational health risk impact would result. The magnitude of the impact would depend on a variety of factors, including the frequency and duration of a person's visit, the person's exertion level (i.e., breathing rate) during the visit, the amount of Port and industrial activity occurring during the visit, and the prevailing meteorological conditions (wind speed, wind direction, and atmospheric stability level). While most visitors would probably receive a relatively slight health risk impact, the possibility exists that a frequent visitor could accumulate a significant long-term cancer or non-cancer impact. The possibility also exists that any visitor could receive a significant short-term (acute) impact if the visit takes place during a high level of adjacent industrial activity coupled with worst-case meteorological conditions. Therefore, the proposed Project

would expose visitors to significant health risk impacts associated with air pollutants from other sources.

Mitigation Measures

Because the significant impact is an indirect impact associated with emissions from emission sources outside the control of the proposed Project, no additional mitigation measures are proposed.

Residual Impacts

In the short term, the recreational health risk impact on project visitors would remain significant. In the long term, levels of pollution from both Port facilities and all Port-related trucks traveling along Harry Bridges Boulevard will substantially diminish in accordance with the recently approved Clean Air Action Plan (LAHD et al. 2006). Specifically, DPM from trucks is anticipated to diminish by 80% over the next 5 years under the Port's proposed Clean Trucks Program. The Ports of Los Angeles and Long Beach have also instituted voluntary programs to reduce DPM emissions from port operations including installation of diesel oxidation catalysts on yard equipment, funding the incremental costs of cleaner fuels, cold-ironing of ocean-going ships, and providing monetary support to the Gateway Cities truck fleet modernization program. In addition, efforts at the state and local level to implement the Diesel Risk Reduction Plan and to fulfill commitments in the SIP will also reduce emissions. For example, the new offroad engine standards adopted by CARB and EPA will reduce emissions from new offroad engines by over 95% compared to uncontrolled levels. As another example, CARB adopted a regulation in July 2008 that will require low sulfur fuel in ships operating within 24 nautical miles of the California coast, starting in 2009. This regulation would reduce DPM emissions from ships by about 75% in 2009 and 83% by 2012 compared to uncontrolled levels. Other current regulations and future rules adopted by CARB and EPA also will further reduce air emissions and associated cumulative impacts in the proposed project region (CARB 2006).

Impact AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable AQMP.

Proposed project operations would produce emissions of nonattainment pollutants. The 2007 AQMP proposes emission reduction measures that are designed to bring the SCAB into attainment of the state and national AAQS. The attainment strategies in these plans include mobile-source control measures and clean fuel programs that are enforced at the state and federal level on engine manufacturers and petroleum refiners and retailers; as a result, proposed project operations would comply with these control measures. SCAQMD also adopts AQMP control measures into SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Therefore, compliance with these requirements would ensure that the proposed Project would not conflict with or obstruct implementation of the AQMP.

Impact Determination

The proposed Project would not conflict with or obstruct implementation of the AQMP; therefore, significant impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-9: The proposed Project would produce GHG emissions that exceed CEQA thresholds.

Climate change, as it relates to man-made GHG emissions, is by nature a global impact. The issue of global climate change is, therefore, a cumulative impact. Nevertheless, for the purposes of this EIR, LAHD has opted to address GHG emissions as a proposed project–level impact. In actuality, an appreciable impact on global climate change would occur only when the proposed project GHG emissions combine with GHG emissions from other man-made activities on a global scale.

Impact Determination

Table 3.2-23 presents an estimate of proposed project–related GHG emissions of CO_2, CH_4, and N_2O in the form of CO_2e. Both construction- and operation-related GHG emissions are compared to the CEQA baseline emissions for significance determination. As shown, the proposed project GHG emissions would be above the CEQA baseline emissions, and therefore would result in a significant impact.

Table 3.2-23. Estimate of Proposed Project–Related Greenhouse Gas Emissions[a]

Source	*CO_2e (lbs/day)*
Project Emissions	
Maximum Construction-period Emissions (January 2011)	**37,786**
2011 Operations-period Emissions	
Mobile Source	3,143
Stationary Source	892
Area Source	972
Total 2011 Operations-period Emissions	**5,007**
2015 Operations-period Emissions	
Mobile Source	30,897
Stationary Source	3,829

Source	*CO_2e (lbs/day)*
Area Source	1,647
Total 2015 Operations-period Emissions	**36,373**
2020 Operations-period Emissions	
Mobile Source	52,235
Stationary Source	7,055
Area Source	1,789
Total 2020 Operations-period Emissions	**61,089**
CEQA Baseline Emissions	**10,979**

[a]URBEMIS 2007 output and energy emissions calculation worksheets are provided in Appendix C.

Source: URBEMIS2007 (see Appendix C).

Mitigation Measures

Mitigation measures MM AQ-1 through MM AQ-9 developed for criteria pollutant emissions as part of Impact AQ-1 above would help to reduce construction-related GHG emissions.

The following additional mitigation measures specifically target the proposed project GHG emissions. They were developed through an applicability and feasibility review of possible measures identified in the *Climate Action Team Report to Governor Schwarzenegger and the California Legislature* (State of California 2006) and *CARB's Proposed Early Actions to Mitigate Climate Change in California* (CARB 2007).

Table 3.2-24. Project Applicability Review of Potential GHG Emission Reduction Strategies

Operational Strategy	*Applicability to Proposed Project*
Commercial and Industrial Design Features	
Vehicle Climate Change Standards	Regulatory measure implemented by CARB
Diesel Anti-Idling	Regulatory measures implemented by CARB
Other Light duty Vehicle Technology	Regulatory measure implemented by CARB (standards will phase in starting 2009)
HFCs Reduction	Future regulatory measure planned by CARB

Operational Strategy	*Applicability to Proposed Project*
Building Operations Strategy	
Recycling	**MM AQ-11** and regulatory measure implemented by the Integrated Waste Management Board
Building Energy Efficiency	**MM AQ-10** and regulatory measure implemented by the California Energy Commission
Green Buildings Initiative	**MM AQ-10** and future regulatory measure planned by the State and Consumer Services and CalEPA
California Solar Initiative	Future regulatory measure is planned by the California Public Utilities Commission
Note: These strategies are found in the *California Climate Action Team's report to the Governor* (State of California 2006) and CARB's *Proposed Early Actions to Mitigate Climate Change in California* (CARB 2007).	

MM AQ-10: 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 outdoor lighting as feasible.
- Limit the hours of operation of outdoor lighting.
- Provide education on energy efficiency.

MM AQ-11: Renewable Energy.

- Require the installation of solar and/or wind power systems, solar and tankless hot water heaters, and energy efficient heating ventilation and air conditioning by Port tenants, where feasible. Educate Port tenants about existing incentives.
- Use combined heat and power in appropriate applications.

MM AQ-12: 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. Install the infrastructure to deliver and use reclaimed water.
- Design buildings to be water-efficient. Install water-efficient fixtures and appliances.
- 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 proposed Project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate.
- Provide education to Port tenants about water conservation and available programs and incentives.

MM AQ-13: 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 in public areas.
- Provide education and publicity about reducing waste and available recycling services.

MM AQ-14: Land Use Measures.

- Incorporate public transit into project design.
- Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.
- Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling, or walking.

MM AQ-15: 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 (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides).
- Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).
- Promote "least polluting" ways to connect people and goods to their destinations.
- Incorporate bicycle lanes and routes into street systems.
- Incorporate bicycle-friendly intersections into street design.
- Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience.
- Create bicycle lanes and walking paths.

Residual Impacts

Table 3.2-25 presents an estimate of mitigated proposed Project–related GHG emissions of CO_2, CH_4, and N_2O in the form of CO_2e. Both construction- and operation-related GHG emissions are compared to the CEQA baseline emissions for significance determination. As shown, the proposed project GHG emissions would remain above the CEQA baseline emissions, and therefore would result in a significant and unavoidable impact.

Table 3.2-25. Estimate of Mitigated Proposed Project-Related Greenhouse Gas Emissions[a]

Source	*CO_2e (lbs/day)*
Project Emissions	
Maximum Construction-period Emissions (January 2011)	**37,800**
2011 Operations-period Emissions	
Mobile Source	3,143
Stationary Source	892
Area Source	972
Total 2011 Operations-period Emissions	**5,007**
2015 Operations-period Emissions	
Mobile Source	30,897

Source	*CO_2e (lbs/day)*
Stationary Source	3,829
Area Source	1,647
Total 2015 Operations-period Emissions	**36,373**
2020 Operations-period Emissions	
Mobile Source	52,235
Stationary Source	7,055
Area Source	1,789
Total 2020 Operations-period Emissions	**61,089**
2011 Operations-period Emissions	
Mobile Source	94,972
Stationary Source	765
Area Source	972
Total 2011 Operations-period Emissions	**96,710**
2015 Operations-period Emissions	
Mobile Source	759,560
Stationary Source	3,396
Area Source	1,647
Total 2015 Operations-period Emissions	**764,604**
2020 Operations-period Emissions	
Mobile Source	1,111,643
Stationary Source	6,244
Area Source	1,789
Total 2020 Operations-period Emissions	**1,119,676**
CEQA Baseline Emissions	**10,979**

[a]URBEMIS 2007 output and energy emissions calculation worksheets are provided in Appendix C.

Source: (URBEMIS2007 (see Appendix C).

1

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3.2.4.3.3 Summary of Impact Determinations

Table 3.2-26 summarizes the CEQA impact determinations of the proposed Project related to air quality, as described in the detailed discussion in Sections 3.2.4.3.1 and 3.2.4.3.2. This table is meant to allow easy comparison between the potential impacts of the proposed Project with respect to this resource. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.2-26. Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality and Meteorology Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.2. Air Quality and Meteorology			
Construction			
AQ-1: The proposed Project would result in construction-related emissions that exceed a SCAQMD threshold of significance.	Significant	**MM AQ-1: Harbor Craft Engine Standards.** All harbor craft used during the construction phase of the proposed Project will, at a minimum, be repowered to meet the cleanest existing marine engine emission standards or EPA Tier 2. Additionally, where available, harbor craft will meet the proposed EPA Tier 3 (which are proposed to be phased-in beginning of 2009) or cleaner marine engine emission standards. **MM AQ-2: Dredging Equipment Electrification.** All dredging equipment will be electric. **MM AQ-3: Fleet Modernization for Onroad Trucks**. 1. Trucks hauling materials such as debris or fill will be fully covered while operating off Port property. 2. Idling will be restricted to a maximum of 5 minutes when not in use.	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		3. EPA Standards: a. Prior to December 31, 2011: All onroad heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2004 onroad emission standards for PM_{10} and NO_X (0.10 g/bhp-hr and 2.0 g/bhp-hr, respectively). In addition, all onroad heavy heavy-duty trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will be equipped with a CARB-verified Level 3 device. b. From January 1, 2012 on: All onroad heavy-duty diesel trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2007 onroad emission standards for PM_{10} and NO_X (0.01 g/bhp-hr and 0.20 g/bhp-hr, respectively). A copy of each unit's certified, USEPA rating and each unit's CARB or SCAQMD operating permit, shall be provided at the time of mobilization of each applicable unit of equipment **MM AQ-4: Fleet Modernization for Construction Equipment.** 1. Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards. 2. Idling will be restricted to a maximum of 5 minutes when not in use.	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		3. Tier Specifications: ■ Prior to December 31, 2011: All offroad diesel-powered construction equipment greater than 50 horsepower (hp) will meet Tier-2 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device. ■ From January 1, 2012, to December 31, 2014: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-3 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device. ■ From January 1, 2015 on: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-4 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device. **MM AQ-5: Additional Fugitive Dust Controls.** The calculation of fugitive dust (PM_{10}) from proposed project earth-moving activities assumes a 61% reduction from uncontrolled levels to simulate rigorous watering of the site and use of other measures (listed below) to ensure compliance with SCAQMD Rule 403. The construction contractor will reduce	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		fugitive dust emissions by 90% from uncontrolled levels. The proposed project construction contractor will specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan. Their will shall include holiday and weekend periods when work may not be in progress. Measures to reduce fugitive dust include, but are not limited to, the following: ■ Active grading sites will be watered 1 additional time per day beyond that required by Rule 403. ■ Contractors will apply approved nontoxic chemical soil stabilizers to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more). ■ Construction contractors will provide temporary wind fencing around sites being graded or cleared. ■ Trucks hauling dirt, sand, or gravel will be covered in accordance with Section 23114 of the California Vehicle Code. ■ Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site. Pave road and road shoulders. ■ The use of clean-fueled sweepers will be required pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on site or roads adjacent to the site to reduce	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		fugitive dust emissions. ■ A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity including resolution of issues related to PM10 generation. ■ Traffic speeds on all unpaved roads will be reduced to 15 mph or less. ■ Temporary traffic controls such as a flag person will be provided during all phases of construction to maintain smooth traffic flow. ■ Construction activities that affect traffic flow on the arterial system will be conducted during off-peak hours to the extent practicable. ■ The use of electrified truck spaces for all truck parking or queuing areas will be required. **MM AQ-6: Best Management Practices.** The following types of measures are required on construction equipment (including onroad trucks): 1. Use diesel oxidation catalysts and catalyzed diesel particulate traps 2. Maintain equipment according to manufacturers' specifications 3. Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use 4. Install high-pressure fuel injectors on construction equipment vehicles 5. Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors 6. Improve traffic flow by signal synchronization 7. Enforce truck parking restrictions	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		8. Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc. 9. Re-route construction trucks away from congested streets or sensitive receptor areas LAHD will implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD will determine the BMPs once the contractor identifies and secures a final equipment list and project scope. The LAHD will then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs will be based on Best Available Control Technology (BACT) guidelines and may also include changes to construction practices and design to reduce or eliminate environmental impacts. **MM AQ-7: General Mitigation Measure.** For any of the above mitigation measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port. **MM AQ-8: Special Precautions near Sensitive Sites.** All construction activities located within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals), will notify each of these sites in writing at least 30 days prior to construction activity. **MM AQ-9: Construction Recycling.** Demolition and/or excess construction materials will be separated on site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		construction materials will be provided on site. Materials with recycled content will be used in project construction. Chippers on site during construction will be used to further reduce excess wood for landscaping cover.	
AQ-2: The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a SCAQMD threshold of significance.	Significant	Implement mitigation measures MM AQ-1 through MM AQ-9.	Significant and unavoidable
Operations			
AQ-3: The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.	Significant	Implement mitigation measures MM AQ-1 through MM AQ-9.	Significant and unavoidable
AQ-4: The proposed Project would not result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance	Less than Significant	No mitigation is required.	Less than Significant
AQ-5: The proposed Project would not generate onroad traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.	Less than significant	No mitigation is required.	Less than significant
AQ-6: The proposed Project would not create an objectionable odor at the nearest sensitive receptor.	Less than significant	No mitigation is required	Less than significant
AQ-7: The proposed Project would expose receptors to significant	Significant	No mitigation is available.	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
levels of TACs.			
AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable AQMP.	Less than significant	No mitigation is required	Less than significant
AQ-9: The proposed Project would produce GHG emissions that exceed CEQA thresholds.	Significant	Implement mitigation measures MM AQ-1 through MM AQ-9. **MM AQ-10: 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 outdoor lighting as feasible. ■ Limit the hours of operation of outdoor lighting. ■ Provide education on energy efficiency. **MM AQ-11: Renewable Energy.** ■ Require the installation of solar and/or wind power systems, solar and tankless hot water heaters, and energy efficient heating ventilation and air conditioning by Port tenants, where feasible. Educate	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		Port tenants about existing incentives. ■ Use combined heat and power in appropriate applications. **MM AQ-12: 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. Install the infrastructure to deliver and use reclaimed water. ■ Design buildings to be water-efficient. Install water-efficient fixtures and appliances. ■ 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 proposed Project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate. ■ Provide education about water conservation and available	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		programs and incentives. **MM AQ-13: 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 in public areas. ■ Provide education and publicity about reducing waste and available recycling services. **MM AQ-14: Land Use Measures.** ■ Incorporate public transit into project design. ■ Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio. ■ Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling, or walking. **MM AQ-15: 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 (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides). ■ Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations). ■ Promote "least polluting" ways to connect people and goods to their destinations. ■ Incorporate bicycle lanes and routes into street systems. ■ Incorporate bicycle-friendly intersections into street design. ■ Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. ■ Create bicycle lanes and walking paths.	

1

2 3.2.4.4 Mitigation Monitoring

3 **Table 3.2-27**. Mitigation Monitoring for Air Quality and Meteorology

Impact AQ-1: The proposed Project would result in construction-related emissions that exceed a SCAQMD threshold of significance.	
Mitigation Measure	**MM AQ-1. Harbor Craft Engine Standards.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-1 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-2: Dredging Equipment Electrification.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-2 in the contract specifications for construction. LAHD

	will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-3: Fleet Modernization for Onroad Trucks.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-3 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-4: Fleet Modernization for Construction Equipment.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-4 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-5: Additional Fugitive Dust Controls.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-5 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-6: Best Management Practices.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-6 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-7: General Mitigation Measure.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-7 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-8: Special Precautions near Sensitive Sites.**
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-8 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Mitigation Measure	**MM AQ-9: Construction Recycling.**
Timing	During specified construction phases.

Methodology	LAHD will include MM AQ-8 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant
Impact AQ-2: The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a SCAQMD threshold of significance.	
Mitigation Measure	**Implement mitigation measures MM AQ-1 through MM AQ-9.**
Residual Impacts	Significant
Impact AQ-3: The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.	
Mitigation Measure	**Implement mitigation measures MM AQ-1 through MM AQ-9.**
Residual Impacts	Significant
Impact AQ-9: The proposed Project would produce GHG emissions that would exceed CEQA thresholds..	
Mitigation Measure	**In addition to implementing mitigation measures MM AQ-1 though MM AQ-9, MM AQ-10: Energy Efficiency**
Timing	Prior to approving final Project design
Methodology	Implement energy efficiency design elements into Project development plans
Responsible Parties	LAHD and Contractor
Residual Impacts	Significant
Mitigation Measure	**MM AQ-11: Renewable Energy**
Timing	Prior to approving final Project design
Methodology	Implement renewable energy design elements into Project development plans
Responsible Parties	LAHD and Contractor
Residual Impacts	Significant
Mitigation Measure	**MM AQ-12: Water Conservation and Efficiency**
Timing	Prior to approving final Project design
Methodology	Implement water conservation design elements into Project development plans
Responsible Parties	LAHD and Contractor
Residual Impacts	Significant
Mitigation Measure	**MM AQ-13: Solid Waste Measures**
Timing	Prior to approving final Project design
Methodology	Implement solid waste measure design elements into Project development plans
Responsible Parties	LAHD and Contractor
Residual Impacts	Significant
Mitigation Measure	**MM AQ-14: Land Use Measures**
Timing	Prior to approving final Project design
Methodology	Implement sustainable land use design elements into Project development plans
Responsible Parties	LAHD and Contractor
Residual Impacts	Significant
Mitigation Measure	**MM AQ-15: Transportation and Motor Vehicles**

Timing	Prior to final Project design and during Project operation
Methodology	Implement sustainable transportation elements into Project development plans and enforce operating policies
Responsible Parties	LAHD and Contractor
Residual Impacts	Significant

3.2.5 Significant Unavoidable Impacts

- Proposed project construction emissions would result in significant and unavoidable impacts for NO_X emissions.
- Construction of the proposed Project would exceed the SCAQMD 1-hour NO_2, 24-hour PM_{10}, and 24-hour $PM_{2.5}$ ambient thresholds and would result in significant and unavoidable impacts under CEQA.
- Peak daily operational emissions from the proposed Project would result in significant and unavoidable impacts under CEQA for NO_X air emissions when combined with 2011 construction emissions.
- The proposed Project would expose sensitive receptors to significant levels of TACs.
- The proposed Project would produce GHG emissions that would exceed CEQA baseline levels, resulting in a significant and unavoidable impact under CEQA.

3.3

BIOLOGICAL RESOURCES

3.3.1 Introduction

This section describes the existing biological resources in the proposed Project study area, outlines the applicable regulations, analyzes the potential impacts to biological resources associated with the proposed Project, and describes appropriate mitigation measures. The biological resources of Los Angeles Harbor have been studied for many years and reported in the form of project EIRs or Environmental Impact Statements (EISs) (Jones & Stokes 2002, e2M Inc 2003, and USACE and LAHD 1992a) and baseline studies such as the Year 2000 Biological Baseline Study of San Pedro Bay (MEC and Associates 2002). Older reports provide information that is useful in describing trends in environmental conditions that affect the biological communities in the proposed project study area (HEP 1980). This section summarizes information from the reports cited above and other sources cited in the text as they apply to the proposed Project.

These data and descriptions of habitat conditions in Section 3.3.2, "Environmental Setting," rely on a variety of reports and data collected over a number of years. The primary source of biological data is from the Port-wide biological surveys conducted in 2000 (MEC and Associates 2002), augmented with more recent data as cited in this document. These data represent the existing conditions for evaluation of impacts.

3.3.2 Environmental Setting

The proposed Project lies within the Port of Los Angeles; most of the proposed project study area is located at Slip 5 near the head of the East Basin. This area has been an active port for approximately 100 years. The Biological Resources study area (proposed project study area) encompasses the proposed project area and the adjacent environment potentially affected by the proposed Project, including Slip 5 and areas within 100 feet of terrestrial portions of the proposed Project. Harbor waters in the proposed project study area are heavily influenced by storm drain inputs from upstream users (including from the Dominguez Channel and other County/City

of Los Angeles conveyances), as well as by industrial, commercial, and recreational uses at the Port.

The Los Angeles Harbor marine/environment provides habitat to a variety of aquatic species. The relatively protected environment and higher water temperatures give the harbor value as a nursery area for juvenile fish, and provide a diversity of habitat that contrasts with exposed coastal habitat. Because the freshwater input of the East Basin is primarily stormwater, the harbor provides primarily marine, rather than estuarine ecosystem functions.

Upstream watershed inputs, as well as the industrial, commercial, and recreational uses within the Port have strongly defined the physical conditions of the Los Angeles Harbor, and have influenced water quality and sediment quality conditions. Environmental studies of the harbor indicate water and sediment quality have changed over time, and these changes are related to the advent of federal and state water quality regulations governing wastewater and stormwater management (Clean Water Act and Porter-Cologne Water Quality Act, respectively) and industrial uses of the harbor (HEP 1980, MEC and Associates 2002). Water and sediment conditions have improved dramatically since the 1960s with the implementation of these relevant water quality regulations and associated clean up measures. In response, the biological communities that the Los Angeles Harbor supports have improved as well. Although the Los Angeles Harbor is not a pristine natural environment, it does support a diverse and functioning biological community.

The proposed project location and project study area are illustrated in Figure 3.3-1, and encompass the aquatic and upland environs generally bounded by Lagoon Avenue, Broad Avenue, C Street, and Banning's Landing at the waterfront. The entire upland component of the proposed Project is located north of the East Basin of the Los Angeles Harbor. Additionally, the Full Buildout Plan includes the construction of the California Coastal Trail—a pedestrian and bicycle corridor—and the Waterfront Red Car Line along John S. Gibson Boulevard and Harry Bridges Boulevard. The proposed project study area is illustrated in Figure 3.3-2, and encompasses those areas within 100 feet of the terrestrial portions of the proposed Project and all of Slip 5. This area was delineated based on potential impacts on terrestrial and aquatic biological resources that could result from the proposed Project.

The existing terrestrial resources within the Port also are largely a by-product of Port activities over the last century. Within the proposed project study area, essentially all uplands have been heavily modified and/or developed. Consequently, existing terrestrial biological resources are considered to be of low quality, fragmented, isolated, or absent in most areas. Special Status Species (i.e., species with special regulatory or management status) do occur within the proposed project study area. Appendix D provides a list of Special Status Species, their federal and state status, and their potential occurrence within the proposed project study area.

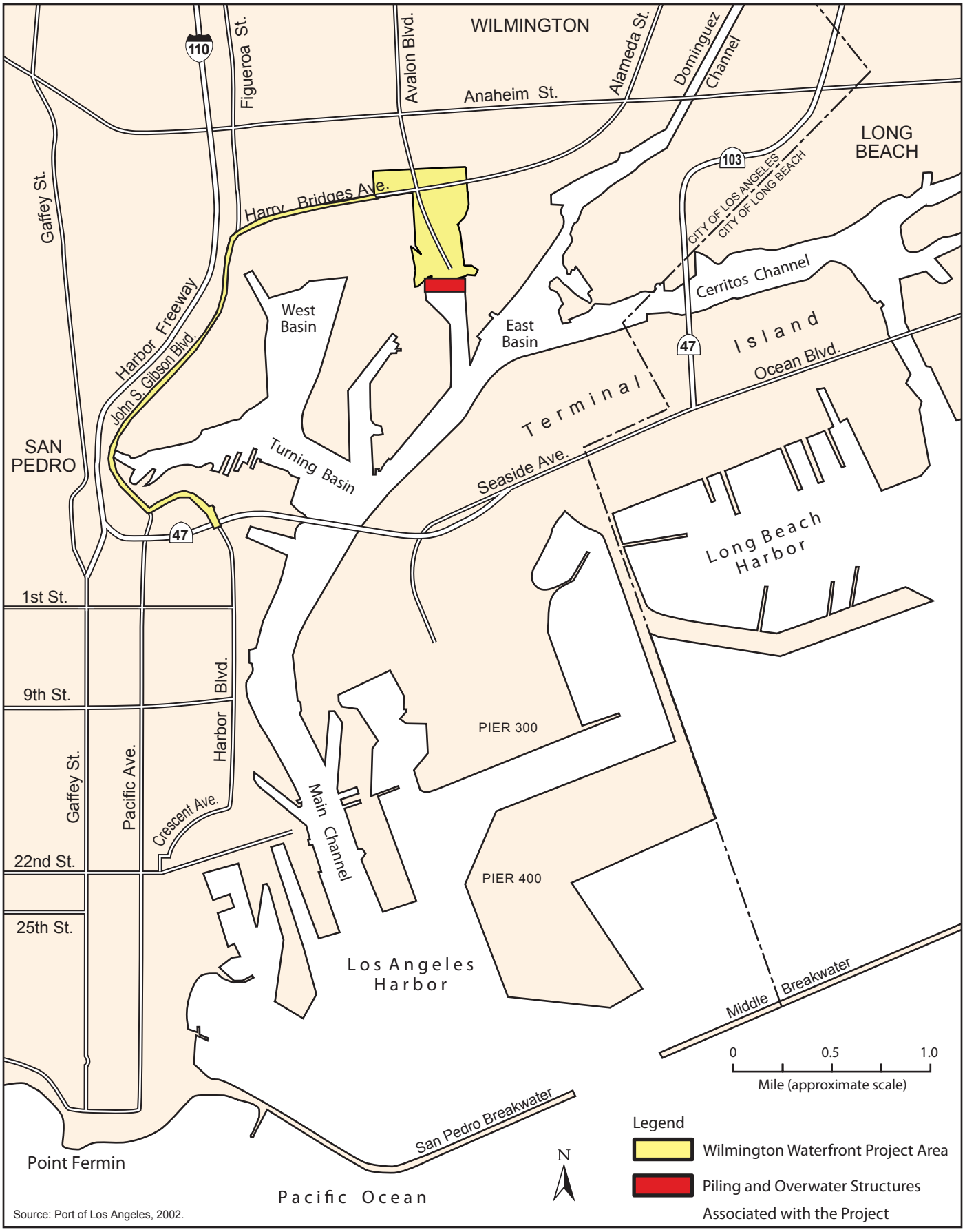

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Figure 3.3-1
Project Location
Wilmington Waterfront Development Project

3.3.2.1 Terrestrial Habitats

Within the proposed project study area the terrestrial environment can be classified as either developed or vacant land. Terrestrial habitats are defined as lands that lie outside of tidal influence/effects, thus capturing uplands but also encompassing lands that may have freshwater influences. Data analyzed for terrestrial habitats included reconnaissance-level site visits, review of California Natural Diversity Database and review of aerial photographs and current biological studies. A list of all studies cited and used to make determinations and gather baseline and background information for this section are included in Chapter 10, "References."

The most common flora species observed within the proposed project study area are sea rocket (*Cakile maritima*), tree tobacco, (*Nicotiana glauca*), Bermuda grass (*Cynodon dactylon*), puncture vine (*Tribulus terrestris*), and sow thistle (*Sonchus oleraceus*), all of which are nonnative to North America (SAIC 2004, 2007). Incidental pampas grass (*Cortaderia jubata*), a nonnative species, as well as the native mule fat (*Baccharis salicifolia*), telegraph weed (*Heterotheca grandiflora*), western ragweed (*Ambrosia psilostachya*), and horseweed (*Conyza canadense*) also occur within the proposed project study area (SAIC 2007). No native plant or sensitive plant communities are present.

All wildlife species having potential to occur and/or known to occur within the proposed project study area are adapted to human-induced disturbed landscapes. The majority of terrestrial bird species that may occur at the Port are migratory and would be present during fall, winter, and/or spring but are not expected to breed within the proposed project study area.

3.3.2.2 Benthic Environment

The benthic (bottom) environment includes the sea floor, sediment, sediment-water interface, and associated organisms. Benthic habitats were surveyed during 1986–1987 (MEC Analytical Systems 1988) and during 2000 (MEC and Associates 2002). The Los Angeles/Long Beach Harbor area has sediments that are predominantly sand/silt (HEP 1980, MEC and Associates 2002), although the proportions and distributions vary according to area. Current velocity affects sediment sorting and deposition. Areas with the greatest proportion of sand are located in the Main Channel where currents are stronger. Weaker current velocities within the harbor (e.g., Inner Cabrillo Beach and the slips of Inner Harbor) tend to allow fine particles to settle, resulting in deposition of finer substrates. Clay makes up less than 25% of the sediment composition throughout Los Angeles Harbor. Clay and silt substrates accumulate primarily in areas of reduced current velocity and deeper basins that are protected from wave action.

No current data specific to the benthic environment of the Slip 5 were located (see Section 3.14.2.1.4, "Marine Sediments"). However, conditions are assumed to be very similar to the East Basin based on proximity and historical use and development within each basin. The East Basin has sandy sediments with low silt/clay content

(37%) (MEC and Associates 2002). Otherwise, hard substrates dominate benthic habitat of the intertidal zone in the form of docks, piers, bank protection structures, and piles associated with Port facilities.

3.3.2.3 Water Column Habitats

Water column habitats in the proposed project study area include mid channel, pier and piling, and riprap. No eelgrass or kelp forests have been documented in the proposed project study area. For the purposes of determining the relative value of marine habitat for mitigation accounting, the harbor is delineated into Inner Harbor and Outer Harbor areas. The location of Inner and Outer Harbor water column habitats is shown in Figure 3.3-2.

Mid-channel habitat includes deepwater areas of the Inner and Outer Harbors without adjacent physical structures and typically overlies a soft substrate. In the proposed project study area this includes the portions of the Main, West, and East Channels. This habitat is somewhat protected from wave action but is subject to frequent boat and shipping traffic. Schooling fish and flatfish are commonly found in this habitat type.

Pier and piling habitat are prevalent along the edges of harbor channels. Surfperch and rockfish are sometimes attracted to pier and piling habitat. Vertical structures found along piers and pilings often provide points of attachment for a variety of invertebrate species including barnacles, anemones, mussels, and worms.

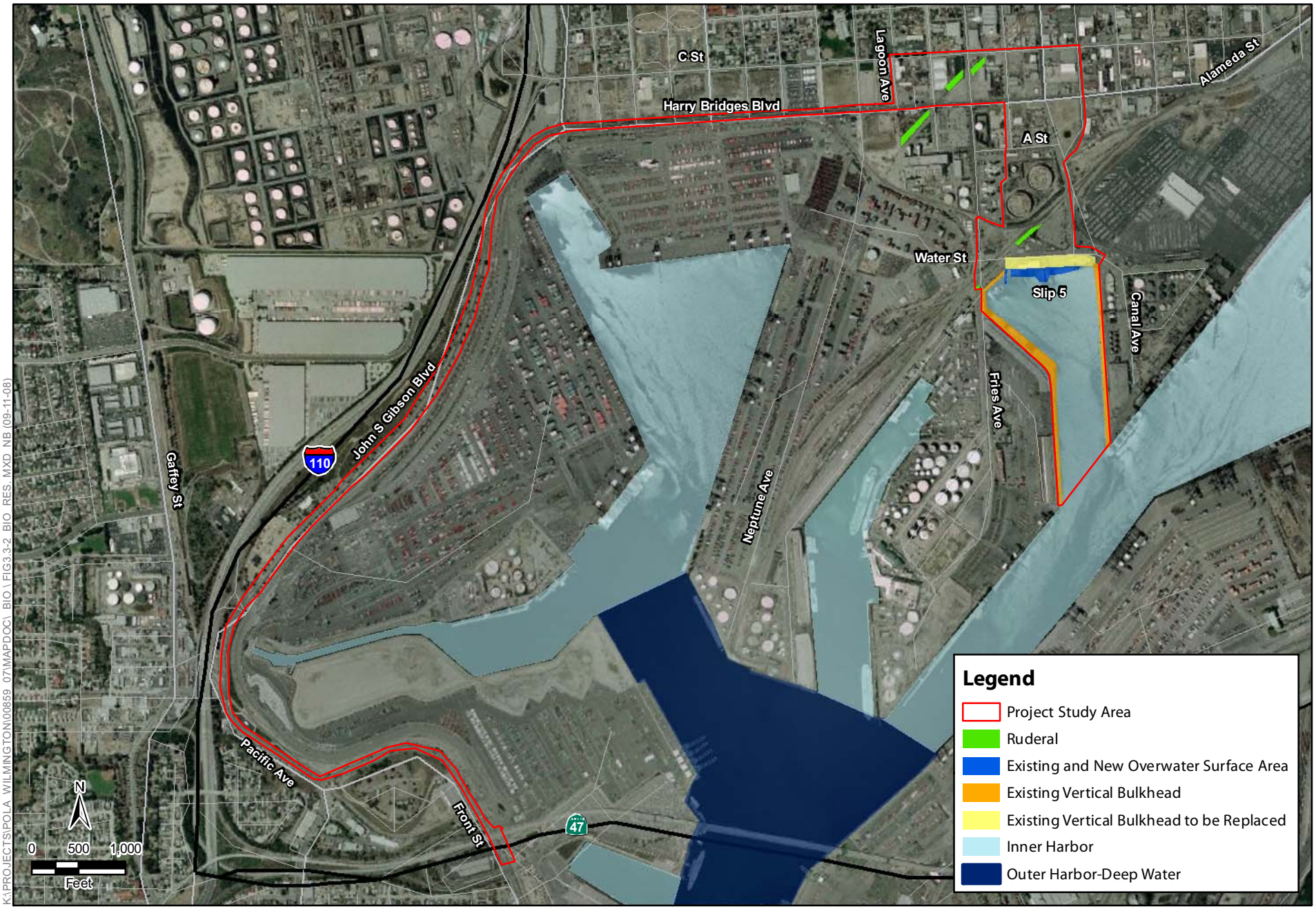
Rocky structures such as the breakwater jetty offer attachment sites for kelp and other macroalgae, as well as shelter areas favored by some rockfish species. Kelp forest habitat offers shelter habitat for several fish species.

Water column habitat associated with eelgrass is an important source of cover for juvenile fish. The invertebrate community that inhabits eelgrass beds provides food for many fish species as well. These attributes make eelgrass an important nursery area for many fish species.

However, no eelgrass or kelp forests occur within the proposed project study area (MEC and Associates 2002). Eelgrass is known to occur at two locations, both in the Outer Harbor. One eelgrass bed is located at Cabrillo Beach and another at Pier 300, both outside of the proposed project study area (MEC and Associates 2002). The plankton and fish communities occurring in the proposed project study area are discussed below.

3.3.2.3.1 Plankton

Plankton is comprised of non-motile or weak swimming organisms that drift with the currents. Photosynthetic plankton species (primarily single-celled algae) are termed phytoplankton, while planktonic animals are termed zooplankton. Plankton is



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SOURCE: ESRI USA Imagery (2006)

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Figure 3.3-2
Biological Resources in the Project Study Area
Wilmington Waterfront Development Project

important to estuarine and other marine ecosystems as they form the base of many food webs.

Phytoplankton and zooplankton in the Los Angeles and Long Beach Harbors have been described in previous studies (Environmental Quality Analysts-MBC 1978; HEP 1976, and HEP 1979). In the Outer Harbor, seasonal phytoplankton patterns have been marked by diatom-dominated spring blooms and more intense dinoflagellate-dominated fall blooms. Species observed have been typical components of the Southern California Bight shelf plankton community (Barnett and Jahn 1987). Recent studies (MEC Analytical Systems 2002) have focused on the larval fish component of the zooplankton community (the ichthyoplankton). Ichthyoplankton monitoring within the East Basin, near Slip 5 indicates that species diversity is similar to other areas of the Inner Harbor, although the number of individuals within those species represented appears to decrease in the slips of the Inner Harbor (MEC 2002).

3.3.2.3.2 Fishes

Surveys for adult and juvenile fish species within the Los Angeles Harbor recorded 74 unique species of fish (MEC 2002). Although fish populations of the entire harbor appear diverse and abundant, a large proportion of the harbor fish community is dominated by three species: white croaker (*Genyonemus lineatus*), northern anchovy (*Engraulis mordax*), and queenfish (*Seriphus politus*) (MEC Analytical Systems 2002). Four other species consistently rank high in abundance in all studies and are considered important residents of the Harbor. These are white seaperch (*Phanerodon furcatus*), California tonguefish (*Symphurus atricaudus*), speckled sanddab (*Citharichthys stigmaeus*), and shiner perch (*Cymatogaster aggregata*) (MEC Analytical Systems 2002).

Using gear designed to capture demersal (trawls), pelagic (lampara nets), and nearshore fishes (beach seines), 74 species were collected. More species were collected at shallow water (13–20 feet) locations than at deepwater (36–79 feet) locations.

Northern anchovy was the most abundant species collected with lampara net sampling (68%); white croaker, queenfish, topsmelt (*Atherinops affinis*), Pacific sardine (*Sardinops sagax*), shiner perch, and salema (*Xenistius californiensis*) also had high abundances. The five schooling species (northern anchovy, white croaker, queenfish, topsmelt, and Pacific sardine) accounted for 90% of the total abundance. The five schooling species along with bat rays (*Myliobatis californica*) and California barracuda (*Sphyraena argentea*) accounted for 77% of the total biomass in lampara samples (MEC Analytical Systems 2002).

In 2000, trawl sampling collected 61 species. Similar to lampara (pelagic) catches, three species constituted 89% of the total catch. Trawl sampling collected mostly northern anchovy, with white croaker and queenfish also having high abundances. These three schooling species along with the California halibut (*Paralichthys*

californicus), bat ray, and shovelnose guitarfish (*Rhinobatus productus*) accounted for 63% of the total biomass in trawl samples (MEC Analytical Systems 2002).

Beach seining was conducted at Inner Cabrillo Beach and at a beach at Pier 300 where, of the 17 species collected, topsmelt was the most abundant species; arrow goby (*Clevelandia ios*) and diamond turbot (*Pleuronichthys guttulatus*) were also commonly collected. These three species made up 95% of the total beach seine catch (MEC Analytical Systems 2002). California grunion (*Leuresthes tenuis*) spawn along beaches in the outer harbor (CDFG 2005) but are generally only present in large numbers for a few hours at a time while spawning. When spawning, grunion may dominate local fish abundance of the spawning areas.

Harbor-wide (Long Beach and Los Angeles Harbors) estimates of the total number of fish were made using recent trawl and lampara net sampling methods during the day and night. For all species combined (day and night sampling), an estimate of 4.45 million fish was estimated to occupy both harbor areas. The top five species (northern anchovy, white croaker, queenfish, topsmelt, and Pacific sardine) account for nearly 92% of the total estimated fish abundance in the harbor complex. (MEC Analytical Systems 2002)

The USFWS estimated seasonal fish densities from data collected from 1972 through 1982 (LAHD 1993). There is a trend toward higher densities in the summer and fall, ranging from 40–55 fish per 100 m^2, to lower densities in the winter ranging from 2–10 fish per 100 m^2 of surface area. Juvenile and adult individuals of most species are more abundant during the spring and summer than in winter (Horn and Allen 1981). The similarity of collections over the years suggests that there have been no long-term, large-scale changes in the harbor fish fauna (MEC Analytical Systems 2002).

The fish community in the Inner Harbor is dominated by a few species that make up a very high percentage of the total catch. The eight most abundant species collected in four surveys (summarized in USACE and LAHD 1984) are white croaker, northern anchovy, bay goby (*Lepidogobius lepidus*), queenfish, California tonguefish, white seaperch, shiner perch, and Pacific pompano (*Peprilus simillimus*). Bay goby and Pacific pompano appear more abundant in the Inner Harbor than in the Outer Harbor community. Species richness and diversity decrease along a gradient from the Outer Harbor to the Inner Harbor (USACE and LAHD 1984; MEC Analytical Systems 2002).

Similar to the decrease in species diversity observed in ichthyoplankton in the slips within the Inner Harbor, species diversity for adult and juvenile fish species also decreases to some extent within the slips. Species diversity documented in trawl surveys in the Outer Harbor ranged from 8 to 19 unique species, while the species diversity within the Inner Harbor ranged from 6 to 10 unique species. For lampara (pelagic) samples a similar decrease was noted, with 13 to 20 unique species observed in catches in the Outer Harbor, while the species diversity in the Inner Harbor ranged from 11 to 15 unique species (MEC 2002).

In general, the habitat value for fish is highest in the Outer Harbor shallow areas followed by deep water in the Outer Harbor and diminishing as one proceeds into the

Inner Harbor and particularly blind slip areas. Based on review of the last biological baseline (MEC Analytical Systems 2002) by federal and state agencies and the Port, Outer Harbor habitat values were determined to extend into historically Inner Harbor areas. Specifically, Outer Harbor habitat value now extends up the Main Channel to the area of the Vincent Thomas Bridge.

Peaks in seasonal abundance and species richness in the Inner Harbor do not coincide with Outer Harbor trends. High abundance and richness in the Inner Harbor occur in winter and early spring, and low abundance and richness occur in summer and early fall. Abundance and species richness may vary seasonally and yearly in the Outer Harbor. Outer Harbor abundance and species richness are high in late spring and early fall, peak in summer, and begin to decrease in late-fall to yearly low levels in winter. Seasonal peaks in the Outer Harbor appear to reflect juvenile/young of the year recruitment (Brewer 1983). Summer abundance peaks in the Outer Harbor may be enhanced by recruitment of Inner Harbor species (USACE and LAHD 1984).

Studies of fish larvae and fish spawning have identified trends in abundance, density, and occurrence that help to characterize the harbor in terms of a spawning and nursery grounds (Brewer 1983 and 1984; Horn and Allen 1981; MBC 1984; MEC Analytical Systems 1988; and 2002). The harbor is a viable, productive habitat for commercially and recreationally valuable species. The northern anchovy appears to be a key component in harbor ecosystem and is both a major consumer of zooplankton and a major forage food for fish of higher trophic levels. The northern anchovy uses the area inside and outside the breakwater for spawning, nursery, and adult habitat.

MEC Analytical Systems (2002) found that peaks in the abundance of larval fishes occur in spring and summer with a secondary peak in the fall. Brewer (1983) found a similarity between the abundance of fish larvae and juvenile-adults in the harbor. A large number of fish larvae and juvenile-adult species have been reported in the harbor (HEP 1979; MEC), which reflects the variety of nursery and adult habitats present.

Species composition of larval fishes varied among different areas and habitats in the harbor. Larval abundance was generally lower on the Los Angeles side of the harbor compared to the Long Beach side (MEC Analytical Systems 2002). Larvae of pelagic or demersal species found over sand and/or mud bottoms as adults generally had a wide dispersal pattern within the harbor complex. In addition, larvae of some species were strongly associated with deep-water habitats while others were strongly associated with shallow-water habitats. For example, bay goby larvae were more abundant at deep water locations. Larvae of flatfish generally had higher abundance in deep water habitats in the Outer Harbor, basins, and channels. Fish associated with aquatic vegetation and/or rocky substrate during some part of their life stage had a more localized larval distribution, which was associated with the outer breakwater, riprap around Pier 400, eelgrass beds in the Pier 300 Shallow Water Habitat, other locations near riprap, or nearby macroalgae beds (MEC Analytical Systems 2002).

3.3.2.4 Birds

The Los Angeles Harbor provides valuable foraging, nesting, and roosting habitats for a diverse group of birds. Water birds in this report are defined as species that rely on aquatic environs for their life-cycle requirements. These species can range from those that occur in both fresh- and marine water (e.g., herons) to those that are restricted to estuarine/marine waters (e.g., surf scoter). The most recent comprehensive study of the water birds inhabiting the Los Angeles Harbor was conducted in 2000, and included both the Los Angeles and Long Beach Harbors (MEC and Associates 2002). These studies were performed across a calendar year to provide a more complete picture of water bird habitat. They capture the temporal and spatial use of the habitat offered by these harbors by both resident and migratory bird species. This study documented 67 species of birds considered dependent on marine aquatic habitats (MEC and Associates 2002). Of those species detected, two are federally and state Endangered: the California brown pelican (*Pelecanus occidentalis californicus*) and the California least tern (*Sternula antillarum browni*). Both species are common within the harbor at the proper season.

Qualitatively, open water, riprap, dock/pilings, and boat/barges are the most abundant habitat types available to water birds within the harbors. Conversely, mudflat and sand beach habitats are the least available, and not available in the portion of the East Basin affected by the proposed Project (MEC and Associates 2002). The nearest mudflat habitat is limited to two locations: (1) Berth 78—Ports O' Call adjacent to the Fish Market and (2) the Salinas de San Pedro salt marsh area. Sand beach occurs at Inner Cabrillo Beach and along a portion of the San Pedro breakwater and portions of the East Basin east of the proposed Project. Although sand beaches can still be found along much of the southern California coastline, these areas are generally degraded as bird habitat due to trash, mechanical raking, petroleum tar, and heavy human recreational use. In contrast, mudflat habitat has declined dramatically over the last 100 years in southern California and is now limited to a small number of protected estuaries along the coastline.

The most well represented bird groups found within the harbors are gulls (e.g., western, Heermann's, California, ring-billed), terns (e.g., California least [*Sternula antillarum*], Forster's [*Sterna forsteri*], elegant [*Thalasseus elegans*], royal [*Thalasseus maximus*], Caspian [*Hydroprogne caspia*], and black skimmer [*Rynchops niger*]), California brown pelican [*Pelecanus occidentalis californicus*], and waterfowl (e.g., western grebe [*Aechmophorus occidentalis*], Brandt's [*Phalacrocorax penicillatus*] and double-crested cormorants [*Phalacrocorax auritus*], surf scoter [*Melanitta perspicillata*], and bufflehead [*Bucephala albeola*]), which when foraging would feed on fish and invertebrates. While shorebirds and wading/marsh birds occur in low abundances, those species regularly occurring include surfbird (*Aphriza virgata)*, black-bellied plover (*Pluvialis squatarola)*, western sandpiper (*Calidris mauri)*, willet (*Tringa semipalmata)*, black oystercatcher (*Haematopus bachmani)*, great blue heron (*Ardea herodias)*, and black-crowned night-heron (*Nycticorax nycticorax)*.

Within the harbor, herons and egrets (wading/marsh birds) feed along the water's edge for fish and invertebrates as well as in uplands for small mammals such as

Botta's pocket gopher (*Thomomys bottae)* and house mouse (*Mus musculus)*.. Shorebirds that occur at Los Angeles Harbor are limited to horizontally placed riprap (e.g., San Pedro breakwater), beach habitats available at Cabrillo Beach, and the small area of intertidal mudflat located at Berth 78—Ports O'Call and at the mudflat located at Salinas de San Pedro salt marsh. An exception to this is killdeer (*Charadrius vociferous)*, a shorebird that is well adapted to both aquatic and upland habitats and can be regularly found on the vacant lands within the proposed project study area.

The peregrine falcon has an extensive foraging area that covers much of the harbor as well as land to the west and the north of the harbor. The peregrine forages on other birds in the harbor such as the rock dove and the starling. However, there are no known peregrine falcon nesting areas within the harbor.

In the Inner Harbor near the Wilmington Waterfront, gulls and upland bird species were the most abundant bird guilds (9.12 and 8.41 individuals/acre, respectively) with waterfowl, aerial fish foragers and wading/marshbirds the only other species documented (0.29, 0.26, and 0.21 individuals/acre, respectively). Upland bird species were comprised primarily of rock doves, which nest under docks and piers throughout the harbor. Other upland bird species observed included 25 species, including American crow, house finches, European starlings, and barn swallows. The western gull (*Larus occidentalis*) was common all year while Heermann's gull (*Larus heermanni*) was common from June through January. Western grebes (*Aechmophorus occidentalis*) were also present throughout the year. Four species of terns and black skimmers (*Rynchops niger*) were observed in the summer. Great blue herons (*Ardea herodias*) were present along the riprap of Pier 400 all year but more abundant in fall and winter.

The California least tern (*Sternula antillarum browni*) and black skimmer are Special-Status Species (Appendix D). The elegant tern, also a special status species, was present in the harbor year round in 2000, but numbers were greatest during the summer nesting season from late April through August (MEC and Associates 2002). Elegant terns nest at five locations in North America: Pier 400 at POLA, Bolsa Chica, the San Diego Saltworks, and two islands (Isla Raza and Isla Montague) in the Gulf of California, Mexico (Collins 2006). Approximately 90 to 97% of the world population of this species nests on Isla Raza. Elegant terns, predominantly from Bolsa Chica (Collins 2006), nested in the 12-acre area adjacent to the west side of the least tern nesting area in 1998 and 2000 through 2005, with observations ranging from 166 nests in 2001 to 10,170 in 2004 (Keane Biological Consulting 2005). This area is within proposed Tank Farm Site 1 and had been cleared of vegetation through 2004 to provide additional nesting habitat for the California least tern. Approximately 2,700 elegant tern nests were present in 2005, but the terns abandoned the site after a nocturnal predator visited the site, probably moving to Bolsa Chica (Keane Biological Consulting 2005), and did not nest there in 2006 or 2007 (Keane Biological Consulting 2007a, 2007b). Caspian terns also nest at the Pier 400 site. The number breeding at each of the southern California locations has shifted considerably between years, possibly due to local water conditions (Collins 2006).

A small rookery for black-crowned night herons and great blue herons has been recorded at the Coast Guard Station at Reservation Point. Surveys conducted during June and August 2002 recorded four nests, four chicks, ten young of the year, four first-year juveniles, three second-year juveniles, and 23 adults. For great blue herons, 21 nests, 16 chicks, and two adults were recorded (MBC Applied Environmental Sciences 2000).

During April 2002 black-crowned night herons were recorded nesting at Berth 78—Ports O'Call. The data showed ten roosting adults, two used nests, and one active nest at this location. Black-crowned night heron have also been recorded utilizing the Salinas de San Pedro salt marsh, including six adults and eight first-year birds roosting, foraging, and wading near the Cabrillo Boat Launch Ramp. Two adult black-crowned night herons were recorded, with one banded as a three-week-old chick on July 2, 1996 (MBC Applied Environmental Sciences 2002).

During the 2000 baseline MEC study, the majority of bird use within the harbors was in the form of roosting (77%) followed by transiting (12%; i.e., flying over), foraging (11%), courting (0.2%), and nesting (0.1%). Most of the birds that occur within the harbor likely forage in the shallow-water habitat of the Outer Harbor as well as outside the breakwaters in near- and off-shore waters, and take refuge on the sheltered waters and riprap within the harbors. Within the proposed project study area, the Main Channel and the Cabrillo Beach area (encompassing the shallow water habitat) had the most water bird use during the 2000 baseline MEC study.

3.3.2.5 Marine Mammals

Common marine mammals have not been well studied within Los Angeles Harbor; however, both pinnipeds and cetaceans have been recorded including California sea lion (*Zalophus californianus*), harbor seal (*Phoca vitulina*), pacific bottle-nose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis*), pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus griseus*), pacific pilot whale (*Globicephala macrorhynchus*), and gray whale (*Eschrichtius robustus*) (LAHD and Jones & Stokes 2003). The harbor's most common marine mammal is the California sea lion, which can be seen throughout the year foraging within the harbor or resting on buoys and the breakwaters of the Outer Harbor. Sea lions are commonly found on the Main Channel adjacent to the commercial fish markets and around sport fishing boats at Ports O' Call. Harbor seals are less common than sea lions, but individuals can be found sporadically throughout the year either foraging within the harbor or hauled out on riprap and buoys. Occasional observations of dolphins occur within the harbor and sightings of whales are rare (USACE and LAHD 1979).

3.3.2.6 Special-Status Species

All plant and wildlife species and natural communities in California that have special regulatory or management status were evaluated for potential to occur within the proposed project study area. Special Status Species are listed and their potential occurrence in the proposed project study area is described in Appendix D. All plant and wildlife species and natural communities in California that have special regulatory or management status were evaluated for potential to occur within the proposed project study area. Those identified due to their currently known general range and for which suitable habitat may, or does, exist, or that otherwise may be affected by the proposed Project, are listed and described in Appendix D. The list of Special Status Species was developed using the following steps.

1. Using a list composed of the USGS 7.5-minute Torrance, California, quadrangle map on which the proposed project study area appears (as well as the surrounding quadrangles), a check was performed for the California Natural Diversity Data Base (CNDDB) (CDFG 2008) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPS 2007).
2. Using a checklist of all species in the proposed project study area region with special status, species were added as appropriate based on personal knowledge, experience with prior projects in the area, ICF Jones & Stokes internal databases, and published and unpublished references.
3. A review was performed of key publications on regulatory status and/or distribution for species relevant to the region, along with miscellaneous recent publications (e.g., Federal Register), agency announcements, popular and technical news sources (e.g., *Endangered Species and Wetlands Report*), and frequent communications with other professionals.

3.3.2.7 Wildlife Movement Corridors

Corridors provide specific opportunities for individual animals to disperse or migrate between other areas. These other areas may be very extensive but otherwise partially or wholly separated regions. Appropriate cover, minimum physical dimensions, and tolerably low levels of disturbance and mortality risk (e.g., limited night lighting and noise, low vehicular traffic levels) are common requirements for corridors. Resources and conditions in corridors may be quite different than in the connected areas, but if used by the wildlife species of interest, the corridor will still function as desired. Corridors adequate for one species may be quite inadequate for others. In evaluating corridors, it is important to consider the biology of those species to be addressed (Beier and Loe 1992).

The Conservation Element of the City of Los Angeles General Plan addresses wildlife corridors, which are specifically those areas used by animals for movement between large habitat areas. The harbor does not provide any such terrestrial wildlife movement corridors. There are no natural terrestrial corridors (topographic or habitat

pathways) transecting the proposed project study area, which lies at the edge of dense urban development and open water. However, some marine fish species move into and out of the harbor for spawning or nursery areas. Marine mammals, such as the gray whale, migrate along the coast, and migratory birds are visitors to the harbor.

3.3.2.8 Invasive Terrestrial and Marine Species

An "invasive species" is defined as a species that is (1) nonnative (or nonindigenous) to the ecosystem under consideration, and (2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Invasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the primary means of invasive species introductions.

Terrestrial. Based on the current field work for the proposed Project, a total of eight invasive plant species were detected: crystal ice plant (*Mesembryanthemum crystallinum*), fennel (*Foeniculum vulgare*), tocalote (*Centaurea melitensis*), black mustard (*Brassica nigra*), Australian saltbush (*Atriplex semibaccata*), castor-bean (*Ricinus communis*), giant reed (*Arundo donax*), and Spanish brome (*Bromus madritensis*). These species are relatively common to ruderal habitats found in the remaining vacant lands, illustrated in Figure 3.3-2.

Marine. Biological baseline monitoring (MEC and Associates 2002) has shown that nonindigenous species have become well established in the harbor benthic and epibenthic invertebrate communities. Approximately 30% of infaunal species are nonindigenous. The polychaete worm *Pseudopolydora paucibranchiata* and the bivalve mollusc *Theora lubrica* comprise 26% of total infaunal abundance. The epibenthic New Zealand bubble snail (*Philine auriformis*) is another notable nonindigenous species as it preys on other infauna and epifauna. Other exotic species of invertebrates collected in 2000 included amphipods, a clam species, mussels, and several polychaete worm species (MEC and Associates 2002). The presence of these species undoubtedly has an impact on the interactions of the species in this environment. It is not possible, however, to state definitively how these species affect ecosystem processes.

Only one exotic fish species, the yellowfin goby (*Acanthogobius flavimanus*), was collected during the 2000 baseline biological survey of the Los Angeles and Long Beach Harbors (MEC and Associates 2002). This species is thought to have been introduced from Asia with ballast water of trans-oceanic ships (Nico and Fuller 2007). It is not known how the presence of the yellowfin goby is affecting other species in the Los Angeles Harbor. However, there is concern that at some locations this species could out-compete some native species, altering fish community composition (Nico and Fuller 2007).

Caulerpa (*Caulerpa taxifolia*) is an invasive, nonnative green macro-algae that grows rapidly from small fragments, out-competes native species, and carpets the bottom of affected areas. *Caulerpa* infestations are thought to originate from aquarium specimens released into the natural environment (NMFS 2003). *Caulerpa* infestations can alter benthic habitat and cause serious adverse effects on nearshore

marine ecosystems. This species has been observed in two locations in California (Agua Hedionda Lagoon in northern San Diego County and Huntington Harbor in Orange County[including Seal Beach Weapons Station/National Wildlife Refuge and Anaheim Bay]) (NMFS and CDFG 2007). Since the 1980s, *Caulerpa* infestations in the Mediterranean Sea have expanded to cover large areas and may now be too widespread to eradicate. In California, *Caulerpa* distribution has been localized and at this point, controlled. Therefore, the National Marine Fisheries Service (NMFS) and DFG have established *Caulerpa* control protocols for the detection and eradication of this alga from California waters (NMFS and CDFG 2007). Bays, inlets, and harbors between Morro Bay and the U.S./Mexico border are potential habitat and need to be surveyed for *Caulerpa* presence prior to potentially disturbing activities such as dredging, in order to ensure that no *Caulerpa* is present. No *Caulerpa* has been observed in San Pedro Bay (Prickett pers. comm.) despite over 30 surveys conducted in the Port since 2001 (SCCAT 2008).

3.3.2.9 Significant Ecological Area

Significant Ecological Areas (SEAs) were established in 1976 by Los Angeles County to designate areas with sensitive environmental conditions and/or resources. The County developed the concept in conjunction with adopting the original General Plan; therefore, SEAs are defined and delineated in conjunction with Land Use and Open Space Elements for the County General Plan. The County Department of Regional Planning is currently updating the SEA portion of the General Plan. Pier 400 on Terminal Island is designated a proposed SEA in the current update by the County because of the breeding population of California least tern that has been present at various Terminal Island locations since at least 1974 (Keane Biological Consulting 1999). The biology for this species has been summarized in Section 3.3.2.4, "Birds." A 15-acre nesting site is maintained on Terminal Island by the LAHD and managed under an interagency agreement among the LAHD, the USFWS, the CDFG, and the USACE (Jones & Stokes 2002). The site is protected by fencing and is designated a no-trespassing area during the nesting season.

Uses normally allowed in the corresponding classification in areas adjacent to SEAs would continue to be permitted unless a finding is made that the proposed Project would have an adverse affect on the resource values of the SEA.

3.3.3. Applicable Regulations

This section provides summary background information regarding the applicable regulations for protecting biological resources.

3.3.3.1 California Coastal Act of 1976

The California Coastal Act of 1976 recognizes the Port of Los Angeles, as well as other California ports, as primary economic and coastal resources and as essential elements of the national maritime industry. Decisions to undertake specific development projects, where feasible, are to be based on consideration of alternative locations and designs in order to minimize any adverse environmental impacts.

Under the California Coastal Act, water areas may be diked, filled, or dredged when consistent with a certified port master plan only for specific purposes, including the following:

- construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities that are required for the safety and the accommodation of commerce and vessels to be served by port facilities; and
- new or expanded facilities or waterfront land for port-related facilities.

The water area proposed to be filled is to be the minimum necessary to achieve the purpose of the fill, while minimizing harmful effects to coastal resources, such as water quality, fish or wildlife resources, recreational resources, or sand transport systems, and minimizing reductions of the volume, surface area, or circulation of water.

The Act also encourages the protection and expansion of facilities for the commercial fishing industry, water-oriented recreation, and recreational boating interests. Marine resources are to be maintained, enhanced, and, where feasible, restored. The biological productivity and quality of coastal waters appropriate to maintain optimum populations of marine organisms and protect human health are to be maintained. Protection against hazardous substances spillage and effective containment and cleanup facilities and procedures are to be provided.

Under the Act, for California Coastal Commission (CCC) certification, the Port has had to develop a Port Master Plan (PMP) which addresses environmental, recreational, economic, and cargo-related concerns of the Port and surrounding regions. The proposed Project would necessitate amendments of the Los Angeles PMP and a Coastal Development Permit from the CCC.

3.3.3.2 Coastal Zone Management Act

Section 307 of the Coastal Zone Management Act requires that all federal agencies with activities directly affecting the coastal zone, or with development projects within that zone, comply with the state coastal acts (in this case, the California Coastal Act of 1976) to ensure that those activities or projects are consistent to the maximum extent practicable. The CCC review for the Coastal Development Permit (see Section 3.3.3.1), would include a federal consistency determination.

3.3.3.3 Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into, "waters of the United States" are regulated under Section 404 of the CWA. Waters of the United States include: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); 2) all interstate waters and wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, or natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters above. A Section 404(b)(1) alternatives analysis must be conducted for disposal of dredge or fill material into waters of the United States.

3.3.3.4 Rivers and Harbors Appropriations Act of 1899

The Rivers and Harbors Appropriation Act of 1899 (33 USC 403), commonly known as the Rivers and Harbors Act, prohibits construction of any bridge, dam, dike, or causeway over or in navigable waterways of the United States without Congressional approval. Under Section 10 of the Rivers and Harbors Act, the USACE is authorized to permit structures in navigable waters. Building wharfs, piers, jetties, and other structures in or over the waters of the Port of Los Angeles requires USACE approval (Section 10 permit). When reviewing applications for Section 10 permits, the USACE reviews proposals for consistency with maintaining established navigation channels and consults with NMFS or USFWS for compliance with the Endangered Species Act (ESA) when a project may affect a federally listed species administered by one of those agencies.

3.3.3.5 Federal Endangered Species Act

The ESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and NMFS. Section 9 of ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law. Under Section 7 of the ESA, federal agencies are required to consult with the USFWS or NMFS as applicable if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS or NMFS may issue an incidental take statement allowing take of the species that is incidental to another authorized activity provided the action will not jeopardize the continued existence of the species. In cases where the federal agency

determines its action may affect but would be unlikely to adversely affect a federally listed species, the agency informally consults with the USFWS and/or NMFS. This informal consultation typically involves incorporating measures intended to ensure effects would not be adverse, and concurrence from the USFWS and/or NMFS concludes the informal process. Without concurrence, the federal agency formally consults to ensure full compliance with the ESA.

3.3.3.6 Federal Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation Act as revised by Public Law 104-267, the Sustainable Fisheries Act, requires fisheries management councils to describe Essential Fish Habitat (EFH) for fisheries managed under this law and requires federal agencies to consult with the NMFS on actions that may adversely affect EFH. EFHs are defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

In accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA), of the fish species managed under the MSA, 4 pelagic and 15 groundfish (demersal) species are found in the Los Angeles Harbor and are assumed to occur in the proposed project study area. These species are listed below in Table 3.3-1. The proposed Project is located within an area designated as EFH for two Fishery Management Plans (FMP), the Coastal Pelagics and Pacific Groundfish Management Plans (NMFS 1997). Four of the five species in the Coastal Pelagics FMP are well represented in the proposed project area. In particular the northern anchovy is the most abundant species in Los Angeles Harbor, representing over 80% of the fish caught (MEC 1988, 1999), and larvae of the species are also a common component of the ichthyoplankton (MEC 1988). It is generally held that this species spawns outside the harbor. There is a commercial bait fishery for northern anchovy in the Outer Harbor. The Pacific sardine is currently one of the most common species in the harbor, ranking second behind northern anchovy at some locations (MEC 1988). This species is not known to spawn in the harbor. Sardines are also a component of the commercial bait fish harvest in the harbor. Both sardines and northern anchovies are important forage for piscivorous fish. The two other coastal pelagic species, the Pacific and jack mackerels, are common but not overly abundant as adults in the harbor. The Pacific mackerel's main forage fish in the harbor is very likely northern anchovy.

Of the species present from the Pacific Groundfish FMP, only two, the olive rockfish and the scorpion fish, could be considered common in the harbor. The olive rockfish has been found largely as juveniles associated with the kelp growing along the inner edge of the federal breakwater (MEC 1988). The scorpion fish is not a major component of the fish present in the harbor (MEC 1988) but may be under-represented in the catch due to its nocturnal habits.

These species managed under the Magnuson Stevens Fishery Conservation Act that may occur in the proposed project study area are listed in Table 3.3-1.

Table 3.3-1: MSA Managed Species Occurring in the Port of Los Angeles and Port of Long Beach Harbors

Common Name	*Species*	*Potential Essential Fish Habitat in Proposed Project Study Area*	*Abundance during 2000 Fish Surveys (Abundance at Station LA6, Nearest Sampling Station in East Basin)*
PELAGIC SPECIES (Coastal Pelagics)			
Northern Anchovy	*Engraulis mordax*	Open water throughout.	Abundant (Uncommon)
Pacific Sardine	*Sardinops sagax*	Open water throughout.	Abundant (Rare)
Pacific (Chub) Mackerel	*Scomber japonicus*	Open water, primarily at Outer Harbor; juveniles off of sandy beaches and around kelp beds.	Common (Absent)
Jack Mackerel	*Trachurus symmetricus*	Near breakwater. Young fish over shallow rocky banks. Young juveniles sometimes school under kelp. Older fish typically further offshore.	Common (Common)
DEMERSAL SPECIES (Pacific Groundfish)			
English Sole	*Parophrys vetulus*	On bottom throughout. Benthic on sand or silt substrate.	Rare (Absent)
Pacific Sanddab	*Citharichthys sordidus*	On bottom throughout. Benthic on sand or coarser substrate.	Uncommon (Rare)
Leopard Shark	*Triakis semifasciata*	Primarily in Outer Harbor. Over sandy areas near eelgrass, kelp, or jetty areas.	Rare (Absent)
Big Skate	*Raja binoculata*	Primarily in Outer Harbor. Over variety of substrates generally at >3 m depth.	Rare (Uncommon)
Black Rockfish	*Sebastes melanops*	Along breakwater and deep piers and pilings. Associated with kelp, pilings, eelgrass, and high relief rock.	Uncommon (Absent)
California Scorpionfish	*Sebastes paucispinus*	Benthic and often associated with kelp, reefs, and rocky bottoms.	Uncommon (Absent)
Grass Rockfish	*Sebastes rastrelliger*	Along breakwater and in eelgrass off of beach areas. Associated with kelp,	Rare

Common Name	*Species*	*Potential Essential Fish Habitat in Proposed Project Study Area*	*Abundance during 2000 Fish Surveys (Abundance at Station LA6, Nearest Sampling Station in East Basin)*
		eelgrass, jetty rocks.	(Absent)
Vermilion Rockfish	*Sebastes miniatus*	Primarily along breakwater. Typically near bottom and associated with kelp, along drop offs, and over hard bottom.	Rare (Absent)
Cabezon	*Scoraenichthys marmoratus*	Primarily along breakwater and eelgrass areas. Benthic and use a variety of substrates including kelp beds, jetties, rocky bottoms, and occasionally eelgrass beds and sandy bottoms.	Rare (Absent)
Lingcod	*Ophiodon elongatus*	Primarily along breakwater and especially near Angels Gate. Typically on or near bottom over soft substrate near current swept reefs.	Rare (Absent)
Bocaccio	*Sebastes paucispinis*	Typically found in deeper water near hard substrate, kelp, and algae.	Uncommon (Absent)
Kelp Rockfish	*Sebastes atrovirens*	Found in association with kelp along the breakwaters.	Rare (Absent)
Olive Rockfish	*Sebastes serranoides*	Found in association with kelp along the breakwaters.	Common (Absent)
Calico Rockfish	*Sebastes dalli*	Typically found in deeper water near hard substrate, kelp, and algae.	Rare (Absent)
California Skate	*Raja inornata*	Usually associated with hard substrate. Found along breakwater and deep piers and pilings. Associated with kelp, pilings, eelgrass, and high-relief rock.	Uncommon (Absent)

Notes:

Potential habitat use from McCain et al. 2005. Species occurrence in Los Angeles and/or Long Beach Harbors recorded by MEC and Associates (2002).
Abundant = among ten most abundant species collected.
Common = not one of the ten most abundant, but at least 100 individuals collected.
Uncommon = between 10 and 100 individuals collected.
Rare = less than 10 individuals collected.
Pelagic and benthic sampling employed in the 2000 surveys (MEC 2002) did not sample rocky breakwater, and kelp habitat that could potentially be occupied by some of the species would not have been sampled.

Source: MEC Analytical Systems 2002.

3.3.3.7 Migratory Bird Treaty Act and State Fish and Game Code §3503.5 and §3800

The federal Migratory Bird Treaty Act (MBTA) prohibits take of nearly all native birds. Under the MBTA, "take" means only to kill, directly harm, or destroy individuals, eggs, or nests, or to otherwise cause failure of an ongoing nesting effort. Permits are available under the MBTA through USFWS.

Similar provisions within the California Fish and Game Code (FGC) protect all native birds of prey (FGC §3503.5) and all non-game birds, where not already listed as Fully Protected, which occur naturally in the state (FGC §3800), although fines are somewhat smaller than at the federal level.

3.3.3.8 California Fish and Game Code Section 1600

Under Fish and Game Code Section 1602, the CDFG has authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a "Lake or Streambed Alteration Agreement" and is applicable to all non-federal projects.

A stream is defined in current CDFG regulations as, "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

Water features such as vernal pools and other seasonal swales, where the defined bed and bank are absent and the feature is not contiguous or closely adjacent to other jurisdictional features, are generally not asserted to fall within state jurisdiction. The state generally does not assert jurisdiction over manmade water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

3.3.3.9 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 *et seq*.) provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the CDFG, and prohibits the taking of such species without authorization by CDFG under Section 2081 of the Fish and Game Code. State lead agencies must consult with CDFG during the CEQA process if state-listed threatened or endangered species are present and could be affected by the proposed Project. For projects that could affect species that are both state and

federally listed, compliance with the federal ESA will satisfy CESA if CDFG determines that the federal incidental take authorization is consistent with CESA under Fish and Game Code Section 2080.1.

3.3.3.10 Federal Ballast Water Management Directed under the Non-Indigenous Species Act

The Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990 (P.L. 101-646) identified ballast water as a significant environmental issue. In 1996, the act was reauthorized as the National Invasive Species Act (P.L. 104-332), and the Secretary of Transportation was directed to develop national guidelines to prevent the spread and introduction of non-indigenous aquatic species through the ballast water of commercial vessels. Subsequently the International Maritime Organization developed the Guidelines for the Control and Management of Ship's Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens (International Maritime Organization [IMO] Resolution A.868 (20), which was adopted November 1997). In 2004, the U.S. Coast Guard published requirements for mandatory ballast water management practices for all vessels equipped with ballast water tanks bound for ports or places within the U.S. or entering U.S. waters (69 FR 44952-44961).

California PRC Section 71200 et seq. requires ballast water management practices for all vessels, domestic and foreign, carrying ballast water into waters of the state after operating outside the Exclusive Economic Zone (EEZ). Specifically, the regulation prohibits ships from discharging ballast water within port waters unless they have performed an exchange outside the EEZ in deep, open ocean waters. Alternatively, ships may retain water while in port, discharge to an approved reception facility, or implement other similar protective measures. Each ship must also develop a ballast water management plan to minimize the amount of ballast water discharged in the port. The Act also requires an analysis of other vectors for release of nonnative species from vessels. Rules for vessels originating within the Pacific Coast Region took effect in March 2006. Ships must now exchange ballast water on coast-wise voyages. Regulations currently under consideration for future years (2009–2022) will require phase-in of ballast water treatment performance standards, first for newly constructed ships and then for existing ships. An important distinction between the federal ballast water guidelines and those specified in the California code is that the California code mandates certain best management practices (BMPs) for managing ballast-water to reduce introductions of non-indigenous species.

3.3.3.11 State Authority under the Federal Clean Water Act, Sections 401 and 402

Through the authority of the State Water Resources Control Board (SWRCB) as handled by the various Regional Water Quality Control Boards (RWQCBs), the state administers requirements and permitting under Sections 401 and 402 of the federal

CWA through agreement with the U.S. Environmental Protection Agency (EPA). If an activity may result in the discharge of dredge or fill material into a waterbody, the 401 process is triggered and state water quality certification (or waiver of certification) that the proposed activity will not violate state water quality standards is required.

In addition to Section 401 requirements, some projects will be subject to compliance with Section 402 of the CWA in accordance with the National Pollutant Discharge Elimination System (NPDES). The process for compliance with this provision is normally perfunctory with notification and fee payment under the State General Permit for Construction Period discharges. However, construction activity must conform to BMPs in accordance with a written Stormwater Pollution Prevention Plan, which may be subject to local agency review prior to issuance of grading permits.

3.3.3.12 California Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of CESA and ESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, mammals, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or ESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFG prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

3.3.3.13 Federal Marine Mammal Protection Act of 1972

The Marine Mammal Protection Act (MMPA) prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States. Congress passed the MMPA based on the following findings and policies: (1) some marine mammal species or stocks may be in danger of extinction or depletion as a result of human activities, (2) these species of stocks must not be permitted to fall below their optimum sustainable population level (depleted), (3) measures should be taken to replenish these species or stocks, (4) there is inadequate knowledge of the ecology and population dynamics, and (5) marine mammals have proven to be resources of great international significance.

The MMPA was amended substantially in 1994 to provide for: (1) certain exceptions to the take prohibitions, such as for Alaska Native subsistence and permits and authorizations for scientific research; (2) a program to authorize and control the taking of marine mammals incidental to commercial fishing operations; (3) preparation of stock assessments for all marine mammal stocks in waters under U.S.

jurisdiction; and (4) studies of pinniped-fishery interactions. NMFS and the USFWS administer this Act. Species found in the harbor are under the jurisdiction of NMFS.

3.3.3.14 Executive Order 13112

On February 3, 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. The Executive Order requires that a Council of Departments dealing with invasive species be created. Currently there are 12 departments and agencies on the council. The Constitution and the laws of the United States of America, including the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), Non Indigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended (16 U.S.C. 4701 et seq.), Lacey Act, as amended (18 U.S.C. 42), Federal Plant Pest Act (7 U.S.C. 150aa et seq.), Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2801 et seq.), Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), and other pertinent statutes, are to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.

Each Federal agency whose actions may affect the status of invasive species will, to the extent practicable and permitted by law:

1. identify such actions;
2. subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to (a) prevent the introduction of invasive species; (b) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (c) monitor invasive species populations accurately and reliably; (d) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (e) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (f) promote public education on invasive species and the means to address them; and 3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

3.3.3.15 Porter-Cologne Water Quality Act

Under the state Porter-Cologne Water Quality Control Act, the SWRCB and regional boards assert jurisdiction over many discharges into, waters of the state. Where resources are subject to both state and federal regulations, Porter-Cologne

compliance is coordinated with CWA Section 401 water quality certification. For situations not also subject to federal regulation under CWA, an activity affecting waters of the state may require issuance of individual Waste Discharge Requirements (WDRs), or coverage under the General Waste Discharge Requirements (SWRCB Water Quality Order No. 2004-0004-DWQ) for small volume fill and dredge projects.

Dischargers whose construction project disturbs 1 or more acres of soil, or whose project disturbs less than 1 acre but is part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

3.3.4 Impact Analysis

This section describes the methodology for assessing potential impacts and assesses the potential for significant impacts on biological resources based on the described thresholds of significance.

3.3.4.1 Methodology

The current biological setting, described above, was based on the biological surveys reported in a number of documents, including the TraPac Berths 136–147 Terminal EIS/EIR (LAHD and USACE 2007), Cabrillo Marina Phase II Development Project Supplemental EIS/EIR (Jones & Stokes 2002), baseline studies in Los Angeles Harbor (MEC Analytical Systems 1988), Long Beach Harbor (MBC Applied Environmental Sciences 1984), and Year 2000 surveys of San Pedro Bay (Los Angeles and Long Beach Harbors; MEC and Associates 2002). Impacts on species, communities, and habitats expected to occur as a result of proposed project implementation were identified by analyzing the change that would occur under the proposed project description in view of the existing biological setting.

3.3.4.1.1 Special Consideration with CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of the NOP. These environmental conditions would normally constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is

significant. For purposes of this draft EIR, the CEQA Baseline for determining the significance of potential impacts under CEQA is March 2008. CEQA Baseline conditions were described above in Section 3.3.2, "Environmental Setting." However, for some biological resources, such as local nesting populations of special-status birds (Appendix D), considerable variability can occur from year to year for a variety of reasons. Thus, using only one year, such as the year the NOP was issued, as the baseline may not be representative of conditions expected to be present before the proposed Project is implemented. Consequently, for birds that nest or have nested in the vicinity of the proposed project study area, such as the California least tern, elegant tern, great blue heron, and black-crowned night heron, more than one year has been considered in determining representative baseline conditions.

3.3.4.1.2 Mitigation Framework for Proposed Project Impacts

As mentioned previously in this chapter, the marine habitat value is highest in the Outer Harbor shallow areas followed by deep water in the Outer Harbor and diminishing as one proceeds into the Inner Harbor and particularly blind slip areas. Based on review of the last biological baseline (MEC Analytical Systems 2002) by federal and state agencies and the Port, Outer Harbor habitat values were determined to extend into historically Inner Harbor areas. Specifically, Outer Harbor habitat value now extends up the Main Channel to the area of the Vincent Thomas Bridge.

Any loss of marine habitat requires mitigation. The LAHD entered into MOUs with several resource agencies that established mitigation banks and assigned credits to the mitigation banks and a system of debiting against those credits for impacts within both the Inner and Outer Harbor. Because the value of the marine habitat of Outer Harbor is greater than the Inner Harbor, Outer Harbor credits are more "expensive." For example, 1 acre of impact to deep Outer Harbor marine habitat must debit 1 credit from the mitigation bank, whereas 1 acre of impact to the Inner Harbor marine habitat must debit 0.5 credit from the mitigation bank. The proposed Project is located within the Inner Harbor, within a blind slip, which has the lowest habitat value. Thus for each acre of impact associated with the Project, 0.5 credit must be debited from the mitigation bank.

3.3.4.2 Thresholds of Significance

Thresholds of significance for biota and habitats are based on the *L.A. CEQA Thresholds* (City of Los Angeles 2006). This guide does not specifically address aquatic habitats within the harbor. The LAHD therefore has developed harbor-specific significance criteria for permanent loss of biological habitats. A significant impact on biota or habitats in the proposed project area would occur if the proposed Project results in the following:

BIO-1: The loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

BIO-2: A substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

BIO-3: Interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.

BIO-4: A substantial disruption of local biological communities (e.g., from construction impacts or the introduction of noise, light, or invasive species).

BIO-5: A permanent loss of marine habitat.

3.3.4.3 Impacts and Mitigation

Biological impacts of the proposed Project are described in this section. Potential effects of the proposed Project on biological resources are described and a detailed analysis of the potential to affect each identified threshold of significance is discussed.

3.3.4.3.1 Construction Impacts

Impact BIO-1a: Construction activities would not cause a loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

The proposed Project would include the construction of a waterfront promenade, public viewing piers, and 5,870-square-feet of floating docks for recreational boaters, which would include the construction of 43,220 square feet of new overwater surface area and approximately 17,880 square feet of replacement area. In total, 61,100 square feet of pile-supported waterfront promenade and piers would be constructed. However, total new shaded area would be 41,325 square feet due to the design feature of adding 7,765 square feet of metal grating to permit solar light pass-through. Approximately 750 new and 478 replacement pilings would be required to support the promenade and piers.

The proposed Project would also reconstruct the existing bulkhead, which is an old, piecemeal structure that does not meet current seismic design standards. Two different structural systems would be used to reconstruct the bulkhead: (1) a deep soil-cement mixing landward of the existing bulkhead, with no work waterward of the existing bulkhead, and (2) a sheet pile bulkhead, located waterward of the existing bulkhead. The first system would be used to the maximum extent possible and would reinforce the majority of the length of the existing bulkhead, from the eastern end to the 45-degree break in the layout line at the western end. The second

system would be used for the approximately 290 lineal feet of bulkhead west of the 45-degree break, where significant utilities immediately behind the bulkhead wall prevent the use of deep soil-cement mixing. This second system would require the filling of approximately 2,200 square feet (0.05-acres) of marine habitat below the mean higher high water (MHHW) line. The sheet pile bulkhead would require the sheet pile be driven using both a vibratory and an impact pile driver.

Pile driving produces underwater noise levels of 177 to 220 dB (re 1 µPa) at 33 feet depending on material and size of piles (Hastings and Popper 2005). Installing 24-inch concrete piling with an impact hammer pile driver typically generates 192 dB_{peak}, or roughly 172 to 182dB_{RMS} at 33 feet at the full force of the pile driver. The soft start technique will be employed for all pile driving activities. The soft start technique requires that the initial strikes of a piling with an impact type pile driver are not performed at full force, but at a significantly reduced force and slowly build to full force over several strikes. This method provides opportunity for species that may occur in the vicinity of the pile driving activities to effectively move to another area away from the pile driving, thus limiting the effects of pile driving to disturbance and avoiding injury. With the exception of pile driving, underwater noise levels associated with construction activities would be below the Level A harassment (potential to injure) level of 180 dB_{rms} (re 1 µPa) for marine mammals (Federal Register 2005). Sound pressure waves in the water caused by pile driving could affect the hearing of marine mammals (e.g., sea lions) swimming in the Inner Harbor. Observations during pile driving for the San Francisco–Oakland Bay Bridge East Span seismic safety project showed sea lions swam rapidly out of the area when the piles were being driven (Caltrans 2001). Thus, sea lions would be expected to avoid areas where sound pressure waves could affect them. Harbor seals are unlikely to be present as few have been observed in the Inner Harbor areas (MEC and Associates 2002). Any seals or sea lions present during construction would likely avoid the disturbance areas and thus would not be injured. No other protected or sensitive marine species normally occur in the proposed project area.

Foraging in the Project study area could continue with no adverse effects to avian species. The peregrine falcon feeds on other birds (e.g., rock dove, starlings, etc.) and would not be affected by proposed project activities because no prey would be lost and only a small amount of potential foraging area would be temporarily affected. The peregrine falcon foraging area extends for miles (Grinnell and Miller 1986) and thus covers much of the harbor as well as land areas to the west and north. No known peregrine falcon nesting areas (Vincent Thomas and Schuyler F. Heim Bridges) would be affected due to distance from the proposed project activities. The Vincent Thomas Bridge is over 1.25 mile and the Schuyler R. Heim Bridge is over 1.15 mile from the proposed Project. The backland areas (Avalon Development District) are not used by sensitive species for resting, foraging (except potentially by the peregrine falcon), or breeding, and thus none of these species would be present to be affected by proposed project construction activities.

Other sensitive species in the harbor that could use the water surface and on-shore facilities include the double-crested cormorant, black skimmer, elegant tern, California gull, long-billed curlew, and common loon (Appendix D). The black skimmer, long-billed curlew, and common loon are not common in the harbor while

the other three species can be abundant in some seasons (MEC and Associates 2002). No nesting habitat exists at the proposed project site for any of these species, so their presence at or near the proposed project site would be for the purposes of feeding in the harbor waters, resting on the water surface, or roosting on structures. These species would be able to use other areas within the Inner Harbor if construction activities occurred when they were present and if the disturbances caused them to avoid the work area. In addition, to comply with the MBTA, which prohibits take of migratory birds, and/or similar provisions of the California Fish and Game Code (i.e., native birds including but not limited to the black-crowned night heron), nesting surveys would be conducted if construction would take place during the breeding seasons (February 15 through September 1). If active nests are found, a 100-foot radius would be established around the active nests to prohibit construction activities in this area. Thus, no individuals would be lost and their populations would not be adversely affected by construction activities.

Marine species of concern (NMFS 2007a) that may be found in the proposed project study area include cowcod, bocaccio, green abalone, and pink abalone. Cowcod and bocaccio are generally found at depths greater than 69 feet (21 meters) (McCain et al. 2005); therefore, these species are not expected to be present within the Inner Harbor and were not collected in the last MEC baseline marine biology surveys (MEC Analytical Systems 2002.

Impact Determination

As described above, construction activities on land and in the water would result in no loss of individuals or habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern, and sound pressure waves from construction activities in the water would not injure such species. Impacts would, therefore, be less than significant. Furthermore, no critical habitat for federally listed species is present; thus no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Essential Fish Habitat

The proposed Project would have minimal effects on the Fisheries Management Plan (FMP) species that are rare or uncommon, such as Pacific mackerel and English sole

(MEC and Associates 2002), because few if any individuals would be expected in the proposed project area.

The most common FMP species present in the Inner Harbor are northern anchovy, Pacific sardine, and jack mackerel (MEC and Associates 2002). Pile installation and construction of the waterfront promenade could temporarily affect these FMP species through habitat disturbance associated with pile driving activities and vibration (sound pressure waves) from pile driving. Installing 24-inch concrete piling with an impact hammer pile driver typically generates 192 dB_{peak}, or roughly 172 to 182dB_{RMS}. The soft start technique will be employed for all pile driving activities. The soft start technique requires that the first strikes of a piling with an impact type pile driver are not performed at full force, but at a significantly reduced force and slowly build to full force over several strikes. This method provides any species (both aquatic and terrestrial) that may occur in the vicinity of the pile driving activities to effectively move to another area away from the pile driving, thus avoiding the limiting the effects of pile driving to disturbance and avoiding injury.

These effects would be temporary, occurring at intervals lasting approximately 1 to 88 days during the 24-month construction period, with a return to baseline conditions between construction activities and following completion of proposed project construction. However, the area along the Wilmington Waterfront is already affected by boat docks, floats, and shading from existing over-water walks, buildings, and vertical walls; therefore, the proposed Project's additional in-water structures are considered adverse, but not significant impacts. The proposed Project would result in the loss of 2,200 square feet (0.05 acres) of habitat in Slip 5, which accounts for approximately 0.12% of the habitat provided in Slip 5 at an elevation of 4.8 Mean Lower Low Water (MLLW). The loss of 0.05 acres of Inner Harbor habitat would be mitigated by debiting the appropriate credits from the Inner Harbor Mitigation Bank, as governed by the Memorandum of Understanding (MOU) to establish a procedure for advance compensation of marine habitat losses incurred by selected Port development projects within the Harbor District of the City of Los Angeles (City of Los Angeles 1984).

The proposed Project would result in an increase of 43,220 square feet of new over water surface area as a result of construction of the waterfront promenade and piers. The area affected would be within the intertidal zone and shaded by the wharf so that little change to EFH would accrue from the new overwater surface area. Disturbances in the water column during waterfront promenade and pier construction activities would affect individuals of FMP species present in those areas during in-water construction activities (e.g. pile driving), as described previously under Impact BIO-1a. These impacts are not considered to be significant, as they would likely be limited to behavioral changes (i.e., avoidance of the construction area).

The deep soil–cement mixing system for reconstructing the bulkhead wall would not impact habitat conditions within Slip 5, and would be employed as an avoidance measure to reduce the loss of habitat. The sheet pile system for the western portion of the wall reconstruction would remove approximately 2,200 square feet (0.05 acres) of habitat in front of the existing bulkhead. This reduction in habitat would be mitigated through the Port's Inner Harbor Mitigation Bank and is not expected to

have a significant impact on habitat conditions or species in the proposed project study area. The habitat along the base of the existing bulkhead is currently comprised of rock slope protection, interspersed with timber pile stubs. Any loss of aquatic marine habitat in the harbor is considered a significant impact on marine resources, including EFH for those Pacific groundfish and coastal pelagic species that occur in the harbor. As a result, the loss of aquatic marine habitat requires mitigation per the MOU between the Harbor Department of the City of Los Angeles and resource agencies.

Construction activities on land (including the conversion of currently developed industrial/commercial uses to public oriented improvements) would have no direct effects on EFH, which is located in the water. Runoff of sediments from such construction, however, could enter harbor waters. Appropriate construction BMPs, such as sediment fencing and temporary erosion and sediment control measures would be employed to minimize potential impacts on water quality associated with construction runoff. Further discussion is provided in Section 3.14, "Water Quality, Sediments, and Oceanography."

Natural Habitat or Plant Community

No kelp or eelgrass beds are present in the proposed project study area, and those in other parts of the harbor, outside the proposed project study area, would not be affected by proposed project construction due to their distance from the proposed Project. No designated SEAs, including the least tern nesting site on Pier 400, would be affected by the proposed Project because no construction activities would take place at or near the only SEA in the harbor. No wetlands (including salt marsh) or mudflats would be affected because none are present within the area that could be influenced by proposed project construction activities. The closest such habitats are more than 3 miles from the proposed Project.

Impact Determination

Construction activities in the backlands (Avalon Development District) and for road improvements would have no direct impacts on EFH or other natural habitats because none are present. Indirect impacts through runoff of sediments during storm events would be less than significant because such runoff would be controlled as described for water quality in Section 3.14, "Water Quality, Sediments, and Oceanography" (e.g., proposed project–specific SWPPP with BMPs such as sediment barriers and sedimentation basins). No impacts on SEAs, kelp beds, eelgrass beds, wetlands, or mudflats would occur because none of these habitats are present at or near the proposed project site.

The proposed Project would result in the loss of 0.05 acres of aquatic marine habitat within the Inner Harbor. The loss of this habitat would be considered a significant effect upon aquatic marine resources including EFH for Pacific groundfish and coastal pelagic species that occur in the harbor. This impact would be mitigated in accordance with established interagency mitigation requirements, as described previously in this section.

Mitigation Measures

MM BIO 1. Debit Inner Harbor Mitigation Bank.

The loss of 2,200 square feet (0.05 acres) of Inner Harbor marine habitat will be mitigated by debiting the required credits from the Inner Harbor Mitigation Bank, per the terms and conditions established in the MOU between LAHD, CDFG, NMFS, and USFWS (City of Los Angeles 1984). The MOU provides that for each acre of marine habitat impacted within the Inner Harbor the mitigation bank will be debited 0.5 credit. Thus the 0.05 acre of marine habitat impacted in the Inner Harbor will result in a debit from the mitigation bank of 0.025 credit.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3a: Construction activities would not result in the interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.

No known terrestrial wildlife or aquatic species migration corridors are present in the proposed project area. The California least tern is a migratory bird species that nests on Pier 400. Construction of proposed project facilities in the East Basin and on the adjacent backlands would not interfere with the aerial migration of this species. Movement to and from foraging areas in the harbor also would not be affected by any of the proposed project construction activities. The western snowy plover is also a migratory species, and a few migrating individuals have been observed at the least tern nesting site in recent years. Individual adults of the California brown pelican move to breeding sites in Mexico and to offshore islands for part of the year. A number of other water-related birds that are present at least seasonally in the harbor are migratory as well. Construction activities in the East Basin and on the adjacent lands would not block or interfere with migration or movement of any of these species because the work would be confined to a small portion of the harbor area, and the birds could easily fly around or over the work.

Impact Determination

No wildlife movement or migration corridors would be affected by the proposed Project during construction activities on land and in the water as described above. No impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact BIO-4a: Construction activities would not result in substantial disruption of local biological communities (e.g., from construction impacts or the introduction of noise, light, or invasive species).

Construction of a new waterfront promenade and associated piers would add up to 43,220 square feet of new water surface area and remove and reconstruct up to 17,880 square feet of surface area within the proposed project area. The water affected would be within the intertidal zone and shaded by the new overwater structures. Approximately 1228 piles would be installed in the water for the new structures (750 new piles and 478 replacement piles).

Reconstruction of the western portion of the bulkhead using sheet piles would result in the loss of approximately 2,200 square feet (0.05 acres) of aquatic habitat below the MHHW line. The deep soil–cement mixing system would not result in any loss of aquatic habitat waterward of the existing bulkhead and thus not affect aquatic biological communities.

Construction of the waterfront promenade and piers, as well as conversion of currently developed areas, could affect biological resources through: (1) turbidity, noise, and vibration generated by work in harbor waters; and (2) runoff of sediments from terrestrial construction sites. Noise and vibration from pile driving will be in the range of 192 dB_{peak}, or roughly 172 to 182dB_{RMS}. Proposed project construction is expected to generate turbidity, but not to levels that could result in a substantial disruption of biological communities. Turbidity, noise, and vibration (primarily from pile driving) would likely cause most fish and birds to temporarily leave the immediate project area during construction. Fish and bird populations would not be adversely affected because the small number of individuals occurring in the affected area would likely move temporarily into other adjacent areas, the disturbance would be of short duration, and the relatively small area affected would not substantially disrupt biological communities within Slip 5 or the Inner Harbor. Backland and road improvement activities would have minimal effect on terrestrial biota because the species present are nonnative and/or adapted to use of developed sites. Disturbances to marine species would be temporary, and the animals present could move to other nearby areas for the duration of the disturbance. Consequently, local biological communities of this industrial area would not be substantially disrupted.

The loss of approximately 2,200 square-feet (0.05 acres) of aquatic marine habitat, which extends only to 4.8 feet MLLW, would not substantially disrupt local biological communities. This loss represents only 0.12 % of the marine habitat area of Slip 5 (as measured at 4.8 MLLW). The loss of this area would be mitigated through use of the Port's Inner Harbor Mitigation Bank.

Concrete pier decks constructed using cast in place techniquesdo pose a risk of increased alkaline runoff. Runoff of sediments and pollutants from backland construction activities would be minimized through the use of BMPs (see Section 3.14, "Water Quality, Sediments, and Oceanography" and Impact WQ-4a-1), and the low concentrations that could enter harbor waters would meet all regulatory standards and would not adversely affect marine organisms.

Impact Determination

Construction activities in the backlands would result in no substantial disruption of local biological communities for the reasons described above, and impacts would, therefore, be less than significant. Runoff of sediments and pollutants from backland construction activities would not substantially disrupt biological communities in the East Basin and would have only localized, short-term, less–than-significant impacts on marine organisms in the immediate vicinity of drain outlets due to implementation of runoff control measures that are part of the proposed Project (e.g., proposed project–specific SWPPP and BMPs such as sediment barriers and sedimentation basins; see Section 3.14.4.3 for a list of measures). A notice to proceed will not be issued without approval of the specific SWPPP and BMPs by the Port engineers.

The sheet pile bulkhead system for reconstructing the western portion of the existing bulkhead would result in the loss of 2,200 square feet (0.05 acres) of aquatic marine habitat, or 0.12% of the aquatic marine habitat within Slip 5, which would disrupt the biological communities that exist within that area through the direct loss of habitat, but would not substantially disrupt the biological communities within the East Basin or the Inner Harbor. The reconstruction of the remainder of the existing bulkhead with the deep soil–cement mixing system would result in no loss of aquatic habitat, and thus would not cause any substantial disruption to biological communities, as no work waterward of the existing bulkhead would be required for this option. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-5a: Construction of the proposed Project would not result in a permanent loss of marine habitat.

Construction of the proposed Project would result in permanent changes to the proposed project area that would increase shading through the addition of 43,220 square feet of overwater structures. This change in ambient light would not affect eelgrass, kelp, or other aquatic vegetation or macroalgae, as these types of aquatic vegetation are not present in the proposed project study area.

The replacement of the existing bulkhead with the sheet pile option would result in the permanent loss of 2,200 square feet (0.05 acres) of marine habitat. The replacement with the deep soil–cement option would not result in any permanent loss of marine habitat. Overall, the habitat that would be removed by the sheet pile option has a diminished habitat value, as it is located relatively deep in the Inner Harbor. Mitigation for loss of inner harbor habitat would occur through the debit of the required mitigation credits from the Port's Inner Harbor Mitigation Bank.

Impact Determination

The proposed Project would add 43,220 square feet of overwater structures to the proposed project area. This change in ambient light would not affect eelgrass, kelp, or other aquatic vegetation or macroalgae. Additionally, the proposed Project would result in the permanent loss of 2,200 square feet (0.05 acres) of marine habitat.

The loss of 0.05-acres of Inner Harbor marine habitat is considered a significant impact and would be mitigated through established mitigation protocols using the Port's Inner Harbor Mitigation Bank (see Appendix D).

Mitigation Measures

Implement Mitigation Measure MM BIO-1.

Residual Impacts

While the proposed Project would result in the permanent loss of marine habitat at the proposed project site, use of credits associated with the Port's Inner Harbor Mitigation Bank accumulated from previous preservation activities would offset the small reduction in marine habitat associated with the proposed Project and would therefore not result in an overall permanent reduction of marine habitat within the Port. After mitigation, impacts would be less than significant.

3.3.4.3.2 Operational Impacts

Impact BIO-1b: Operational activities associated with the proposed Project would not cause a loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Operation of the proposed Project would not cause any loss of individuals or habitat of state- or federally listed species or critical habitat. Operation of the proposed Project would consist of maintenance activities (cleaning, sweeping, replacing fixtures, painting, etc.) and use of the facilities developed as part of the proposed Project (e.g., park and open space, commercial and retail space, and other public

facilities) that would encourage public access to the waterfront. The proposed Project would also result in use of the waterfront by recreational boaters. The floating docks allow for 9 vessels averaging 30 feet in length. A water taxi may also operate from the floating docks at some point in the future. As a worst-case scenario, it is estimated that, as a result of the proposed Project, there would be approximately 36 recreational boat trips and possibly a water taxi program that could be developed at a later time (no such program is currently proposed, and any future water taxi program will be covered under a separate CEQA analysis). Such activities would not result in the loss of individuals of protected species or their critical habitat.

Impact Determination

As described above, operational activities would not result in the loss of individuals or habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern. Impacts would, therefore, be less than significant. No critical habitat for federally listed species is present, and no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2b: Operational activities associated with the proposed Project would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Operational activities associated with the proposed Project would have no impact on state-, federally, or locally designated natural habitats, special aquatic sites, or plant communities, including wetlands. Operational activities would maintain the structures built during the construction phase and ensure that the longevity of those structures is maximized. Recreational use of the new facilities would not result in any reduction or alteration of state-, federally, or locally designated natural habitats, special aquatic sites, or plant communities. No expansion or increase in facilities would result from operational activities, thus there would be no reduction or alteration of natural habitats, special aquatic sites, or plant communities, including wetlands.

Impact Determination

Operational activities would not result in permanent loss of marine habitat.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact BIO-3b: Operational activities associated with the proposed Project would not result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.

Operational activities associated with the proposed Project would not interfere with wildlife movement/migration corridors because such activities would consist primarily of maintenance activities and public use of the waterfront. No changes in wildlife movement or migration would occur as a result of operational activities.

Impact Determination

No wildlife movement or migration corridors would be affected by the operation and maintenance of the proposed Project.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact BIO-4b: Operational activities associated with the proposed Project would not result in a substantial disruption of local biological communities (e.g, from construction impacts or the introduction of noise, light, or invasive species).

Operational activities associated with the proposed Project would not substantially disrupt local biological communities. Anticipated increases in boat traffic associated with the proposed Project would include 36 boat trips per day, on average, to and from the floating docks. A total of 9 boats averaging 30 feet in length would be able to moor at the floating docks at one time. Increased boat traffic is not anticipated to result in significant impacts on local biological communities. No expansion or increase in facilities would result from operational activities.

Impact Determination

Operational activities in waters of the East Basin and on the backlands would not result in any substantial disruption of local biological communities for the reasons described above. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-5b: Operational activities associated with the proposed Project would not result in a permanent loss of marine habitat.

Operational activities associated with the proposed Project would not result in any permanent loss of marine habitat. Operational activities would consist of maintenance and public use of the facilities constructed as part of the proposed Project and an increase in recreational boat traffic of 36 recreational boat trips per day, on average. A water taxi program may be added by the Port in the future, and the program would be covered under a separate CEQA process; thus no water taxi traffic is assumed in this analysis.

Impact Determination

The operation of the proposed Project would not result in any permanent loss of marine habitat; thus, no impact would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.3.4.3.3 Summary of Impact Determinations

Table 3.3-2 summarizes the impact determinations of the proposed Project related to Biological Resources, as described in the detailed discussion in Sections 3.3.4.3.1 and 3.3.4.3.2. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.3-2: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.3 Biological Resources			
Construction			
BIO-1a: Construction activities would not cause a loss of individuals, or the reduction of existing habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern, or the loss of federally listed critical habitat.	Less than significant	No mitigation is required	Less than significant
BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	Significant	**MM BIO 1. Debit Inner Harbor Mitigation Bank.** The loss of 2,200 square feet (0.05 acres) of Inner Harbor marine habitat will be mitigated by debiting the required credits from the Inner Harbor Mitigation Bank, per the terms and conditions established in the MOU between LAHD, CDFG, NMFS, and USFWS (City of Los Angeles 1984). The MOU provides that for each acre of marine habitat impacted within the Inner Harbor the mitigation bank will be debited 0.5 credit. Thus the 0.05 acre of marine habitat impacted in the Inner Harbor will result in a debit from the mitigation bank of 0.025 credit.	Less than significant

BIO-3a: Construction activities would not result in the interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.	No impact would occur	No mitigation is required	No impact would occur
BIO-4a: Construction activities would not result in substantial disruption of local biological communities (e.g., from construction impacts or the introduction of noise, light, or invasive species).	Less than significant	No mitigation is required	Less than significant
BIO-5a: Construction of the proposed Project would not result in a permanent loss of marine habitat.	Significant	Implement Mitigation Measure MM BIO-1.	Less than significant
Operations			
BIO-1b: Operational activities associated with the proposed Project would not cause a loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern, or the loss of federally listed critical habitat.	Less than significant	No mitigation is required	Less than significant
BIO-2b: Operational activities associated with the proposed Project would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	No impact would occur	No mitigation is required	No impact would occur

BIO-3b: Operational activities associated with the proposed Project would not interfere with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.	No impact would occur	No mitigation is required	No impact would occur
BIO-4b: Operational activities associated with the proposed Project would not substantially disrupt local biological communities (e.g, from construction impacts or the introduction of noise, light, or invasive species).	Less than significant	No mitigation is required	Less than significant
BIO-5b: Operational activities associated with the proposed Project would not result in a permanent loss of marine habitat.	No impact would occur	No mitigation is required	No impact would occur

3.3.4.4 Mitigation Monitoring

Table 3.3-3: Mitigation Monitoring for Biological Resources

BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	
Mitigation Measure	**MM BIO 1. Debit Inner Harbor Mitigation Bank.**
Timing	Prior to initiating construction
Methodology	Deduction of built up habitat credits from the Inner Harbor Mitigation Bank would offset 0.05 acres of marine habitat being permanently removed
Responsible Parties	LAHD and Responsible agencies
Residual Impacts	Less than significant
BIO-5a: Construction of the proposed Project would not result in a permanent loss of marine habitat.	
Mitigation Measure	Implement mitigation measure **MM BIO 1: Debit Inner Harbor Mitigation Bank**.
Timing	Prior to initiating construction at the waterfront
Methodology	Deduction of built up habitat credits from the Inner Harbor Mitigation Bank would offset 0.05 acres of marine habitat being permanently removed
Responsible Parties	LAHD and Responsible agencies
Residual Impacts	Less than significant

3.3.5 Significant Unavoidable Impacts

No significant unavoidable impacts on biological resources would occur during construction or operation of the proposed Project.

3.4

CULTURAL RESOURCES

3.4.1 Introduction

This chapter describes the environmental and regulatory setting for cultural resources, as well as the impacts on cultural resources that would result from the proposed Project and the mitigation measures that would reduce these impacts. Cultural resources customarily include archaeological resources, ethnographic resources, and those of the historic built environment (architectural resources). Though not specifically a cultural resource, paleontological resources (fossils pre-dating human occupation) are considered here because they are discussed in Appendix G of the State CEQA Guidelines (Environmental Checklist Form), within the context of Section V, Cultural Resources.

CEQA Guidelines Section 15120(d) prohibits an EIR from including information about the location of archaeological sites or sacred lands: "No document prepared pursuant to this article that is available for public examination shall include…information about the location of archaeological sites and sacred lands." Therefore, the specific locations of archaeological sites have been omitted from this chapter, and the cultural resources technical reports are a confidential appendix to this document.

Mitigation has been proposed to reduce significant impacts on archaeological and paleontological resources to level-than-significant levels. After mitigation, construction and operation of the proposed Project would not result in a significant and unavoidable impact on cultural resources.

3.4.2 Environmental Setting

The proposed project site is generally bounded by Lagoon Avenue to the west, Broad Avenue to the east, C Street to the north, and Banning's Landing to the south. The site includes the Waterfront Red Car and California Coastal Trail linkages beginning in the west at Swinford Street, moving along Front Street to John S. Gibson

Boulevard, and then along Harry Bridges Boulevard until it reaches Avalon Boulevard in the east. See Figure 2-2 for a map of the proposed project area.

3.4.2.1 Physical Setting

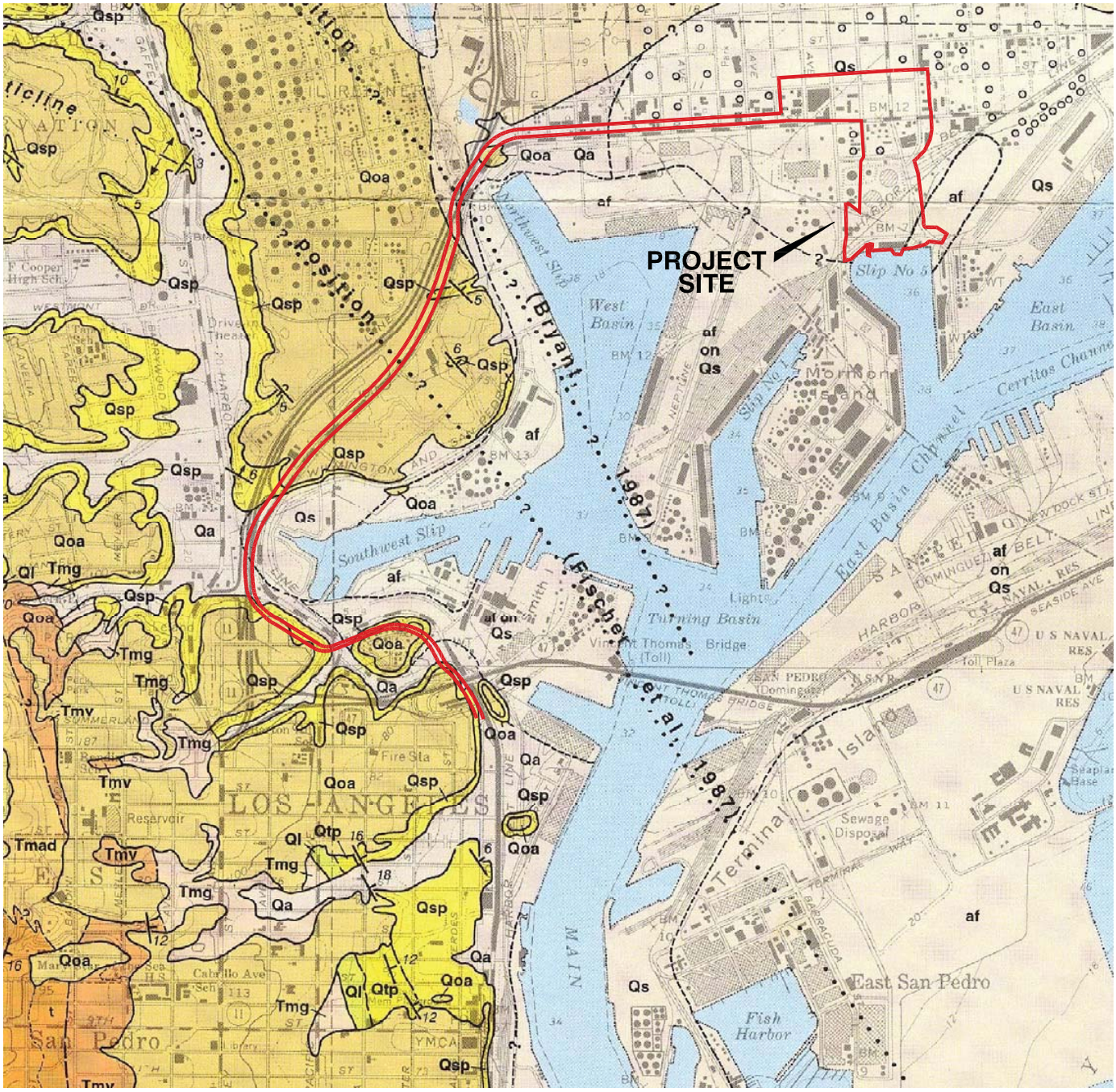
3.4.2.1.1 Geology and Soils

The proposed project area is located within the Los Angeles Basin, a broad, level expanse of land comprising more than 800 square miles that extends from Cahuenga Peak south to the Pacific coast, and from Topanga Canyon southeast to the vicinity of Aliso Creek. Prior to historical settlement of the area, the plain was characterized by extensive inland prairies and a lengthy coastal strand, with elevations approximately 500 feet above mean sea level. The Los Angeles plain is traversed by several large watercourses, most notably the Los Angeles, Rio Hondo, San Gabriel, and Santa Ana rivers. Marshlands fed by fresh or salt water also once covered many portions of the area. To the west, the coastal region encompasses approximately 375 square miles of varied terrain. West of Topanga Canyon the terrain is rugged; the steep, westward slopes of the Santa Monica Mountains reach 1,000 feet or more in elevation, except where stream-cut ravines and canyons drain onto narrow beaches at the water's edge. From Topanga Canyon southward to the Palos Verdes Peninsula, a distance of roughly 22 miles, the coast is flat and level; extensive marshlands once existed near the mouth of Ballona Creek in the area now known as Playa del Rey. The terrain becomes rugged once again as the coast follows Palos Verdes Peninsula for a distance of approximately 12 miles before reaching San Pedro Bay, which in prehistoric times was characterized by extensive mud flats and sand bars (Hamilton et al. 2004; McCawley 1996).

West of the proposed project area, the Palos Verdes Peninsula is composed primarily of marine sedimentary rocks that have been uplifted about 1,300 feet within the past 1 million years. The Palos Verdes Hills consist of a Jurassic-age metamorphic basement complex (Catalina Shist) that is overlain by about 3,000 feet of sedimentary rock formations of Miocene, Pliocene, and Pleistocene age (Woodring et al. 1946). The Miocene rocks (light-colored, well-bedded mudstones, siltstones, and shales) are underlain by older metamorphic rocks of the Catalina Schist. These rocks extend under the Los Angeles Harbor and form the base under the marine sediments (Schell et al. 2003).

Geologic deposits underlying the proposed project area consist of Holocene-age, near-shore, marine and non-marine deposits, including beach, estuary, tidal flat, lagoon, shallow-water bay sediments, and shoreline terrace deposits (Figure 3.4-1). These younger alluvial deposits are overlain in many places by artificial fill materials, as land has been built up during the historic development of the Port.

As mapped by Dibblee (1999), surficial sediments within the proposed project area consist primarily of Quaternary deposits that are comprised of beach sediments ranging from sand to cobble-boulder gravel.



REFERENCE: 1999, THOMAS DIBBLEE, JR., GEOLOGIC MAP OF THE PALOS VERDES PENNINSULA AND VICINITY, MAP #DF-70.

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Figure 3.4-1
Surface Geology in the Project Vicinity
Wilmington Waterfront Development Project

In the Avalon Waterfront District soils consist primarily of Quaternary soils except in the southeastern corner where they are comprised of artificial fill. However, fill materials are sometimes difficult to differentiate from natural materials because both are essentially made up of the same materials, but the fill was just redeposited (Schell et al. 2003).

The eastern extent of the Waterfront Red Car Line/California Coastal Trail along Harry Bridges Boulevard is also underlain by these Holocene beach sediments and artificial fill.

The western extent of the Waterfront Red Car Line/California Coastal Trail, west of Figueroa along John S. Gibson Boulevard, is underlain by Quaternary alluvium, Quaternary older alluvium, and Pleistocene-age offshore marine deposits of San Pedro Sand. The San Pedro Sand was deposited during the middle Pleistocene and dates to approximately 500,000 to 200,000 years ago (Kirby and Demere 2007).

Pleistocene-age San Pedro Sand is mapped at the surface between the Northwest Slip and the Southwest Slip, and in patches near the Vincent Thomas Bridge. These deposits are of fossil bearing age, and are of scientific interest if intact.

Although the present configuration of the Port partly reflects the natural arrangement of the landscape, filling and dredging activities have formed an extensive network of wharves and shipping channels along the waterfront. The Los Angeles–Long Beach Harbor was once a low-lying coastal marsh generally referred to as either the Wilmington Lagoon or San Pedro Creek. The lagoon had a complex network of estuaries, stream channels, tidal channels, sand spits, beaches, and marshy inlands. (Schell et al. 2003). Around 11,000 years ago, a general warming trend, often referred to as the Altithermal, began in California (Carbone 1991; Arnold 1991). The Altithermal resulted in a rise in sea levels, which had an enormous impact on drainage patterns and the type and availability of food sources in various regions. During the Early Holocene (10,000 to 6,600 years ago), rapid sea level rise markedly altered land areas along the California coast. As a result of marine encroachment, large portions of the continental shelf were submerged. Therefore, archaeological sites located along the modern coast are, in some cases, far removed from Early Holocene shorelines. Furthermore, it is likely that most archaeological sites associated with the Early Holocene along the southern mainland coast were destroyed or obscured by sea level advance and sedimentation (Carbone 1991).

3.4.2.1.2 Vegetation

Prior to modern development, the dominant vegetation community in the proposed project area consisted of coastal saltmarsh. Coastal saltmarsh communities are comprised of perennial graminoids and succulent forbs. Dominants include glasswort (*Salicornia virginica*) and cordgrass (*Spartina foliosa*) (Kuchler 1977). At the time of this study the proposed project area was covered in ruderal and ornamental vegetation.

3.4.2.2 Prehistoric Setting

The prehistoric occupation of southern California is divided chronologically into several temporal phases or horizons, as presented on Table 3.4-1, based on the work of William J. Wallace (Moratto 1984). Horizon I, or the Early Man Horizon, began at the first appearance of people in the region (perhaps approximately 11,000 years ago) and continued until about 5000 BC. Although little is known about these people, it is assumed that they were semi-nomadic and subsisted primarily on game.

Horizon II, also known as the Millingstone Horizon or Encinitas Tradition, began around 5000 BC and continued until about 1500 BC. The Millingstone Horizon is characterized by widespread use of milling stones (manos and metates), core tools, and few projectile points or bone and shell artifacts. This horizon appears to represent a diversification of subsistence activities and a more sedentary settlement pattern. Archaeological evidence suggests that hunting became less important and that reliance on collecting shellfish and vegetal resources increased (Moratto 1984).

Horizon III, the Intermediate Horizon or Campbell Tradition began around 1500 BC and continued until about AD 600–800. Horizon III is defined by a shift from the use of milling stones to increased use of mortar and pestle, possibly indicating a greater reliance on acorns as a food source. Projectile points become more abundant and, together with faunal remains, indicate increased use of both land and sea mammals (Moratto 1984).

Horizon IV, the Late Horizon, which began around AD 600–800 and terminated with the arrival of Europeans, is characterized by dense populations; diversified hunting and gathering subsistence strategies, including intensive fishing and sea mammal hunting; extensive trade networks; use of the bow and arrow; and a general cultural elaboration (Moratto 1984).

Table 3.4-1. William J. Wallace's Chronological Horizons for Prehistoric Cultures)

Horizon	*Time Period*	*Description*
Horizon I/Early Man	11000 BC to 5000 BC	First appearance of humans in the region
Horizon II/Millingstone Horizon	5000 BC to 1500 BC	Widespread use of millingstone (manos, metates), representing a more sedentary settlement pattern
Horizon III/Intermediate Horizon	1500 BC to AD 600–800	Shift from use of millingstones to increased use of mortar and pestle and more projectile points
Horizon IV/Late Horizon	AD 600–800 to arrival of Europeans	Dense populations, diversified hunting, intensive fishing, and extensive trade networks
Source: Moratto 1984		

3.4.2.3 Ethnographic Setting

When Spanish explorers and missionaries first visited the southern coastal areas of California, the indigenous inhabitants of the Los Angeles area (the Tongva) were given the Spanish name "Gabrieliño." Gabrieliño/Tongva territory included the watersheds of the San Gabriel, Santa Ana, and Los Angeles Rivers; portions of the Santa Monica and Santa Ana Mountains; the Los Angeles Basin; the coast from Aliso Creek to Topanga Creek; and San Clemente, San Nicolas, and Santa Catalina Islands. The Gabrieliño language is classified as belonging to the Takic family (or "Cupan"), Uto-Aztecan stock, and is subdivided into four or more separate dialects (Shipley 1978). The proposed project area is in the region where the Fernandeño dialect of the Gabrieliño language was spoken. The names Gabrieliño and Fernandeño refer to the two major missions established in Gabrieliño territory: San Gabriel and San Fernando (Bean and Smith 1978).

The Gabrieliño/Tongva inhabited some 50 to 100 permanent villages in fertile lowlands along streams and rivers and in sheltered areas along the coast at the time of European contact. The larger permanent villages most likely had populations averaging 50 to 200 persons. Sedentary villages also had smaller satellite villages located at varying distances; these remained connected to the larger villages through economic, religious, and social ties (Bean and Smith 1978). Gabrieliño villages contained four basic types of structures. Houses were circular and domed, made of tule mats, fern, or carrizo (Kroeber 1925; Bean and Smith 1978). The Gabrieliño sweathouses were small, circular earth-covered buildings. Villages may have included menstrual huts and open-air ceremonial structures made with willows inserted wicker fashion among willow stakes (Bean and Smith 1978).

Ethnographic information indicates that the Gabrieliño occupied the area between the Palos Verdes Peninsula and the Los Angeles River as evidenced by the number of recorded village sites in each of these areas. McCawley (1996:56) provides Gabrieliño place names for the peninsula, including *Chaawvenga, Xuuxonga, Toveemonga, Aataveanga, Kiinkenga, Toveemonga,* and *Haraasnga.* McCawley also provides information for the village sites of *Swaanga* and *Ahwa Anga* as located along the Los Angeles River closest to its junction with the Pacific Ocean. These villages were occupied as late as the 1700s and early 1800s as evidenced by notations in the baptismal registers of Mission San Gabriel (McCawley 1996). *Swaanga* was documented as one of the larger, more substantial village sites (Reid 1852; McCawley citing Reid 1996). However, there is some discrepancy as to the actual location of the village. McCawley (1996) cites Reid's (1852) notation that *Swaanga* was located at "Suang-na" suggesting that this was still a recognizable place by 1852. A local San Pedro historian (Silka 1993:12) provides a specific location for *Suang-na* as the side of the hill above what is now Anaheim Street between the Harbor Freeway and Gaffey Street. Silka adds that the village was located near a crossing of major Native American trails, which today is located at the intersection of Gaffey and Anaheim Streets, Vermont Avenue and Palos Verdes Drive North, commonly called Five Points. McCawley (1996) cites Reid (1852:8), stating that *Chaawvenga* is located on "Palos Verdes." McCawley also cites Jose Zalvidea, stating that the name *Tsauvinga* applies to San Pedro and that the village of *Xuuxonga* was located on the shore below San Pedro (in Harrington 1986:R102 F384). As documented, none of

the recorded village sites are located within the proposed project area. However, given their proximity to the proposed project area, it was likely used by inhabitants of some or all of these villages

The Gabrieliño/Tongva had a rich and varied material culture. Technological and artistic items included shell set in asphaltum, carvings, painting, an extensive steatite industry, baskets, and a wide range of stone, shell, and bone objects that were both utilitarian and decorative.

Gabrieliño/Tongva subsistence was based on a composite hunting and gathering strategy that included large and small land animals, sea mammals, river and ocean fish, and a variety of vegetal resources. Generally, Gabrieliño settlements were created at the intersection of several ecozones. The majority of the population drifted as families to temporary hillside or coastal camps throughout the year, returning to the central location on ritual occasions or when resources were low and it was necessary to live on stored foods.

Offshore fishing was accomplished from boats made of pine planks sewn together and sealed with asphaltum or bitumen. Much of the fishing, shellfish harvesting, and fowling took place along the ocean shoreline or along freshwater courses. Sea mammals were taken with harpoons, spears, and clubs. River and ocean fishing was undertaken with the use of line and hook, nets, basket traps, spears, and poisons (Hudson and Blackburn 1982).

Land animals were hunted with bow and arrow and throwing sticks, and were trapped or clubbed. Smaller animals such as rabbits and ground squirrels were driven with grass fires and taken with deadfall traps. Seasonal grass fires may have had the additive effect of yielding new shoots attractive to deer. Burrowing animals could be smoked from their lairs.

Transportation of plants and other resources was accomplished through the use of burden devices such as coiled and woven baskets and hammock carrying nets commonly made from grass and other plant fibers.

The Gabrieliño/Tongva were apparently first contacted by Europeans in 1542 when Juan Rodríguez Cabrillo entered the area. Following subsequent Spanish visits to the region, colonization began in 1769, precipitating the establishment of Missions San Gabriel (1771) and San Fernando (1797). Due in part to the introduction of Euro-American diseases and the harsh effects of mission life, the Gabrieliño population and culture suffered a gradual deterioration. Following the secularization of the missions, most surviving Gabrieliño became wage laborers on the ranchos of Mexican California. In the early 1860s, a smallpox epidemic nearly wiped out the remaining Gabrieliño. The combination of disease, forceful reduction, and poor diet contributed to the disappearance of the Gabrieliño as a culturally identifiable group in the 1900 federal census (Bean and Smith 1978). However, persons of Gabrieliño descent have continued to live in the Los Angeles area to the present time.

3.4.2.4 Historic Setting

3.4.2.4.1 Spanish Exploration, Settlement, and Early Trade

Beginning in the sixteenth century, Spanish explorers sailed along the coast of California, starting with Juan Rodríguez Cabrillo in 1542. At the time of his voyage, Cabrillo named the San Pedro Bay the Bahia de los Fumos (McCawley 1996; Silka 1993). In 1602, Sebastian Vizcaino explored the coast of California and developed a detailed map of the coastline. Vizcaino's survey data created some confusion about two new names for Bahia de los Fumos. For many years the particular saint's day on which Vizcaino visited San Pedro Bay was an issue (Silka 1993). The bay was thus referred to as both San Pedro, in honor of Saint Peter, Bishop of Alexandria, and Ensenada de San Andres, in honor of Saint Andrew. However the confusion was resolved in 1734 by cosmographer Cabrera Bueno in his description of Vizcaino's visit, referring to the body of water as the San Pedro Bay, which has since remained the official name (Silka 1993).

In the eighteenth century the Spanish colonized present-day California, establishing a tripartite system consisting of missions, presidios, and pueblos that lasted from 1769 to 1822 (Bean and Rawls 1968). Under both Spanish and Mexican governments, missions were permitted to occupy and use land for the benefit of their neophytes; but they could not own land. Twenty-one missions were eventually established from San Diego to Sonoma, separated by a single day's journey (Hoover et. al 1990; Gudde 1998).

Under Spanish rule, merchant vessels were prohibited from trading directly at any California port other than Monterey. The annual supply ship sailed from San Blas, Mexico, and delivered its cargo to the presidios, where it was distributed to the missions and pueblos. However, the supplies provided by Spain from this single ship were insufficient for the needs of the growing population. As a result, as early as 1805 unauthorized trading occurred when an American ship traveled into the bay and found a ready market for European-manufactured and Oriental goods—with cattle hide and tallow serving as the primary currency of exchange (Silka 1993).

During the Spanish occupation of California, a series of land grants were also established. Although typically referred to as "Mexican ranchos", many of the original grants were founded prior to Mexican independence. One example is the Rancho San Pedro, which was granted to Juan Jose Dominguez in 1784 by California governor Pedro Fages and encompassed the land around what was to become the Port of Los Angeles (Robinson 1939).

Upon Dominguez's death in 1809, the land passed to his nephew Cristobal Dominguez, a soldier stationed at San Juan Capistrano (Silka 1993). During Cristobal's tenure in the service, the rancho was left in the care of Manuel Guiterrez, its long-time manager and executor of Juan Dominguez's will. In his will, Juan Jose also granted Guiterrez grazing rights. During Cristobal's absence, Guiterrez eventually assumed rights of ownership and extended the grazing right to Jose Dolores Sepulveda in 1810 (Gaffey 2001; Silka 1993). Sepulveda, who called his

stake the Rancho de los Palos Verdes, was ordered to vacate by Governor Pablo Sola in 1817—the year when Cristobal Dominguez attempted to claim his inheritance. Sepulveda believed that he was legally entitled to the Rancho de los Palos Verdes.

3.4.2.4.2 Mexican Independence

Mexico proclaimed its independence from Spain in 1821and became a federal republic in 1824, with both Baja and Alta California classified as territory (Starr 2005). Through its federal constitution, the United Mexican states attempted to recreate itself as a federated republic modeled on the United States. However, the Mission system, an imperialist remnant, proved incompatible with a republican system of government and culminated in the passage of the Secularization Act of 1833 by the Mexican Congress (Bean and Rawls 1993; Starr 2005). Although California's governor at the time of secularization, José Figueroa, intended for the lands to be repatriated to the indigenous population, his manifesto was never realized as his untimely death combined with a new social institution, the land grant rancho, prevented the neophytes from ever recovering mission properties.

Between 1835 and 1846, more than six hundred land grants were made in California by the Mexican government. The dons dominated the economy and defined the society of Mexican California (Robinson 1948; Starr 2005). These men, often referred to as "Californios," practiced an agricultural pattern that included mixed stock raising and commercial agriculture on their vast landholdings. Thousands of native inhabitants, separated from their missions and stripped of their lands, were forced to seek wage labor on the ranchos, many becoming accomplished vaqueros (Jelinek 1999; Starr 2005).

During this period the legal battle between Dominguez and Sepulveda over the Rancho San Pedro and Palos Verdes sustained. In 1827, Governor Figueroa made the Sepulveda's' a provisional concession of Rancho Los Palos Verdes. However, it wasn't until 1846 that Governor Pio Pico confirmed Sepulveda's right to Rancho (Robinson 1939; Silka 1993).

3.4.2.4.3 Commercial Hide Trade

The year Mexico proclaimed independence from Spain, California ports were officially opened to foreign trade. That same year the firm of McCulloch, Hartnell and Company succeeded in contracting with the missions for cattle hides and tallow, and the company was permitted to build warehouses at Monterey and San Pedro. In 1823, in the area that is now known as the Fort MacArthur Middle Reservation, the firm constructed an adobe hide warehouse where they managed cattle hides obtained from the San Gabriel and San Fernando Missions. In 1829, the hide warehouse was sold to the San Gabriel Mission. Upon secularization of the missions in 1833, ownership of the Hide House was acquired by Abel Stearns, who established himself in business at the pueblo. The Hide House came to be known as Casa de San Pedro and business flourished through the 1830s, although the region around San Pedro remained largely uninhabited. In

1835, Richard Henry Dana landed at San Pedro and described the region as isolated, a fact that is supported by the 1836 and 1844 census records, which record 75 and 28 people, respectively, living on the Rancho San Pedro (Silka 1993). The hide business flourished through the 1830s, although the region around San Pedro remained largely uninhabited. By 1830, San Pedro was the leading west coast center of hide production, the primary export of the Missions and, later, the Ranchos (Queenan 1986).

3.4.2.4.4 American Period and Experimental Capitalism

With the granting of statehood in 1848, San Francisco was quickly established as the Port of Entry for California and all imported goods destined for Los Angeles had to be transported from there. In order to maintain economic independence and viability, Los Angles had San Pedro also designated as an official Port of Entry in 1853. With ranching still the primary industry in southern California, the port at San Pedro remained underused. In addition, the combination of a rocky shoreline and a shallow harbor made accessibility challenging for ships.

Local entrepreneurs and economic boosters Phineas Banning and Augustus W. Timms capitalized upon the Port's new status. Banning, an entrepreneur from Delaware who arrived in the Los Angeles area in 1851, became the manager of Hide House and eventual partner of David W. Alexander; Timms, a German immigrant who purchased the Sepulveda landing in 1852, instigated a fierce competition for the local commission and freighting opportunities.

By this time, land disputes between Mexican ranchers and disgruntled forty-niners erupted. In an effort to try their hand at farming, unsuccessful miners squatted on rancho lands and demanded rights to them from the federal government. Later that year, Congress passed the Land Act of 1850, which placed the burden of proving title upon the Californios (Spanish speaking inhabitants of Alta California). Both the Dominguez and Sepulveda families' claims to their ranchos were confirmed by the Board of Land Commissioners. However, the determinations were appealed in court, and although the Dominguez family successfully fought the challenges and received the patent for Rancho San Pedro in 1858, the Sepulveda family came to be plagued by a series of lawsuits instigated from within as well as outside of the family (Silka 1993). Ultimately, the combination of legal wrangling and the decimation of the cattle industry led the Californios to sell their landholdings.

3.4.2.4.5 New San Pedro

During the 1850s, Phineas Banning became the leader in lighterage and transportation. However, winds and storms in the unprotected harbor cost Banning losses of valuable shipments and forced him to consider another location from which to operate his enterprise. In 1858, Banning formed the firm of Banning & Company with David W. Alexander as a silent partner. However, after a short period, Banning took over sole leadership. That same year Banning and a team of investors including: J.G. Downey, Benjamin Wilson, William Sanford, Henry Myles, and Joseph

Lancaster Brent purchased 2,400 acres of estuary shore on the Dominguez Rancho San Pedro from Manuel Dominguez, and platted a town that they named New San Pedro (Gaffey 2001; McDowell 1993; Silka 1993). The partners divided up lots throughout the newly platted township, although Banning was also granted an additional 35-acre portion at the foot of Canal Street known as "Banning's Reservation" and eventually "Banning's Landing" (LeCouvrer N. D.; McDowell 1993). Banning constructed docks, warehouses, a lumber yard, and stocked it with a fleet of shallow-bottomed boats to ferry goods and passengers from ships anchored outside the bay. He purchased stagecoaches and wagons to carry passengers and freight from San Pedro to Los Angeles, San Bernardino, and even as far as Yuma and Salt Lake City. In July of 1858, 100 invited guests watched as the first cargo of merchandise was delivered to the newly built wharf (Marquez and de Turenne 2007).

While the new harbor location was offered a measure of protection from wind and storms by Rattlesnake Island, much of the acreage was under water at the time of purchase. In 1850, Captain Amos Fries of the U.S. Army Corps of Engineers described what would become the new harbor location as:

> Wilmington Lagoon begins near Deadman's Island, a sand, clay and rock Promontory some fifty feet high and less than two acres in extent, located about three-quarters of a mile nearly due east of the Government Reservation. The Lagoon is generally low land, overflowed at high tide, but largely mud-flats at low tide, extending northward and eastward distances of three to four miles from Deadman's Island. In all there are some 1,360 acres in the Lagoon. About one mile north of Deadman's Island there were two or three channels leading to Wilmington having from two to six feet of water at low tide, though across the present entrance, west of the island, there were generally depths of only one to three feet (Weinman and Stickel 1978 citing *Out West* 1907).

Banning was able to carve a small, shallow working harbor from the vast slough by utilizing mud scows to dig the channel and hand pumps to siphon the water from the submerged land.

3.4.2.4.6 The Civil War Comes to Town

As the Civil War erupted in 1861, political and military attention from both sides turned to California with its strategic harbors and abundant mineral wealth. Confederate strategists were aware of the strong southern sympathies of many residents of southern California. Many public officials and prominent business leaders were Southerners and it seemed plausible that California might secede should a war develop. Aware of the dangers of secession and the possibility of an internal invasion by southern forces, the Department of War established a series of military camps throughout the west, including a camp in New San Pedro near Banning's Wharf (McDowell 1993). In addition to providing protection in the event of an attempted attack, the military presence also helped control Confederate agitators and supplied staff close to the harbor for receiving supplies and training volunteers. The encampment near Banning's Wharf was officially designated as "Camp Drum" in honor of Lieutenant Colonel Richard Coulter Drum, who had provided major

assistance in establishing the camp. Camp Drum became the military headquarters for southern California in 1862, under the command of Colonel James Henry Carleton (McDowell 1993).

During the winter of 1861–1862, record rainfall flooded the low-lying Camp Drum, signifying the need for more permanent facilities. As a result, Banning donated a 60-acre portion of his landholdings to the federal government for the construction of the Wilmington Drum Barracks (California Historical Landmark No. 169 and Los Angeles City Historic-Cultural Monument No. 21). The Drum Barracks was the main staging area for troops bound for posts all over the West as well as a depot for arms, equipment, and supplies. The post was abandoned in 1870, and a few years later the land was transferred back to Banning. Eventually, the property was subdivided and the buildings gradually deteriorated or were demolished, except for the officer's quarters, which now house the Drum Barracks museum (McDowell 1993).

In 1863, Banning transferred a second land title to the government for construction of a large depot near the wharf on his 35-acre reservation. A few years later, he again transferred additional lots near the wharf to the government for military use. The wharf and depot location offered a convenient port with existing warehouses and transportation system. The depot was originally located "…on the southwest corner of today's A Street and Avalon Boulevard, it covered 5.38 acres with a frontage of 270 feet on Canal Street (Avalon Boulevard) and extended west almost 900 feet to present Fries Avenue. The depot consisted of a quartermaster's office and a warehouse facing Canal Street, shops and stables along each side, and a 270 by 70-foot, two-story forage barn at the rear on pilings to protect the fodder during high tides" (McDowell 1993:32).

In total, Banning conveyed 66 acres to the government during the war effort. Local military occupation proved a successful financial strategy for Banning, who managed the transportation of military goods and provisions and eventually accumulated a majority of the shipping business from San Pedro. Further prosperity was achieved via the thousands of soldiers stationed at the Drum Barracks who supported the local economy. Banning established the first telegraph, newspaper, and post office to the harbor area. At this time, New San Pedro was renamed Wilmington, in honor of Banning's Delaware roots (Marquez and de Turenne 2007; McDowell 1993; Silka 1993).

3.4.2.4.7 Industrialization

Banning realized that Wilmington would not become a successful port without breakwater protection. He also understood that a rail line was essential to the economic development of the port and community. Without an active railroad, competing communities, including San Diego and Anaheim, could potentially siphon large amounts of trade from both inland and coastal routes (Olesen 1982). Los Angeles was already losing international trade to Asia, which was carried almost entirely by foreign ships to other ports on the Pacific coast (Weinman and Stickel 1978).

Banning successfully petitioned Congress to appropriate the necessary funds to construct a 6,700-foot sea-wall connecting Rattlesnake and Deadman's Islands and for construction of a lighthouse at Point Fermin. In 1871, San Pedro's first federal dredging project was undertaken, and the combination of the sea wall and dredging project proved transformative. Instead of anchoring outside the harbor and using smaller boats to move cargo ashore, the Main Channel, now with a 10-foot clearance at low tide, allowed ships to navigate directly to the wharfs. By the 1890s, the depth had increased to more than 15 feet, adequate for the lumber schooners that made up the majority of the large harbor traffic (Marquez and de Turenne 2007).

In 1869, Banning initiated the construction of the first railroad in southern California, seven years before the Southern Pacific (SP) Railroad would connect Los Angeles to the East Coast via rail. The Los Angeles and San Pedro Railroad operated between Los Angeles and Wilmington and represented the first reliable means of moving cargo from ships coming into San Pedro. In 1876, Banning sold his interests in the Los Angeles and San Pedro Railroad to the "Big Four" (Collis Huntington, Leland Stanford, Mark Hopkins, and Charles Crocker) as an inducement to the Southern Pacific Railroad to put Los Angeles on its main line (Weinman and Stickel 1978; Silka 1993; Vickery 1982). Soon after the purchase, the Southern Pacific extended its Los Angeles-San Pedro Railroad on pilings across the Wilmington Lagoon, to a new terminal near old Timms Landing. By the 1880s, tracks and wharves covered the tidelands up to about present-day First Street (Weinman and Stickel 1978).

With the establishment of a railroad and the completion of the sea-wall connecting Rattlesnake and Deadman's Islands, the efforts of Phineas Banning were realized. All this stimulated a two-way flow of passengers and merchandise. The population of Wilmington began to solidify from a combination of disgruntled 49ers, Civil War veterans, and various passengers on both commercial and non-commercial vessels. In 1872, Wilmington was incorporated and by 1874, Wilmington's population was approximately 600, although the number would temporarily swell during steamer days when passengers were ferried in from the coastal steamers anchored off San Pedro Point, the headland of Cabrillo Beach (Olsen 1982; Silka 1993).

The population explosion in southern California in the 1880s and the extension of the railroad throughout the southwest increased the importance of the harbor as it provided an economic base on which the harbor could grow. The local newspaper, the *Wilminton Enterprise* (later *The Enterprise*), established in 1904 described the animated scene at the foot of Canal Street where the wharf was situated. Seamen and stevedores are described unloading schooners and lighters as ship and train passengers were arriving and departing (Olesen 1982). Like residents of neighboring San Pedro, laborers were employed to discharge ship's cargoes. Workers also found employment loading rock or sand ballast in outbound vessels, repairing ship components, and performing construction work on docks, breakwaters, jetties, and railroad lines (Gaffey 2001).

With improved rail transportation, thousands of people immigrated to Los Angeles, and the increased population brought a need for more construction and living supplies, much of which came from ships destined for San Pedro's shores. The demand for lumber, coal, and other goods spurred an increase in merchant vessels in

San Pedro Bay. This, in turn, created a demand for longshoremen, carpenters, shipfitters, laborers, merchant mariners, railroad workers, and men working supporting businesses such as shipyards. The town provided lodging and entertainment for seamen interested in spending their small salaries of $25 to $35 per month. Many of the men who chose to remain in San Pedro and Wilmington were of Scandinavian, Italian, and Portuguese descent (Gaffey 2001).

3.4.2.4.8 Transportation

Pacific Electric Railway

The sleepy village at El Pueblo de Nuestra Señora Reina de los Ángeles sobre el Río Porciúncula had been founded in 1781, but even in the post Civil War era the population was small and the land area covered only the original four leagues (roughly the distance a man or a horse can travel in an hour). The City of Los Angeles is unique in world history in that it owes its growth to the evolution and perfection of the streetcar.

Real estate speculators in the 1870s began to lay out animal powered traction lines, suddenly bringing cheap agricultural land within the distance that a man could reasonably travel from home to work and home again in a single day. Animal traction was soon joined by capital intensive cable cars able to climb the hilly terrain and wide river at downtown Los Angeles. Before the investors could recoup their capital, the cable and horsecar systems were soon supplanted by electric traction. Electric street railways and long-distance electric interurbans were relatively cheap to construct and operate, and the technology was well perfected by the turn of the twentieth century.

In 1901 Henry E. Huntington, nephew of Southern Pacific magnate Collis P. Huntington, incorporated the Pacific Electric (PE) Railway capitalized with a not insubstantial $100 million in cash. Huntington's first line was built between downtown Los Angeles and downtown Long Beach, followed almost immediately by extensions into the two ports. Huntington had made his own fortune running a number of railroads for his uncle, and he built the Pacific Electric to the engineering standards of any Class 1 American mainline railroad. This meant that in addition to offering first class passenger transportation to further profits from real estate development (the Huntington Land Company), and power and water profits (the Huntington-owned Southern California Edison Company), the PE could haul freight from the Port. After raising and spending a second $100 million on further expansions, the PE was taken from Huntington family control in 1911 by none other than E.H. Harriman of the Southern Pacific and merged with seven other major regional electric traction empires to form a new and vastly bigger Pacific Electric Railway—the world's largest system with over 1200 route miles just in Southern California. All of this construction and merger activity left the PE with no less than five lines into the Port, two of which passed through the proposed project site. During WWII due to oil, gas, and tire rationing, the PE saw its heaviest passenger traffic in its entire 60 year history. A new line was hurriedly built by the United States Maritime Commission to bring war workers to Terminal Island to build

Liberty Ships. The PE built and operated this line under contract using second-hand equipment sourced from parent company SP's electric operations in the San Francisco Bay area. At the war's end, the cars and line were virtually given to the PE, which operated them until the final abandonment of service.

Passenger trains of the Long Beach-San Pedro line (via Wilmington) stopped running in 1949; trains of the Catalina Express service and those used by the San Pedro via Dominguez line ceased operation in December 1958.

The San Pedro via Dominguez and West Basin Lines

The Southern Pacific Railroad utilized long pile trestles over the tidelands that comprised what is today's West Basin. These trestles precluded all use of the West Basin by seagoing vessels and were much maligned by those interested in developing the West Basin. In mid-1907 the War Department ordered the construction of drawbridges of the double leaf bascule type to replace the trestles. Pacific Electric meanwhile requested a franchise to extend its tracks around the Bay, but action on the application was deferred. Things were at a standstill for several years as far as the bridges were concerned, but in 1911 the matter was resolved when one of the largest single-span drawbridges was constructed. The bridge was 187 feet long and afforded a clear channel of 185 feet for ships. It was of the type known as a "Strauss" trunnion and was sufficiently wide to accommodate two tracks. By this time the Pacific Electric was owned by the Southern Pacific, and the two former rivals were able to share the new span into San Pedro. Only the westerly track was electrified; therefore, PE had only a single track line across the bridge. From February 1942 to February 1947 the Coast Guard ordered the bridge to remain in the raised position in case an enemy attack might immobilize it and trap ships inside the West Basin. All PE trains were routed over the West Basin line during this time. In September 1955 a ship hit the bridge and it was declared too dangerous to use; it was removed soon after. (Heller 2007)

The San Pedro via Dominguez line had been in service since 1904 and followed the same route as the Long Beach line south through Watts and Compton to Dominguez Junction. From Dominguez Junction south the line extended to Wilmington station. From Wilmington the line continued through an industrial district and over the Southern Pacific's bascule-type bridge into San Pedro. From Dominguez Junction south, the line paralleled Alameda Street to just north of the Pacific Coast Highway, then veered in a straight line toward Wilmington. At East Wilmington the Long-Beach-San Pedro line joined, and at Anaheim Boulevard the Catalina Pier A Street line branched off. The Wilmington Station was reached at Avalon Boulevard.

From the intersection of the private way and Wilmington-San Pedro Road (Avenue "B," Wilmington), no fewer than three routes existed:

- the original route, which was on a mile-long trestle over marsh land;
- the route via the San Pedro drawbridge, built in 1911; and
- the West Basin Line, built by the PE Land Company in 1910.

Of these, the direct route via the drawbridge was by far the most important and more used; only during World War II (when the bridge had to remain open) and after its removal in 1955 was the West Basin Line route used by this line. The San Pedro Line survived Pacific Electric and Metropolitan Coach Lines ownership only to fall victim to the Los Angeles Metropolitan Transit Authority (LAMTA); due to a great decrease in patronage the LAMTA ordered the rail service to give way to buses. The conversion took place on December 7, 1958.

The second route followed a longer land route around the West Basin and remains intact today, although on a modified alignment. Formerly known as the West Basin Line, this route is a heavily traveled freight railroad corridor paralleled by streets with heavy truck volumes. From the Wilmington Station at Avalon Boulevard, the West Basin Line followed a meandering course along B Street to Figueroa Street, then veered its two tracks slightly to the west onto a private way alongside Wilmington-San Pedro Road, which it followed (joining the San Pedro via Torrance line near Channel Street) to Gaffey Street, then via a twisting route to 1st Street and a junction with the San Pedro via Dominguez line.

At B Street the West Basin Line branched off, continuing to Pacific Dock where it crossed the Southern Pacific's bascule-type bridge; then it entered San Pedro over a long double-track trestle, once again sharing track with the West Basin Line at 1st Street, and continued on to its terminus, the PE San Pedro Station at 5th Street. Electrified tracks continued to the Outer Harbor, but only local passenger service was operated beyond the PE Station.

Harbor Belt Line

Freight traffic to and from the Harbor typically consisted of canned goods, coke, sand, sulfur, lumber, wire, iron and steel, citrus fruits, bananas, and a great variety of manufactured products. For a number of years Pacific Electric was the dominant carrier at the harbor, but from a high of 51% of total carloads handled in 1924 it fell to 26% by 1938, mainly due to the establishment of the Harbor Belt Line Railroad.

In order to provide equal access to the harbor for all railroads (the Santa Fe had been frozen out) in 1929 a joint agency was formed that would operate the pooled trackage of the City and railroads as a single unit, run by an organization separate and distinct from those of the four railroads (PE, SP, Union Pacific, and Atchison, Topeka and Santa Fe Railway). Thus the Harbor Belt Line Railroad was begun, starting operations on June 1, 1929, the net result of which was the rise of the Santa Fe as a power at the Port, mostly at the expense of PE.

In addition to traffic to and from the harbor, other major originating points for freight on the San Pedro line are Watson, Dominguez Junction, and Compton. Both Watson and Dominguez are important oil centers, while the Compton traffic is of a general nature

3.4.2.4.9 Expansion

As the City and the Port at Los Angeles grew during the late nineteenth and early twentieth centuries, the U.S. War Department studied its existing defensive posture on the West Coast. Two panels of military experts, the Endicott Commission in 1885 and the Taft Commission in 1905, made recommendations for coastal defense, primarily through a system of large gun batteries. Initially, no defensive positions were established at San Pedro Bay; rather, coastal defenses focused on San Francisco Bay, which had the largest ports on the West Coast during the late nineteenth and early twentieth centuries. However, after formal establishment of the Port of Los Angeles in 1907, War Department planners realized the need for facilities in San Pedro. In 1888, San Pedro was incorporated and took over the local lead of the port (Baker 1982). In 1909, San Pedro and Wilmington consolidated with Los Angeles in order to fund municipal services and development of the harbor (Marquez and de Turenne 2007; Silka 1993). The consolidation occurred during the completion of the Panama Canal, which would bring a windfall of commerce to the harbor. The new harbor commission spent $5.5 million on new wharfs, warehouses, railroad spurs, and docks.

The City of Los Angeles built the first Municipal piers at Wilmington in 1914, making it the center of harbor activity. Two years later, improvements at Fish Harbor provided safe anchorage for fishing boats, sites for canneries, and housing for a multi-ethnic population of workers, including people of Japanese, Italian, Mexican, and Eastern European descent.

Despite the previous use of the Port for the shipment of goods both into and out of California, it was not until 1915 that the Port completed its first warehouse. It was the completion of this building that symbolized the Port's transition from a small poorly equipped landing to a significant seaport able to handle deep-sea ships with varied cargo (Queenan 1986). The transshipment of cargo during this era was a very different process from the current system of containerization. The movement of cargo required a series of labor and space intensive steps that in turn required certain buildings and facilities to ensure the most efficient and economical process. Raw or finished goods would be transported via train or truck from the distributor to the port terminal. Cargo destined for international or West Coast markets arrived at the Port of Los Angeles from across the southeast and southwest, and via the Panama Canal from the entire eastern seaboard. If the goods arrived in sufficient quantity to justify immediate shipment, they would be loaded into one of the transit sheds located directly adjacent to the wharves. When the ship arrived, the goods would be manually transferred from the transit sheds into the cargo hold of the ship. The same process in reverse would occur at the destination.

Improvements to transportation systems in the harbor area also facilitated the growth of trade. By 1917, a vast railroad network existed around the harbor and the Los Angeles region, allowing for the efficient transfer of goods across the country (San Buenaventura Research Associates 1992).

World War I changed the principal uses of the Port considerably. The United States Navy, wishing to establish a significant presence on the Pacific coast, took possession of a portion of the harbor and used it as a training and submarine base.

During the war, the Port was one of the chief sources of employment for area residents. Shipbuilding enterprises, including Southwestern Shipbuilding Company, Los Angeles Shipbuilding and Drydock Corporation, and Ralph J. Chandler Shipbuilding, began turning out vessels by the dozens for the war effort. By 1918 four shipbuilding yards located within the harbor attracted contracts worth over $115 million and employed over 20,000 people. The Port of Long Beach, established only two years before the onset of the war, offered the only Southern California shipping and shipbuilding competition to the Port of Los Angeles.

Following the end of World War I in 1918, the Port was increasingly used for the importation of lumber and other types of raw materials. As in the prewar period, approximately 98% of the inbound cargo consisted of lumber to satisfy the demand for housing and factories caused by the rapid growth of the Los Angeles area (Matson 1920). In exports, crude oil was the biggest product passing through the Port in the post-war years. The end of the war also generally meant the end of restrictions to trade. Although lumber and crude oil represented the largest volume of commodities to pass through the Port at that time, Los Angeles featured almost all types of industry, and new facilities were developed to handle products such as cotton, borax, citrus crops, and steel.

3.4.2.4.10 Recreation

In addition to industrial facilities, the early twentieth century also saw the development of recreation at the Port. Rattlesnake Island was converted into Brighton Beach, a major vacation resort, and was quickly followed by improvements at Point Fermin. In 1893, the Banning Company, now managed by Phineas Banning's three sons, purchased Catalina Island and founded the Catalina Yacht Club. The Banning Company also created the Wilmington Transportation Company in 1884 to provide regular crossing of passengers and goods between the mainland at the "Water Street Wharf" and Catalina Island (Board of Harbor Commissioners 1920; Channel Crossings 2006). In 1919, William Wrigley, of chewing-gum fame, purchased Catalina Island from the Banning Company for 3 million dollars. Wrigley also purchased the Wilmington Transportation Company and reinvented transport between the island and the mainland. Reinvented as the Catalina Island Steamer Terminal, Wrigley rehabilitated and constructed a series of steamers including the *Avalon*, *Cabrillo*, and the *Catalina* to make the journey to and from the mainland (Channel Crossings 2006; Marquez and de Turenne 2007). Wrigley also remodeled the existing warehouse "so as to provide every facility and convenience for the handling of passengers and freight" (Board of Harbor Commissioners 1920:56).

Wrigley's son, Philip, developed an airline that transported vacationers from the Wilmington Terminal dock at Berth 185 to the Hamilton Cove airport just offshore of Catalina Island. The amphibious Douglas Dolphin seaplanes flew across the channel 38,000 times, carrying more than 200,000 passengers (Marquez and de Turenne 2007).

3.4.2.4.11 World War II

During World War II, the Port of Los Angeles, including Wilmington Harbor, as one of the closest major ports to the Pacific Theatre of Operations, was fully involved in defense activities. The US Navy immediately assumed control over all ship operations after the Japanese attack on Pearl Harbor in 1941. An official Point of Embarkation was established near the intersection of Fries and Water Streets and Port facilities were turned over to the war effort. Ship building at the Port increased dramatically and over 90,000 ship workers were employed locally. Even contentious labor relations were put on hold after organized labor declared a "no-strike" pledge for the duration of the war (Queenan 1986). Between 1941 and 1945, ship and aircraft production facilities in the harbor area worked day and night to produce more than 15 million tons of war equipment. Hundreds of thousands of military and civilian personnel shipped out through San Pedro in support of the war effort and returned through it when their tasks were done (Shettle 2003).

3.4.2.4.12 Post WW-II Containerization

In 1945, defense contracts were cancelled and shipyards laid off thousands of workers. The Navy relinquished its control over shipping operations in the Port, and the harbor returned to its peacetime patterns (Silka 1993). Following the war, LAHD launched a broad restoration program. Many of the facilities in the harbor required maintenance that had been delayed during the war years. Although the adjacent Long Beach Harbor conducted its own improvements while battling subsidence (the sinking of the land from the many years of oil extraction), LAHD improved a number of its buildings and removed many temporary wartime buildings (Queenan 1986). New and extended breakwaters allowed for increased berths and terminals. By 1953, cargo through the Port exceeded 26 million tons in 4,707 vessels (Silka 1993).

Containerization was introduced in 1958 when the vessel *Hawaiian Merchant* made the first shipment of containers from the Port, beginning a revolution in cargo transport. Containerization is an integrated system of transport in which goods are shipped in standardized (20- or 40-foot-long), sealable metal boxes, designed for easy placement on compatible truck beds, railcars, and ships. Advantages of containerization include reduction of the labor force necessary to load shipments, decreased loading and unloading time, and decreased loss via theft or damage. Additional efficiencies arise from the integration of transport by truck, train, and ship. The primary disadvantage is the large capital outlay necessary to produce the new ships, cranes, rail cars, truck trailers, and Port facilities designed to fit the containerization system.

Modernization and infrastructure changes continued to transform the geography of the waterfront, including the building of the Vincent Thomas Bridge in 1963 and the dredging of the West Basin to 35 feet in 1964. By 1965, a leading edge, intermodal container transfer facility was opened. Three years later, total cargo hit a new peak at over 28 million tons. International shipment through the Port increased during the latter half of the twentieth century as ocean-going vessels grew too large to negotiate

the Panama Canal. Using a land-bridge system, shippers could transfer materials from Pacific region sources to Atlantic region markets by unloading at the Port of Los Angeles and trans-shipping via truck or train to vessels waiting at east coast ports (Queenan 1986).

3.4.2.5 Site-Specific Methodology

3.4.2.5.1 Records Search

Archaeology

ICF Jones & Stokes cultural resources staff conducted a records search at the South Central Coastal Information Center of the California Historical Resources Information System located at California State University, Fullerton, on April 8, 2008. The records search included a review of all recorded cultural resources within a 1-mile radius of the proposed project area. In addition, a review of historic registers was conducted including: *California Historical Landmarks, the National Register of Historic Places, California Register of Historical Resources, California Points of Historical Interest, California Inventory of Historic Resources, California Place Names,* and *Los Angeles Historic-Cultural Monuments*.

According to the records search, no known prehistoric and/or historical archaeological sites are located within the proposed project area. However, the records search indicates that the project area is sensitive for both prehistoric and historical archaeological resources. Sixteen archaeological sites have been previously identified within a 1-mile radius of the proposed project area (see Table 3.4-2). All of these sites are located at least 1 mile from the Avalon Waterfront District and the Avalon Development District. However, nine of the sixteen archaeological sites have been recorded within less than ¼ mile of the proposed Waterfront Red Car Line/California Coastal Trail (CA-LAn-116, -146, -147, -150, -283, -285, -2135H, -2873, and -2874). Of these 9 sites, CA-LAN-150 is located adjacent to the California Coastal Trail, CA-LAN-283 is located 0.06 of a mile from California Coastal Trail and CA-LAn-2135H is located approximately 0.04 of a mile from the California Coastal Trail. Descriptions of the nine sites located less than ¼ of a mile from the CCT are provided following Table 3.4-2. While a majority of these sites would not be impacted by the proposed Project, they provide a general reference and understanding of the nature and types of archaeological sites previously found in the vicinity of the proposed project area. However, because previously identified sites CA-LAn-150 and/or CA-LAn-283 are located within such close proximity to the proposed project area, potential impacts on these two sites are discussed in detail in this section.

Table 3.4-2. Previously Identified Archaeological Resources within a One-Mile Radius of the Project Area

Site Number	*Resource Type*	*Relationship to Project Area(PA)*	*Notes*
CA-LAn-91	Shell midden	0.71 mile from PA	N/A
CA-LAn-116	Unknown	0.12 mile from PA	N/A
CA-LAn-146	Shell midden, possibly natural shell.	0.05 mile from PA	Note in file indicates site was destroyed prior to 1977. No evidence of site found during ICF Jones & Stokes monitoring from 2006 to 2008
CA-LAn-147	Shell midden	0.15 mile from PA	N/A
CA-LAn-148	Shell midden	0.39 mile from PA	N/A
CA-LAn-149	Shell midden, possibly natural shell.	0.15 mile from PA	Note in file indicates site was destroyed prior to 1964.
CA-LAn-150	Refuse heap	Adjacent to PA on east side of CCT	Note in file states site was destroyed by earthmoving activities prior to 1964.
CA-LAn-283	Shell midden & lithic scatter	0.06 mile from PA	Salvage excavation conducted in 1968 at Vincent Thomas Bridge
CA-LAn-284	Shell midden & lithic scatter	0.36 mile from PA	N/A
CA-LAn-285	Village site, shell midden,	0.10 mile from PA	Note in file indicates site was destroyed prior to 1964.
CA-LAn-287	Lithic scatter	0.34 mile from PA	N/A
CA-LAn-789	Shell midden & lithic scatter	0.44 mile from PA	Site tested in 1989, determined to be paleontological location.
CA-LAn-2135H	Los Angeles Union Oil Refinery	0.04 mile from PA	N/A
CA-LAn-2873	Lithic scatter	0.16 mile from PA	N/A
19-002874	Lithic scatter	0.39 mile from PA	N/A
19-002875	Shell midden & lithic scatter	0.37 mile from PA	N/A

CA-LAn-116

No site description is provided in the site record. The site location is described as 1/8th of a mile northeast of corner of Cabinet Drive and Capitol Drive in San Pedro. A handwritten note on the record states that the site is located ¾ of a mile from the Bixby Slough. The site was recorded by H. Eberhart in 1952 based on notes from N.C. Nelson.

CA-LAn-146

Recorded in 1912 by N.C. Nelson and described as a refuse heap consisting of pectin, abalone, oyster, and clamshells. CA-LAN-146 measured 75 feet by 150 feet with an estimated depth of 3 feet. A note in the Information Center's files dating to 1977 stated that CA-LAN-146 appeared to be completely destroyed by grading activities associated with the construction of the cruise terminal parking lot that currently covers the area.

Of primary concern is confusion regarding the location of CA-LAN-146. At the time of recordation, the site's location was described in relation to land formations and portions of the built environment; these have been significantly altered by construction projects over the past century. Urban and industrial development and re-development in San Pedro over the past century has included the removal of extensive amounts of soil in portions of the project area. In addition, there is the possibility that both CA-LAN-145 and CA-LAN-146 may have been fossil shell localities instead of archaeological sites. This is especially true in the case of CA-LAN-146, which may correspond to Arnold's (1903) "Lumberyard" paleontological site (Knudson 1982).

From 2004 to 2008, ICF Jones & Stokes conducted archaeological monitoring for the Port of Los Angeles *Waterfront Gateway* project. The monitoring efforts focused on both the identification of CA-LAn-146 as recorded by the regional information center (based on Nelson's notes) and the identification of subsurface historical archaeological deposits associated with a Mexican colonia, locally recognized as *Mexican Hollywood*. Native American monitoring of the project area was conducted by Mr. Anthony Morales, Chairman of the Gabrieliño/Tongva San Gabriel Band of Mission Indians. While intact trash deposits associated with *Mexican Hollywood* were identified during monitoring, no subsurface evidence of CA-LAn-146 was identified. The monitoring report for this project is in production by ICF Jones & Stokes.

CA-LAn-147

Recorded in 1912 by N. C. Nelson, CA-LAn-147 is described as a refuse heap. No specific site dimensions or contents were provided in the site record. Nelson stated that most of the refuse (site) was removed during the grading of the straight boulevard running from Pt. Fermin past San Pedro to Wilmington.

CA-LAn-149

Recorded in 1912 by N. C. Nelson, CA-LAn-149 is described as a refuse heap. Nelson notes that despite the fact that nearby residents informed him that they believe the site, like others in the immediate vicinity, are of natural original, he argued the site is characteristic shellmound material with soil interdispersed throughout the matrix, and argues that this is likely a prehistoric site despite any lack of associated artifacts.

CA-LAn-150

In 1912, N. C."Nels" Nelson recorded CA-LAn-150 as a refuse heap (shell midden) measuring 600 by 75 feet and "located at the western end of the Wilmington Lagoon on the bluff at the left hand side of Wilmington Road." Nelson estimated the site depth at 4 feet and noted that no associated artifacts were observed. Nelson had established himself as one of the foremost experts in the identification and stratigraphic analysis of shell middens along the California coast. In northern California, his work on the substantial shellmounds of the coastal region yielded extensive archaeological data (Nelson 1910; Willey and Sabloff 1993). Unfortunately, the same level of study and analysis has not been conducted on the shell midden sites identified by Nelson in southern California (Erlandson and Colton 1991).

A note in the site record file dating from 1981 stated that CA-LAn-150 appeared to be completely destroyed as a result of earthmoving activities subsequent to 1964 (Dillon 1981). However, because no subsurface investigation was conducted at CA-LAn-150 prior to the reported earthmoving activities, it is not possible to use the information from the 1912 site record to determine the exact location, horizontal extent, or depth of the site. In addition, the 1981 note does not provide a description of the methods the author used to make the determination that the site was completely destroyed. Therefore, it cannot be determined using the information currently available whether any portion of CA-LAn-150 remains intact and if any identified deposits would meet significance criteria.

CA-LAn-283 (San Pedro Harbor Site)

The San Pedro Harbor Site was a large shell midden on the eastern slope of the Palos Verdes Peninsula overlooking what are now the West Basin and the Southwest Slip of the San Pedro Harbor. The site was first recognized in 1939 by D. L. True who designated it as Torrance 8; it was re-surveyed in 1960 by Paul Chace. The site was located on a terrace approximately 120 feet above sea level, and the midden averaged 30 inches deep over an area of approximately six acres (Butler 1974).

In 1968, archaeology students from California State University, Long Beach and an archaeology crew from the California Department of Parks and Recreation conducted salvage excavations at prehistoric site CA-LAn-283, the San Pedro Harbor Site, during the construction of an extension of the Vincent Thomas Bridge that connected the bridge to the Harbor Freeway. The excavators recovered a substantial amount of artifacts that indicated the site was occupied initially during the Millingstone Horizon (ca. 8000–3500 BP), through the Intermediate Period (ca. 3500–1200 BP) and into the Late Prehistoric Period, with a termination date of sometime between AD 1000 and AD 1500 (Desautels 1968). In addition to recovering a large number of artifacts, an unusual cogged stone with a platform base and vertical side notching at regular intervals was also identified (Desautels 1968; Butler 1974).

Although 57% (n=98) of the 172 five-by-five foot pits excavated revealed disturbance related to urban development, CA-LAn-283 yielded important scientific information relevant to the prehistory of coastal southern California. Laboratory

analysis of the artifacts indicated that the site exhibited a long period of repeated seasonal occupation, broad resource exploitation, and an easily accessible supply of Monterey Chert for chipped stone implements. The overall assemblage indicates that the site might represent a primary subsistence village of a centrally based, wandering community.

3/CA-LAn-285

This site was recorded in 1939 by F. H. Racer as a village site consisting of a shallow shell midden composed primarily of pectin. Associated artifacts included: worked shell ornaments, scarce amount of shell beads, several mutates, three manos, two double-pointed, chipped, flint arrowheads, and several cobble spheres. At the time of recordation, the site was being utilized for flora (flower) cultivation although no assessment of disturbance to the site was provided.

3/CA-LAn-2135H

This site was recorded in 1993 as the location of the Los Angeles Union Oil Refinery, which was constructed in 1917. The site encompasses 424 acres and consists primarily of tanks, refinery and maintenance facilities, office structures, utilities, and roads.

3/CA-LAn-2837

This site was recorded in 2001 as a low density lithic scatter with unknown size and boundaries and little research potential. The artifacts were identified during grading monitoring and the site was determined destroyed by grading for the Port of Los Angeles's Distribution Center.

Historic Architectural Resources

A cultural resources record search was conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) located at California State University, Fullerton on April 8, 2008. The record search included a review of all recorded cultural resources within a half-mile radius of the proposed project area. In addition, a review of historic registers was conducted including: California Historic Landmarks (CHL), the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHRs), California Points of Historical Interests (PHI) and California Historic Resources Inventory (HRI).

According to the record search, there are 33 cultural resources sites, 19 built environment resources, and 16 archaeological sites located within the half-mile radius of the proposed project area; however, none of the listed architectural resources are within the proposed project boundary. The CHL lists two properties located within a half-mile radius of the proposed project area: CHL #380/19-174912 Site of the Home of Diego Sepulveda; and CHL#894 S.S. Catalina, original location

at the Port of Los Angeles, Catalina Island Terminal, Berth 96, new location at the Ensenada Harbor, Ensenada, Mexico.

There were no NRHPs, CRHRs, or PHIs recorded within a half-mile radius of the proposed project area.

Another source consulted was *Los Angeles: An Architectural Guide* by David Gebhard and Robert Winter (2003. There are no historical resources, within the proposed project boundary, identified in the guidebook.

3.4.2.5.2 Field Surveys

Paleontology

Published and unpublished geologic and paleontologic literature was reviewed to document each rock unit exposed at the proposed project site and the types of fossil remains the rock unit has produced locally. No field survey of the proposed project site was conducted because the site is covered by extensive development, or is underlain by non-fossiliferous artificial fill or undisturbed strata that are too young to contain fossilized remains.

Archaeology

A Phase I pedestrian survey of portions of the proposed project area was conducted by ICF Jones & Stokes archaeologists on several occasions over the Spring and Summer of 2008. The survey area was confined to portions of the proposed project area where construction-related direct impacts are anticipated as a result of the proposed Project. This includes the Railroad Green portion of the Avalon Development District, the visible ground/open space within the Avalon Waterfront District and Avalon Development District Area B, and portions of the California Coastal Trail. The field survey resulted in the identification of six cultural resources.

Historic Architectural Resources

A field investigation was conducted on April 2 and May 14, 2008, to identify existing buildings within and adjacent to the proposed project area that meet the 50-year age criterion for evaluation. The team of architectural historians conducted the site analysis, applying the California Register of Historical Resources Criteria for Evaluation. For consideration as a potential historical resource, a property must be shown to be significant under one or more of the three criteria for evaluation:

- Criterion 1 consideration is for a property that may be eligible under an association with events that made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

- Criterion 2 consideration is for a property that may be eligible through its association with the lives of persons important to local, California, or national history.
- Criterion 3 consideration is for a property that may be eligible if it embodies distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic value.

For this field investigation and site analysis, architectural historians evaluated proprieties under Criterion 3, which is defined as a building having distinctive architectural design characteristics, a unique construction type, that represents the work of a master, or possess high artistic value. For identifying resources under Criterion 1, which is defined as a building having significance because of its association with an important event, an oral interview with Hank and Jane Osterhoudt, curators of the Wilmington Historical Society, was conducted. For association with an important person (Criterion 2), building permits were reviewed, data was searched within the California Index[1], and an oral interview with Hank and Jane Osterhoudt was conducted. The Osterhoudts explained that there are no existing buildings 50 years of age or older within the proposed project area that are associated with important events or persons, other than the previously identified listed resources (see Tables 3.4-3 through 3.4-7). No other additional research was conducted to identify potential historical resources under Criteria 1 or 2.

3.4.2.5.3 Archival Research

Archaeology and Historic Architecture

Archival research consisted of a review of primary and secondary documents available at the Wilmington and San Pedro Bay Historical Societies and the Los Angeles Public Library, the photo archives at the Port, regional prehistoric and ethnographic materials on file at ICF Jones & Stokes, and the following:

- Sanborn fire insurance maps (1888, 1891, 1902, 1908, 1921, 1950, 1969)
- Historic topographic maps (1896, 1925, 1944, 1951,1964)
- LAHD port annual reports (1918-1920, 1924-1925, 1925-1926, 1926-1927)
- U.S. Coast Survey Map of the California Coast (1859)
- Historic Aerial Photographs (LAPL, LAHD, Wilmington Historical Society)
- General Land Office Plat Maps (1859. 1862, 1867)
- Birds Eye View (lithograph) of Wilmington (1880)
- Historical Assessment of 236 North Avalon, 131 North Avalon, and 133 North Avalon Boulevards, Wilmington, California, by ICF Jones & Stokes

[1] California Index (LA Public Library): indexes information about people, places, and events that have had a significant impact on life in Southern California.

- Historical Assessment of Bekins Warehouses, Wilmington, California, by ICF Jones & Stokes
- Historical Assessment of National Polytechnic College of Engineering and Oceaneering Wilmington, California, by ICF Jones & Stokes

Archival research has demonstrated that a majority of the proposed project area was extensively developed by the nineteenth century and may contain significant historical archaeological deposits that are representative of multiple periods of occupation. Specifically, the Wilmington Waterfront portion of the proposed project area was once the location of Phineas Banning's Landing, which was the center of his early commercial activities and efforts that led to the development of the Port.

In addition, the Avalon Development District and the Avalon Triangle Park portions of the proposed project area are located in what was historically Wilmington's downtown area during the middle/late nineteenth century into the twentieth century as the community began to expand. This area contained a variety of public buildings, storefronts, and boarding houses (Sanborn 1885, 1888, 1891, 1900, 1907, 1913, 1921, 1950).

Paleontology

A review was conducted of relevant geotechnical reports and geological maps, and unpublished paleontological reports prepared for projects in Los Angeles Harbor. This approach was followed in recognition of the direct relationship between paleontological resources and the geologic formations within which they are enclosed. By knowing the geology of a particular area and the fossil productivity of particular formations that occur in that area, it is possible to predict where fossils will or will not be encountered (Kirby and Demere 2007).

Figure 3.4-1 distinguishes recent deposits, both fill and beach sediments, in relation to older Quaternary deposits, including Older Alluvium and the San Pedro Sand. These Older Alluvium deposits and the San Pedro Sand are known to be fossil-bearing. This figure permits inferences to be drawn as to the nature of the subsurface in any given area and has been used for the impact analysis. Surface sediments are present throughout the Avalon Waterfront District and Avalon Development District as well as eastern extent of the Waterfront Red Car Line/California Coastal Trail from Avalon Boulevard along Harry Bridges Boulevard, are underlain by Holocene-age beach sediments and artificial fill. These are young sediments with a low potential to contain fossil resources. The depth at which older deposits with a high potential to contain paleontological resources are present beneath these younger sediments is not known and cannot be determined from this surface mapping.

The western extent of the Waterfront Red Car Line/California Coastal Trail west of Figueroa Street along John S. Gibson Boulevard to Swinford Street is underlain by Quaternary alluvium, Quaternary older alluvium, and Pleistocene-age offshore marine deposits of San Pedro Sand. The Pleistocene-age San Pedro Sand is mapped at the surface between the Northwest and Southwest Slips, and in patches near the

Vincent Thomas Bridge. These deposits are of fossil-bearing age, and are of scientific interest.

3.4.2.5.4 Native American Correspondence

ICF Jones & Stokes contacted the Native American Heritage Commission (NAHC) on June 4, 2008, to request a search of their sacred lands file and a list of Native American representatives to contact for additional information. The NAHC responded on June 5, 2008, stating that no known sacred lands are located within or adjacent to the proposed project area. The NAHC also provided a list of seven Native American representatives to be contacted for information on the proposed project area. ICF Jones & Stokes sent a letter describing the proposed Project to each representative. The responses are contained in Appendix E.

ICF Jones & Stokes received an email response from Mr. John Tommy Rosas, Tribal Administrator for the Tongva Ancestral Territorial Tribal Nation (TATTN). Mr. Rosas stated that the TATTN objects to the proposed Project as it is located on indigenous tribal lands (Rosas pers. comm.). ICF Jones & Stokes responded by email asking for additional information and clarification of the TATTN's concerns regarding cultural resources and/or resources of importance to Native Americans within the proposed project area. No response has been received. Mr. Rosas as well as the NAHC will be included in the standard mailing list of this project to solicit further comments and communication.

ICF Jones & Stokes was also contacted by Mr. Anthony Morales, Chairman of the Gabrieliño/Tongva San Gabriel Band of Mission Indians, via telephone. Mr. Morales stated that the proposed project area was traditionally utilized by the Gabrieliño and requested that he be contacted should the proposed Project warrant monitoring by Native Americans. In addition, he requested that he be contacted in the event that subsurface archaeological deposits and/or human remains are unearthed during ground disturbing activities (Morales pers. comm.).

3.4.2.6 Site-Specific Setting

3.4.2.6.1 Archaeological Resources Identified

According to the record search, no known prehistoric and/or historical archaeological sites are located within the proposed project area. However, 16 archaeological resources have been previously identified within a 1-mile radius of the proposed project area, all of which are located at least 1 mile from the areas where direct impacts through construction activities are anticipated: the Avalon Waterfront District and the Avalon Development District. No human remains have been reported from any of these 16 archaeological sites.

However, 9 of the 16 archaeological sites have been recorded within less than ¼ mile of the proposed Waterfront Red Car Line/California Coastal Trail (CA-LAn-116, -146, -147, -150, -283, -285, -2135, -2873, -2874). Of these nine sites, one (CA-LAn-2135H) is located approximately ⅛th of a mile from the proposed Waterfront Red Car Line/California Coastal Trail, and 2 prehistoric sites (CA-LAn-150 and CA-LAn-283) are located adjacent to the proposed Project's location.

A field survey of portions of the proposed project area was conducted by ICF Jones & Stokes archaeologists. The survey area was confined to portions of the proposed project area where construction-related direct impacts are anticipated as a result of the proposed Project. This includes the Railroad Green portion of the Avalon Development District, visible ground/open space within the Avalon Waterfront District, and portions of the California Coastal Trail. The field survey resulted in the identification of six cultural resources. Impact CR-1 will discuss whether the following resources are considered significant prehistoric or historic archaeological resources within the context of CEQA (see also section 3.4.3.1.1).

Avalon Development District

One cultural resource, ICFJSA-NS-1, was identified within the Railroad Green portion of the Avalon Development District.

ICFJSA-NS-1/Pacific Electric Railway

This resource consists of three abandoned segments of Pacific Electric Railway track. The tracks are standard gauge, which is the gauge to which approximately 60% of the world's existing railway lines are built. The distance between the inside edges of the rails of standard gauge track is 1,435 millimeters (4 feet, 8½ inches). Intact 8-inch redwood ties of unknown length are visible only at Segments 1 and 3; ties vary according to standard railroad construction practices of the time. Also in evidence are standard switches and curves for rail sidings, bolted splice joints, and railroad spikes. Evidence was also noted of heavy braided steel wire ground return loops welded at each rail joint, a feature unique to electric railroads such as the Pacific Electric. Overall length of exposed track segment varies; portions of the alignment have been covered by modern asphalt paving and were not surveyed due to lack of accessibility (primarily from locked security fences).

Avalon Waterfront District

Five cultural resources were identified within the Avalon Waterfront District portion of the proposed project area.

ICFJSA-NS-2/Harbor Belt Line Railroad

This resource consists of operational railroad line segments currently utilized by the Harbor Belt Line railroad. The tracks are standard gauge. Intact 8-inch redwood ties of varying lengths are visible. While this track is more or less on the original, historic, alignment of the Southern Pacific into San Pedro (now Union Pacific), the original right-of-way easement in this section was 200 feet wide. A tank farm has encroached somewhat on this easement, and some of the more recent Harbor Belt track was in the same vicinity and the track has been realigned to support modern operating conditions. It is therefore difficult to determine exactly where the original track alignment was within this corridor. Currently, this segment of track forms one of the main leads into the Pacific Harbor Lines Pier A Yard complex and is in active service (Signor pers. comm.)

ICFJSA-NS-3/Drainage Swale

This resource is a possible drainage swale comprised of rectangular, granitic stones of varying sizes sealed in place with concrete. The width of the segment measures 18 inches (four courses wide) and is situated within the road gutter on the north side of North Water Street. Although no other portions were visible during the survey, it is possible that modern asphalt paving covers additional, intact sections.

ICFJSA-NS-4/Pacific Electric Railway "Channel Track"

This resource consists of one 18-foot and one 20-foot segment of the "channel rail" track used by the Pacific Electric to access the Catalina Steamer Dock located at Berths 184–185 at the foot of Avalon Boulevard on Slip 5. Although the segments are partially covered in asphalt and appear disconnected, the alignment may be intact under the existing roadway. Both segments are standard gauge.

This Pacific Electric line was built from a junction with the San Pedro via Dominguez PE Line at Anaheim Street and McFarland Avenue, Wilmington, via McFarland Avenue and a private way to the Catalina Terminal on Water Street, a distance of approximately 1.19 miles. It was placed in service in March 1920, coincident with the opening of the new Catalina Dock. It operated continuously (except for a period during World War II when the island was closed) during summer sessions until October 12, 1958. The track was 90-pound rail on redwood ties, with gravel ballast on unpaved portions; those portions in McFarland Avenue and Water Street were 90-pound rail on redwood ties, gravel ballast, and asphalt paving. As was the custom, "channel rail" was used in street running. Two tracks at the Catalina Dock on Water Street each held six large interurban cars.

Considerable freight traversed the line, all of which was operated by Harbor Belt Line after June 1929, and the track on Water Street was used to access certain industries in the area. With the abandonment of the San Pedro-Dominguez Line on December 8, 1958, this line was also closed to passenger service. It appears that some, or all of this line was in place as late as 1981, but it is unclear when the rest of the line was dismantled. Portions of the former private right-of-way northeast of the

resource site are now occupied by DAS, an automobile import storage facility (Signor pers. comm.).

ICFJSA-NS-5 Water Street Wharf /Catalina Steamer Terminal

This resource consists of a 306-foot concrete and wood post foundation for the Water Street Wharf that eventually supported the Catalina Steamer Terminal. The Water Street Wharf/Catalina Steamer Terminal Wharf and warehouse were demolished in the early 1990s by the LAHD (Hagner pers. comm. 2008). Today, all that remains of the wharf is a concrete and wood post foundation along the waterfront of Berth 185. The foundation is presently 7½ feet below grade/the existing sidewalk. The concrete matrix contains numerous cobbles, possibly from a local riverine source. Remnants of wood support posts are visible at intervals along the alignment. In general, the wood support posts measure 1 foot in diameter, although other sizes were noted. The posts are placed 7½ feet from one another on average. The top width of the concrete measures 2 feet while the base, which extends at an angle underwater, is estimated to measure 18 feet.

ICFJSA-NS-6/Stacked Stone Breakwater

This resource consists of a hand-stacked stone breakwater sealed with concrete mortar. The breakwater consists of eight courses of brick and measures approximately 4 to 5 feet throughout the length of the structure. Directly above the breakwater, and continuing for the entire length of the structure, is a second 3-foot tall (grayish) wall constructed of reinforced, poured concrete. A third concrete wall measuring 3.5 feet, and painted white at the time of recordation, rests on top of the other two walls and also extends along the entire length of the structure.

Approximately 2 feet in front of the western end of the breakwater is a second, smaller breakwater comprised of polypropelene bags filled with cement. The remainder of the stone and cement breakwater is protected by adjacent riprap. A ceramic pipe sealed in 2 feet of brick and concrete was identified embedded near the western end of the structure. The ceramic pipe had an inside diameter of 8 inches and an outside diameter of 10 inches. It appeared that the pipe and surrounding brick and concrete were placed within the wall after it was constructed, possibly to replace an earlier runoff or waste disposal system. Two additional metal pipes were identified embedded in the wall at the east end of the structure.

3.4.2.6.2 Historic Architectural Resources Identified

For the purposes of this draft EIR, all buildings, structures, objects, landscape elements, and other features that could be considered historical resources are evaluated in light of each of the above five definitions under CEQA. Each definition is described in more detail below, along with a listing of those historical resources on, adjacent to, near, or historically related to the proposed project site that meet any of the definitions. If a historical resource meets more than one definition, it is listed only once, under the first applicable definition category.

Definition 1—Listed in the California Register

There are several ways in which a resource can be listed in the California Register, which are codified under 14 CCR 4851:

- A resource can be listed in the California Register by the State Historical Resources Commission.
- If a resource is listed in or determined eligible for listing in the NRHP, it is automatically listed in the California Register.
- If a resource is a California State Historical Landmark, from No. 770 onward, it is automatically listed in the California Register.

Table 3.4-3 identifies one historical resource adjacent to the proposed project area that is currently listed in the California Register.

Table 3.4-3. Historical Resources Adjacent to the Project Study Area Currently Listed in the California Register

Name	*Location*	*Status*	*Date Status Determined*
Harbor Generating Station	161 N. Island Avenue	NRHP eligible by Office of Historic Preservation (OHP), CRHR listed	February 9, 2004

Definition 2—Determined Eligible for the California Register

There are no historical resources on, adjacent to, or near the proposed project site that are known to have been determined eligible for the California Register by the State Historical Resources Commission.

Definition 3—Listed in a Local Register of Historical Resources

A property listed in a local register of historic resources is considered an historical resource for the purposes of CEQA. By definition, "local register of historic resources" is a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution. The City of Los Angeles has two such designations: Historic-Cultural Monuments (HCMs) and Historic Preservation Overlay Zones.

Table 3.4-4 identifies one historical resource that is listed in a local register of historical resources.

Table 3.4-4. Historical Resources Listed in a Local Register of Historical Resources Outside the Project Area of Effect

Name	*Location*	*Status*	*Date Status Determined*
Masonic Temple (composed of two buildings side by side).	221–227 N. Avalon Boulevard	Los Angeles Historic Cultural Monument No. 342	Declared January 22, 1988

Definition 4—Identified as Significant in an Historical Resources Survey

According to Section 15064.5(a)(2) of the CEQA Guidelines, a resource "identified as significant in an historical resource survey meeting the requirements [set forth in] section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant."

A resource identified as significant in an historical resource survey may be listed in the California Register if the survey meets all of the following criteria:

1. The survey has been or will be included in the State Historic Resources Inventory.
2. The survey and the survey documentation were prepared in accordance with office [of Historic Preservation] procedures and requirements.
3. The resource is evaluated and determined by the office [of Historic Preservation] to have a significance rating of Category 1 to 5 on DPR Form 523.
4. If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminishes the significance of the resource.

Table 3.4-5 presents historical resources that were identified as significant in a survey.

Table 3.4-5. Historical Resources Determined Significant or Analysis Pending in a Historical Resources Survey

Name	*Location*	*Survey*	*Statement of Significance*
Wilmington Iron Works	432 W. C Street	HRG Survey (2006)	"The Wilmington Iron Works building is a good example of the small industrial buildings erected around the Wilmington Waterfront during the early decades of the twentieth century. It is representative of the increasingly diversified industrial economy surrounding the harbor area during its development into an important national and international port."
Bekins Storage Property	245 N. Fires Avenue and 312–316 W. C Street	Jones & Stokes Survey (2007a)	The Bekins building at 245 North Fries Avenue is a unique example of storage warehousing built in Los Angeles during the early years of the twentieth century. The multi-story structure retains considerable integrity and evokes the historic period of significance from when it was built. Located adjacent to the Pacific Electric tracks along North Fries Avenue, the warehouse still reflects the character of the neighboring structures used for warehousing and light industry, and its historic use has remained essentially the same. The structure has undergone minimal interior alterations and virtually no exterior alterations. The integrity of design, location, workmanship, and feeling of this building make it eligible for consideration for the California Register under Criterion 3 as well as a Los Angeles Historic-Cultural Monument.
233 N. Avalon Boulevard	233 N. Avalon Boulevard	HRG Survey (2006)	"233 North Avalon is a rare example of multi-unit residential buildings from the early decades of the twentieth century. This building most likely provided housing for local workers and merchant seamen. Further research of this property may reveal additional information on the social history and housing of Waterfront workers." (FINDING SUBJECT TO CHANGE, PENDING FURTHUR RESEARCH)
Coastal Recovery Center	117 Harry Bridges Boulevard	HRG Survey (2006)	"A good example of an industrial building from the early decades of the twentieth century, the structure exemplifies the size, scale and design of the utilitarian port infrastructure." (FINDING SUBJECT TO CHANGE, PENDING FURTHUR RESEARCH)
National Polytechnic College of Engineering and Oceaneering	272 S. Fries Avenue	Jones & Stokes Survey (2007c)	The National Polytechnic College of Engineering and Oceaneering building does not appear to satisfy the requirements for eligibility in the National Register of Historic Places or the California Register of Historic Resources. National Polytechnic College of Engineering and Oceaneering may be potentially eligible for consideration as a Los Angeles Historic-Cultural Monument. While each of the occupants have made some interior changes that would preclude National Register or California Register designation, the National Polytechnic College of Engineering and Oceaneering may still qualify under the Cultural Heritage Ordinance of the City of Los Angeles as a structure that exemplifies or reflects special elements of the City's architectural and marine history.
Note: Some resources are pending further research and evaluation by the lead agency to determine historical resource eligibility (see note in Statement of Significance). Until proved otherwise, the analysis assumes resources under study are historically significant.			

Definition 5—Determined Significant by the Lead Agency

The fifth and final category of historical resources covers those that are determined significant by a lead agency. This usually occurs during the CEQA compliance process, such as the preparation of an EIR. According to Section 15064.5(a)(3) of the CEQA Guidelines, "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record." Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC SS5024.1, 14 CCR 4852).

Table 3.4-6 lists one historical resource that was identified to be significant, by the Lead Agency, within the proposed project site.

Table 3.4-6. Historical Resource Determined to be Significant by the Lead Agency

Name	*Location*	*Criteria for Eligibility*
Wilmington Iron Works Building	432 West C Street	"This structure is a good example of the small industrial buildings constructed in support of local crafts and trades such as boat building, small manufacturing and fishing at the Port of Los Angeles in the early decade of the twentieth century. The original building permit lists the date of construction as September 26, 1927. While the building has sustained some alteration with a change in cladding and roofing from the original corrugated iron, and window loss along the north elevation, its footprint and original configuration are still intact, conveying its significance as a small industrial facility. Within the context of the development of Wilmington as an important location for industry at the Port of Los Angeles, the building is *eligible for the California Register of Historical Resources under Criterion 1:* Association with events that have made a significant contribution to the broad patterns of local or regional history and warrants a 3CS Status Code: "appears eligible for the California Register as an individual property through survey evaluation."

Wilmington Iron Works Building

The Wilmington Iron Works Building, located at 432 West C Street, is a one-story industrial building that was constructed in 1927. The building has been re-clad with rough textured stucco and features a decorative parapet on the primary (north) façade. The primary elevation consists of a wood garage door that has been replaced, which

includes a walkthrough entrance with windows above. This elevation retains a pair of six-over-six original wood frame windows in a wood surround to the east of the garage opening; an aluminum sliding window is centered within the parapet. Windows were most likely located east of the garage door but have been covered by the stucco.

Within the context of the development of Wilmington as an important location for industry at the Port of Los Angeles, the building is eligible for the California Register of Historical Resources under Criterion 1: Association with events that have made a significant contribution to the broad patterns of local or regional history and warrants a 3CS Status Code "appears eligible for the California Register as an individual property through survey evaluation."

3.4.3 Applicable Regulations

The proposed Project is not associated with any federal agencies or undertakings; therefore, it is not subject to the Section 106 process and review, or regulatory federal regulations. The lead local agency for the proposed Project is the LAHD. No other federal agencies, such as the Federal Transit Administration (FTA), have been identified as being involved with the proposed Project. In addition, there are no identified federal undertakings that will be associated with the proposed Project.

3.4.3.1 State

3.4.3.1.1 Archaeological Resources

CEQA Guidelines define a significant cultural resource as "a resource listed in or eligible for listing in the California Register of Historical Resources" (PRC Section 5024.1). A resource may be eligible for inclusion in the CRHR if it meets any one of the following criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of important historical figures.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic value.
4. It has yielded, or may be likely to yield, important prehistoric or historic information.

If an archaeological resource does not fall within the definition of an historical resource, but does meet the definition of a *unique archaeological resource* (PRC 21083.2), then the site must be treated in accordance with the special provisions for such resources. An archaeological resource will be *unique* if it:

- contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- is directly associated with a scientifically recognized important prehistoric or historic event or person.

Should an archaeological resource be determined potentially eligible for listing in the CRHR based on one or more of the criteria, the integrity of the resource then comes into question. For archaeological resources integrity is most commonly defined as the ability to address important research questions outlined in a formal research design. For prehistoric and historic archaeological sites, integrity of location, materials, and association are generally most crucial. To address important research topics, archaeological deposits usually must be in their original location, retain depositional integrity, contain adequate quantities and types of materials in suitable condition to address important research topics, and have a clear association. Associations may be defined at different social scales (household or specific activity, region, or even city) and across various temporal spans (brief or longer term). Cultural sites that have been affected by ground-disturbing activities such as grazing, off-road vehicle use, trenching, and vandalism often lack the integrity to answer important questions. This is because spatial or depositional relationships have been lost, deposits or sites from widely different periods and associations have been mixed, or the contents of the deposits have been skewed by selective removal of materials.

Even without a formal determination of significance and nomination for listing in the CRHR, the lead agency can determine that a resource is potentially eligible for such listing to assist in determining whether a significant impact would occur. The fact that a resource is not listed in the CRHR, or has not been determined eligible for such listing, and is not included in a local register of historic resources does not preclude an agency from determining that a resource may be a historical resource for the purposes of CEQA.

3.4.3.1.2 Native American Human Remains

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code, and PRC Sections 5097.94 and 5097.98, and falls within the jurisdiction of the Native American Heritage Commission (NAHC). Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, or historical, resources located on public lands.

3.4.3.1.3 Paleontological Resources

For purposes of CEQA, paleontological resources are treated as cultural resources. The CEQA Environmental Checklist (CEQA Guidelines Appendix G), under the Cultural Resources heading, includes the question would the project "Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature." PRC Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands." PRC Section 30244 requires reasonable mitigation of adverse impacts on paleontological resources from development on public land. Penal Code Section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no "material" (including all or any part of any paleontological item) be removed from any natural geologically formed cavity or cave.

3.4.3.1.4 Historic Architectural Resources

CEQA Guidelines Section 15064.5(a.3) and California PRC Section 21084.1 define the criteria used to determine the significance of cultural resources, characterized as "historic resources" as follows:

> Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC SS5024.1, Title 14 CCR,, Section 4852).

CEQA Guidelines (Section 15064.5(b) (revised October 26, 1998) state that "a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." To this end, the Guidelines list the following definitions:

1. Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
2. The significance of an historical resource is materially impaired when a project:

    A. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

B. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

PRC Section 21083.2(j) states that an historical resource is a resource listed in, or is determined to be eligible for listing in, the California Register of Historical Resources, or listed in a local register of historical resources, or deemed significant pursuant to criteria identified in PRC Section 5024.1(g) defined above, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or is determined not to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 does not preclude a lead agency from determining whether the resource may be an historical resource. CEQA Guidelines Sections 15064.5 and 15126.4 guide the evaluation of impacts on prehistoric and historic archaeological resources. Section 15064.5(c) provides that, to the extent an archaeological resource is also a historical resource, the provisions regarding historical resources apply. These provisions endorse the first set of standardized mitigation measures for historic resources by providing that projects following the Secretary of the Interior's Standards for Treatment of Historic Properties be considered as mitigated to a less-than-significant level.

3.4.3.2 Regional and Local

3.4.3.2.1 Archaeological Resources

City guidelines for the protection of archaeological resources are set forth in Section 3 of the General Plan of the City of Los Angeles Conservation Element, which, in addition to compliance with CEQA, requires the identification and protection of archaeological sites and artifacts as a part of local development permit processing. Specifically, Los Angeles Municipal Code section 91.106.4.5 states the following:

> The building department shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated, or has been determined by state or federal action to be eligible for designation, on the National Register of Historic Places, or has been included on the City of Los Angeles list of historic cultural monuments, without the department having first determined whether the demolition, alteration or removal may result in the loss of or serious

damage to a significant historical or cultural asset. If the department determines that such loss or damage may occur, the applicant shall file an application and pay all fees for the California Environmental Quality Act Initial Study and Check List, as specified in Section 19.05 of the Los Angeles Municipal Code. If the Initial Study and Check List identifies the historical or cultural asset as significant, the permit shall not be issued without the department first finding that specific economic, social or other considerations make infeasible the preservation of the building or structure.

3.4.3.2.2 Ethnographic Resources

Relative to ethnographic resources, the *L.A. CEQA Thresholds* (2006) states: "Consider compliance with guidelines and regulations such as the California Public Resources Code." No specific local regulations mandating the protection of ethnographic resources exist.

3.4.3.2.3 Paleontological Resources

City guidelines for the protection of paleontological resources are specified in Section 3 of the City of Los Angeles General Plan Conservation Element. The policy requires that the City's paleontological resources be protected for research and/or educational purposes. It mandates the identification and protection of significant paleontological sites and/or resources known to exist or that are identified during land development, demolition, or property modification activities.

3.4.3.2.4 Historic Architectural Resources

City guidelines for the protection of historic architectural resources are also set forth in Section 3 of the General Plan of the City of Los Angeles Conservation Element (see Section 3.4.3.2.1, "Archaeological Resources," above for details).

Five types of historic protection designations apply in the City: (1) Historic-Cultural Monument designation by the City's Cultural Heritage Commission and approved by the City Council; (2) placement on the California Register of Historical Resources or (3) the National Register of Historic Places (1980 National Historic Preservation Act); (4) designation by the Community Redevelopment Agency (CRA) as being of cultural or historical significance within a designated redevelopment area; and (5) classification by the City Council (recommended by the planning commission) as an Historic Preservation Overlay Zone (HPOZ). These designations help protect structures and support rehabilitation fund requests (City of Los Angeles 2001b).

The City Cultural Heritage Commission (CHC) was established by ordinance in 1962 to protect and/or identify architectural, historical, and cultural buildings; and structures and sites of importance in the City's history and/or cultural heritage. The CHC has designated over 700 sites as Historic-Cultural Monuments, including

historic buildings, corridors (tree-lined streets), and geographic areas. Historical resources may also include resources listed in the State Historic Resources Inventory as significant at the local level or higher, and those evaluated as potentially significant in a survey or other professional evaluation (City of Los Angeles 2001b). The HPOZ provision of the zone code, Los Angeles Municipal Code (LAMC) Section 12.20.3, was adopted in 1979, and was amended in 2001. It contains procedures for designation and protection of areas that have structures, natural features, or sites of historic, architectural, cultural, or aesthetic significance. HPOZ areas contain significant examples of architectural styles characteristic of different periods in the City's history. No area within the Port has been designated as part of an HPOZ (City of Los Angeles 2001b).

The significance of an historical resource is also based on (1) whether the site has been coded by the Department of Building and Safety with a Zoning Instruction number in the 145 series (which indicates prior identification of the property as historic); (2) whether the resource has been classified as historic in an historical resources survey conducted as part of the updating of the Community Plan, the adoption of a redevelopment area, or other planning project; (3) whether the resource is subject to other federal, state, or local preservation guidelines; (4) whether the resource has a known association with an architect, master builder, or person or event important in history such that the resource may be of exceptional importance; and (5) whether the resource is over 50 years old and a substantially intact example of an architectural style significant in Los Angeles (*L.A. CEQA Thresholds Guide* 2006).

City of Los Angeles Historic-Cultural Monument Designation

In the City of Los Angeles, resources may be designated as Historic-Cultural Monuments under Sections 22.120, et seq., of the LAMC. An historical or cultural monument is defined as:

> "[A]ny site (including significant trees or other plant life located thereon), building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, political, economic or social history of the nation, state or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, state or local history, or which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age."

City of Los Angeles Historic Preservation Overlay Zones

HPOZs are essentially locally designated historic districts or groupings of historical resources. Under the HPOZ ordinance (LAMC Section 12.20.3), to be significant, structures, natural features, or sites within the involved area or the area as a whole must meet one or more of the following criteria:

(A) have substantial value as part of the development, heritage or cultural characteristics of, or is associated with the life of a person important in the history of the city, state, or nation;

(B) are associated with an event that has made a substantial contribution to the broad patterns of our history;

(C) are constructed in a distinctive architectural style characteristic of an era of history;

(D) embody those distinguishing characteristics of an architectural type or engineering specimen;

(E) are the work of an architect or designer who has substantially influenced the development of the City;

(F) contain elements of design, details, materials or craftsmanship which represent an important innovation;

(G) are part of or related to a square, park or other distinctive area and should be developed or preserved according to a plan based on a historic, cultural, architectural or aesthetic motif;

(H) owing to its unique location or singular physical characteristics, represent an established feature of the neighborhood, community or City; or

(I) retaining the structure would help preserve and protect an historic place or area of historic interest in the City.

3.4.4 Impact Analysis

3.4.4.1 Methodology

Impacts on cultural resources from the proposed Project were evaluated by determining whether demolition or ground disturbance activities would affect areas that contain or could contain any archaeological or historical sites listed in or eligible for listing in the NRHP or the CRHR, that are designated as a City of Los Angeles Historic-Cultural Monument or that are included within a City of Los Angeles HPOZ, or that are otherwise considered a unique or important archaeological resource under CEQA (City of Los Angeles 2006). A project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Weeks and Grimmer 1995) would be considered as mitigated to a level of less than significant. Impacts on paleontological resources were evaluated similar to buried archaeological resources, that is, by determining whether ground disturbance activities would affect areas that contain or could contain any a unique paleontological resource or site or unique geologic feature.

Furthermore, the impact analysis assumed that the proposed Project would comply with all applicable local, state, and federal laws, including those mentioned in the following paragraphs.

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code, and PRC Sections 5097.94 and 5097.98, and falls within the jurisdiction of the Native American Heritage Commission (NAHC). Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological or historical resources located on public lands.

If human remains are discovered or recognized during site preparation, grading, or construction, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are determined by the coroner to be of Native American origin, the descendants will be identified and notified through the Native American Heritage Commission.

If the remains are of Native American origin:

a. the descendants of the deceased Native Americans will make a recommendation to the person responsible for the excavation work as to the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, as provided in Public Resources Code 5097.98. Upon discovery of human remains, the landowner shall ensure that the immediate vicinity is not damaged or disturbed until specific conditions are met through discussions with the descendents regarding their preferences for treatment (PRC 5097.98 as amended); or

b. if the Native American Heritage Commission is unable to identify a descendant, or the descendant fails to respond within 48 hours after being notified by the commission, the landowner is required to reinter the human remains and to protect the site where the remains are reinterred from further and future disturbance.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner will contact the California Native American Heritage Commission.

3.4.4.2 Thresholds of Significance

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) provides specific thresholds of significance to address potential impacts on cultural resources resulting from implementation of a project. The proposed Project would have a significant impact on cultural resources if it would:

CR-1: Disturb, damage, degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource

CR-2: Disturb, damage, degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource

CR-3: Disturb, damage, or degrade unknown human remains.

CR-4: Result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

CR-5: Result in a substantial adverse change in the significance of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.

3.4.4.3 Impacts and Mitigation

3.4.4.3.1 Proposed Project

Impact CR-1: Construction of the proposed Project would not disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.

Excavation and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy significant archeological resources within the proposed project area. Archaeological resources were analyzed for the following components of the proposed Project: the project-level impact analysis for the Railroad Green and commercial portion of the Avalon Development District, the Avalon Waterfront District; the California Coastal Trail, and the program-level impact analysis for the remaining portions of the Avalon Development District, the Avalon Triangle Park, and the Waterfront Red Car Line.

Avalon Development District

Proposed project infrastructure improvements and enhancements within the Avalon Development District include the potential development of industrial and commercial space, a 1-acre park located on the vacated Railroad Green, and adaptive reuse of the historic 14,500-square-foot Bekins Storage property for a Waterfront Red Car Museum. Several streets would be vacated or realigned. Archival research has indicated that this portion of the proposed project area is located within the center of the historic community of Wilmington. In addition, the following historic resource would be eligible for inclusion in the California Register of Historical Resources:

ICFJSA-NS-1/Pacific Electric Railway

Three segments of the Pacific Electric tracks were identified in the Railroad Green portion of the proposed project area and are eligible for inclusion in the California Register of Historical Resources by meeting Criteria 1, 2, and 3 as follows:

1. Southern California's regional settlement and patterns of urban topography can be laid to the development and routes of the Pacific Electric Railway. The line segment through Wilmington connected the Los Angeles Harbor and town site of San Pedro with the rest of the City of Los Angeles, brought millions of tourists to the docks of the Catalina Steamers, and ferried World War II workers to and from ship building and aircraft plants during the conflict. *Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage*.
2. The Pacific Electric Railway was the culmination of the life work of Henry Edwards Huntington and his vision of developing Southern California along a network of high-speed steel-railed routes. This line is also important for its role in fulfilling the dream of William Wrigley Jr., the chewing gum magnate. He owned Catalina Island from 1919 until his death in 1932. The Wrigley family placed the island in trust with the Catalina Island Conservancy in 1972, and Wrigley played an instrumental role in the history of Catalina Island, bringing improvements such as public utilities, new steamships, a hotel, the Casino building, and extensive plantings of trees, shrubs and flowers. Nearly every visitor to Catalina began and ended their trip with rides on the "Big Red Cars" of the Pacific Electric. *Associated with the lives of important historical figures.*
3. The Pacific Electric Railway was an electric railway. Although it shares conventional steel rails set at a U.S. standard gauge of 4 foot, 8½ inches, the rails feature a special rail bond made by welding large diameter braided steel cables to each rail at each rail joint. This bonding allowed the rails to be the ground return circuit of a 600v DC electrical power system that was clean, quiet, and energy efficient. Power for the system was primarily renewable hydroelectric; the cars and locomotives emitted no local noise or air pollution; and by means of regenerative braking they were able to convert potential energy and the weight of the cargos and passengers back into electricity for use elsewhere on the system. *Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic value.*

Because this resource is eligible for listing in the CRHR, it is recommended that the original tracks be kept in place and worked into the landscape scheme for the new park and promenade contemplated as part of the proposed Project. Removal of the tracks would constitute a significant impact to this historical resource.

Potential for subsurface historical archaeological deposits

Archival and historic map research (Sanborn1885, 1888, 1900, 1907, 1913, and 1921) indicates portions of the proposed project area, specifically the commercial portion of the Avalon Development District Area B, is located within historic Wilmington. Banning's development of shipping in the 1880s attracted people to the area to fill the new employment needs. Businesses to service this new population established themselves in the area now proposed for the commercial development. The types of services in this area included a boardinghouse, a Chinese laundry, and a public hall (Sanborn 1885, 1888). The delineation of businesses on historic maps indicates the area has a very high potential for extant subsurface archaeological deposits. Proposed project–related demolition of existing structures, utilities, and landscape features in the area has the potential to encounter and disturb these deposits. Disturbance of any deposits that have the potential to provide data important in history regarding consumerism, class and ethnicity, urban geography, and labor relations would be considered significant under CEQA. Implementation of Mitigation Measure MM CR-3 below would reduce potential impacts on archaeological resources associated with the commercial portion of the proposed project to less-than-significant levels.

Avalon Waterfront District

Proposed project features and improvements in the Avalon Waterfront District include a waterfront promenade with restaurant/visitor-serving retail development, a pedestrian bridge and observation tower, 61,100 square feet of new viewing piers of which approximately 17,880 square feet would be replacement existing piers (netting approximately 43,000 square feet of new area), two floating docks totaling 5,870 square feet for transient boats (Phase I), and a 10-acre landscaped bridge providing the Wilmington Community safe access to the waterfront. Five cultural resources have been identified in this portion of the proposed project area:

ICFJSA-NS-2/Harbor Belt Line Railroad

Currently, this segment of track forms one of the main leads into the Pacific Harbor Line's Pier A Yard complex and is in active service. While this track is more or less on the original, historic, alignment of the Southern Pacific into San Pedro (now Union Pacific), it must be remembered that the right-of-way easement in this section is 200 feet wide. A tank farm has encroached somewhat on this easement. Also some of the more recent Harbor Belt track was in the same vicinity, and the track has been realigned to support modern operating conditions. Because of this, it is difficult to determine exactly where the original track alignment was within this corridor. In addition, the track structure itself has been recently upgraded with heavy rail of recent vintage.

The track does not appear to be associated with any persons or events that would qualify for listing under Criteria 1 or 2. Furthermore, the track segment does not rise to the level of historical significance because it does not possess a distinctive architectural design characteristic or unique construction type, nor does it represent the work of a master or possess high artistic value under Criterion 3. Finally, the resource does not appear to contain any potential to answer important questions in prehistory and/or history and therefore is not eligible under Criterion 4 (Signor pers. comm.). Therefore, ICFJSA-NS-2 is not considered a significant historic archaeological resource.

ICFJSA-NS-3/Drainage Swale

This resource appears to have undergone alterations that include asphalt paving. The drainage swale does not rise to the level of historical significance because it does not possess a distinctive architectural design characteristic or unique construction type, nor does it represent the work of a master or possess high artistic value under Criterion 3. Furthermore, the drainage swale does not appear to be associated with any persons or events that would qualify for listing under Criteria 1 or 2. Finally, the resource does not appear to contain any potential to answer important questions in prehistory and/or history and therefore is not eligible under Criterion 4. Therefore, ICFJSA-NS-3 is not considered a significant historic archaeological resource.

ICFJSA-NS-4/Pacific Electric Railway "Channel Track"

This resource consists of one 18-foot and one 20-foot segment of the "channel rail" track used by the Pacific Electric to access the Catalina Steamer Dock located at Berths 184–185 at the foot of Avalon Boulevard on Slip 5. The Pacific Electric tracks within the proposed project area are eligible for inclusion in the CRHR by meeting Criteria 1, 2 and 3 as follows:

1. Southern California's regional settlement and patterns of urban topography can be laid to the development and routes of the Pacific Electric Railway. The line segment through Wilmington connected the Los Angeles Harbor and town site of San Pedro with the rest of the City of Los Angeles, brought millions of tourists to the docks of the Catalina Steamers, and ferried World War II workers to and from ship building and aircraft plants during the conflict. *Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*
2. The Pacific Electric Railway was the culmination of the life work of Henry Edwards Huntington and his vision of developing Southern California along a network of high-speed steel-railed routes. This line is also important for its role in fulfilling the dream of William Wrigley Jr., the chewing gum magnate. He owned Catalina Island from 1919 until his death in 1932. The Wrigley family placed the island in trust with the Catalina Island Conservancy in 1972, and Wrigley played an instrumental role in the history of Catalina Island, bringing improvements such as public utilities, new steamships, a hotel, the Casino building, and extensive plantings of trees, shrubs and flowers. Nearly every visitor to Catalina began and ended their trip with rides on the 'Big Red Cars' of the Pacific Electric. *Associated with the lives of important historical figures.*

3. The Pacific Electric Railway was an electric railway. Although it shares conventional steel rails set at a U.S. standard gauge of 4 foot, 8½ inches, the rails feature a special rail bond made by welding large diameter braided steel cables to each rail at each rail joint. This bonding allowed the rails to be the ground return circuit of a 600v DC electrical power system that was clean, quiet, and energy efficient. Power for the system was primarily renewable hydroelectric; the cars and locomotives emitted no local noise or air pollution; and by means of regenerative braking they were able to convert potential energy and the weight of the cargos and passengers back into electricity for use elsewhere on the system. *Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic value.*

Because this resource is eligible for listing in the CRHR, it is recommended that the original tracks be kept in place and worked into the landscape scheme for the Railroad Green park as part of the proposed Project. Prior to mitigation, the proposed project impact on ICFJSA-NS-4 would be significant. Implementation of Mitigation Measure MM CR-2 below would reduce impacts to less than significant.

ICFJSA-NS-5 Water Street Wharf/Catalina Steamer Terminal Wharf

The Water Street Wharf/Catalina Steamer Terminal Wharf and warehouse were demolished in the early 1990s by the LAHD. Today, all that remains of the wharf is a concrete and wood post foundation along the waterfront of Berth 185. This resource was previously evaluated for eligibility for listing in the NRHP by McKenna et al. (1994) as part of a cultural resources investigation conducted at Banning's Landing for the Port's proposed *Banning's Landing Waterfront Access and Office Development Project*. The research in McKenna et al.'s report specifically focused on the history of development of the Wilmington Basin, including Slip 5, in the 19th and 20th centuries. In addition to researching the history of development of Slip 5, McKenna attempted to address the potential for a resource locally known as "Banning's Wall" to be located in Slip 5. According to the report, the concrete wall located behind the Water Street Wharf was constructed after 1913, as part of the general improvements to this portion of the port. Although the wall is over 50 years, it was determined not eligible for listing in local, state, or federal registers. ICF Jones & Stokes concurs with this determination and extends the evaluation to include the remnant of the wharf as it appears the wall was constructed in tandem with the improved Water Street Wharf in the early 20th century. Although the resource is eligible for listing under Criteria 1 and 2 for its association with important historical persons (H. Banning [son of Phineas] and William Wrigley Jr.) and important historical events (development of recreation at the Port of Los Angeles and Catalina Island), it does not retain the integrity to convey its period of significance. The resource does not appear eligible under Criterion 3 as it does not possess a distinctive architectural design characteristic or unique construction type, nor does it represent the work of a master or possess high artistic value. Finally, the resource does not appear to contain any potential to answer important questions in prehistory and/or history and therefore is not eligible under Criterion 4. Therefore, no additional work is recommended.

ICFJSA-NS-6/Stacked Stone Breakwater

Although McKenna et al.'s 1994 study included an evaluation of the concrete wall located directly west of the stacked stone breakwater (part of ICFJSA-NS-5), the report did not specifically address the stacked stone breakwater. During historical research, interviews with members of the local historical society determined that the breakwater was referred to as "Banning's Wall." Therefore, ICF Jones & Stokes researched the possibility that the stacked stone breakwater was a remnant of an earlier occupation, and possibly associated with Phineas Banning and/or the Banning Company at Banning's Landing. Specific research methods included oral interviews with the local historical societies, a review of published literature on the history of Banning's enterprises, and review of historic maps and LAHD engineers' plans. In addition, previous research conducted by McKenna (1994) was reviewed.

Research did not indicate an association of the wall with Phineas Banning, the Banning family, or the Banning company. The research did find that the general area of Berth 186 was not developed until 1919. By 1927, the wharf (boat landing) was gone and the area directly north was referred to as a park. In 1942, a new boat landing was designed and in 1943 the Harbor Department constructed a public restroom building. During World War II, the Water Taxi Company transported workers from Berth 186 to the Cal Shipyards and to various sport-fishing excursions (personal communication Wilmington Historical Society). This research indicates the stone wall could be a remnant of the dyke placed across the mouth of the Wilmington Basin in 1918, which encouraged the development of Berth 186 by the Los Angeles Harbor Department. It is also possible that the stacked stone breakwater is representative of later developments at Berth 186, including the taxi and sport-fishing.

Therefore, although the resource is over 50 years old, it does not rise to the level of significance as it cannot be clearly demonstrated to be associated with any important events in history (Criterion 1) or individuals (Criterion 2). For a resource to be eligible under Criterion 2 it must clearly be associated with a significant person and documentation must support the association. It also needs to be the best resource to reflect the person's contributions in their fields of endeavor. Phineas Banning made significant contributions in the areas of transportation, commerce, and community development when he built his wharf and expanded the Port. These efforts resulted in accessibility for larger ships and more trade. He is further recognized for initiating the construction of the first railroad in Southern California which was the first reliable means of moving cargo from ships coming into San Pedro. Extant resources associated with these achievements will better represent Banning's contributions to California history. The stone breakwater does not clearly represent Banning's contributions within the larger historic context of the harbor's development. Furthermore, resources eligible under Criterion 2 must also retain integrity from the period of its significant association. If this resource were directly linked to Banning, it does not retain integrity to the 1870s, its period of significance. The resource has been altered and changed over time and can no longer convey any possible historical association with Banning. It no longer retains integrity of design, setting, materials, and workmanship which would be the key aspects to understand the significance of the stone breakwater. The resource does not appear eligible under Criterion 3 as it

does not possess a distinctive architectural design characteristic or unique construction type, nor does it represent the work of a master or possess high artistic value. Finally, the resource does not appear to contain any potential to answer important questions in prehistory and/or history and therefore is not eligible under Criterion 4. Therefore, ICFJSA-NS-6 is not considered a significant historic archaeological resource.

Potential for Subsurface Historical Archaeological Deposits

In addition to the six cultural resources identified during the field survey of this portion of the proposed project area, archival research has indicated the potential for subsurface historical archaeological deposits associated a Civil War Government Depot at Banning's Landing within the Avalon Waterfront District portion of the proposed project area. Because of the potential of encountering associated subsurface deposits, impacts would be considered significant for the purposes of CEQA, implementation of MM CR-4 will reduce this impact to less-than-significant.

Avalon Triangle Park

At the program level, the proposed Project includes extending the Port Plan boundary and PMP boundary to Harry Bridges Boulevard, which would include the Avalon Triangle Park, resulting in a corresponding retraction of the Wilmington-Harbor City Community Plan boundary. No physical changes are proposed in this area.

Waterfront Red Car Line/California Coastal Trail

At the program level, the proposed Project includes extension of the Waterfront Red Car Line and, and at the project-level, the continuation of the California Coastal Trail from Avalon Boulevard to Swinford Street. The eastern portion of the Waterfront Red Car Line/California Coastal Trail extends from Avalon Boulevard along Harry Bridges Boulevard. The western portion of the Waterfront Red Car Line/California Coastal Trail extends west of Figueroa Street along John S. Gibson Boulevard to Swinford Street. The California Coastal Trail alignment is entirely within the existing Public Right-of-Way and is mostly paved over with sidewalk for pedestrian use. The Waterfront Red Car Line's exact alignment is unknown and thus discussed programmatically.

According to the records search, the Waterfront Red Car Line/California Coastal Trail portions of the proposed project area are sensitive for both prehistoric and historical archaeological resources. Sixteen archaeological sites have been previously identified within a 1-mile radius of the proposed alignment. Nine of the sixteen archaeological sites have been recorded within less than ¼ mile of the proposed alignment (CA-LAn-116, -146, -147, -150, -283, -285, -2135H, -2873, and -2874). Of these nine sites, CA-LAN-150 is located adjacent to the alignment, CA-LAN-283 is located 0.06 of a mile from the alignment, and CA-LAn-2135H is located approximately 0.04 of a mile from the alignment. CA-LAN-150 is the only previously recorded site located adjacent to the current alignment, along the western side of John S. Gibson Blvd. within a paved parking lot utilized by the West Basin

Container Terminal, which currently serves China Shipping, Yang Ming, K-Line, Cosco, Hanjin, Sinotrans, Zim (Berths 121–131).

In 1912, N. C."Nels" Nelson recorded CA-LAn-150 as a refuse heap (shell midden) measuring 600 by 75 feet and "located at the western end of the Wilmington Lagoon on the bluff at the left hand side of Wilmington Road." Nelson estimated the site depth at 4 feet and noted that no associated artifacts were observed.

According to the Phase I Historical Resources Study (ICF Jones & Stokes 2008), the Phase I pedestrian survey of this portion of the proposed project area did not result in the identification of any portion of CA-LAN-150 on the surface. In addition, a note in the site record file dating from 1981 stated that CA-LAn-150 appeared to be completely destroyed as a result of earthmoving activities subsequent to 1964 (Dillon 1981). However, because no subsurface investigation was conducted at CA-LAn-150 prior to the reported earthmoving activities, it is not possible to use the information from the 1912 site record to determine the exact location, horizontal extent, or depth of the site. In addition, the 1981 note does not provide a description of the methods the author used to make the determination that the site was completely destroyed. Therefore, it cannot be determined using the information currently available whether any portion of CA-LAn-150 remains intact and if any identified deposits would meet significance criteria.

CA-LAn-283 is a significant prehistoric habitation site that was partially salvage excavated in 1968 during the construction of the Vincent Thomas Bridge. The excavators recovered a substantial amount of artifacts that indicated the site was occupied initially during the Millingstone Horizon (ca. 8000–3500 BP), through the Intermediate Period (ca. 3500–1200 BP) and into the Late Prehistoric Period, with a termination date of sometime between AD 1000 and AD 1500 (Desautels 1968). In addition to recovering a large number of artifacts, an unusual cogged stone with a platform base and vertical side notching at regular intervals was also identified. CA-LAn-283 yielded important scientific information relevant to the prehistory of coastal southern California. Laboratory analysis of the artifacts indicated that the site exhibited a long period of repeated seasonal occupation, broad resource exploitation, and an easily accessible supply of Monterey Chert for chipped stone implements. The overall assemblage indicates that the site might represent a primary subsistence village of a centrally based, wandering community. Although no evidence of the site was encountered during the Phase I pedestrian survey (ICF Jones & Stokes 2008), the possibility exists that subsurface deposits may be present in this portion of the proposed project area.

While the extent of development and re-development indicates a low potential to encounter subsurface archaeological deposits associated with CA-LAN-150 and/or CA-LAn-283 during ground disturbing activities, implementation of Mitigation Measure MM CR-4 would reduce impacts on potentially significant archaeological resources associated with the CCT portion of the proposed project to less-than-significant levels. In addition, because the Waterfront Red Car Line portion of the proposed project was analyzed programmatically, implementation of Mitigation Measure MM CR-1 would reduce future impacts in this portion of the proposed project area.

Impact Determination

Because proposed changes to the Avalon Triangle Park portion of the project is limited to administrative changes resulting from various planning document boundary adjustments, the identification of cultural resources in these areas was confined to the records search, correspondence with interested parties, and archival research. Likewise, because the exact placement of the Waterfront Red Car Line is not known at the time of this study, the identification of cultural resources in these areas was confined to the records search, correspondence with interested parties, and archival research.

Archival research has indicated that the proposed Avalon Development District is located within the center of the historic community of Wilmington. Therefore, future developments in this area have the potential to temporarily unearth and permanently destroy sensitive historical archaeological resources associated with the early development of Wilmington. Impacts on archaeological resources related to proposed project construction in the Avalon Development District would be significant. The Phase I historical resources study (ICF Jones & Stokes 2008) has resulted in the identification of six cultural resources within the proposed project area: ICFJSA-NS-1/Pacific Electric Railway, ICFJSA-NS-2/Harbor Belt Line Railroad, ICFJSA-NS-3/Drainage Swale, ICFJSA-NS-4/Pacific Electric Railway "Channel Track", ICFJSA-NS-5 Water Street Wharf /Catalina Steamer Terminal, and ICFJSA-NS-6/Stacked Stone Breakwater. Of these resources, only ICFJSA-NS-1 (Pacific Electric Railway) was determined significant (eligible for listing in the CRHR). Impacts on this resource would be considered significant without mitigation.

Within the Avalon Waterfront District, excavation and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy significant historical archeological resources associated with (1) Phineas Banning, Banning's Landing, and the early development of the port; and (2) a portion of Banning's Landing utilized by Northern forces during the Civil War for a depot to supply forces at the Drum Barracks. It is recommended that these areas be avoided during construction to avoid impacts on significant archaeological resources. Without mitigation, a significant impact would occur.

Because there appears to be a high potential to encounter subsurface historical archaeological deposits associated with important themes and individuals in history (Banning's Landing and the Civil War) within the Avalon Waterfront District portion of the proposed project area, the proposed Project could potentially adversely impact historical resources under CEQA. CEQA provides explicit guidelines for the treatment of archaeological sites whether those sites are known or have a high probability to be located within a project area. According to Section 15126.4 (b)(3), public agencies should consider (1) preserving sites in place, (2) conducting data recovery which requires the preparation and adoption of a data recovery plan prior to any excavation, or (3) determining that, based upon archaeological testing or existing studies, all scientifically consequential information has been gleaned from the site and that the determination is documented in the environmental document.

No physical changes are proposed at the Avalon Triangle Park site. Extending the boundary of the Port Plan to Harry Bridges Boulevard, which would include the Avalon Triangle Park site (and retracting the Wilmington Harbor-City Plan boundary), would have no impact on archaeological resources.

Any excavation operations for the Waterfront Red Car Line/California Coastal Trail have the potential to temporarily unearth and permanently destroy sensitive archaeological resources. Impacts on archaeological resources in this area would be significant.

Mitigation Measures

MM CR-1: Conduct Future Cultural Resources Studies along the Waterfront Red Car Line

The analysis of cultural resources along the Waterfront Red Car Line is in the program level of analysis. Archival research indicates that archaeological resources may be located within the Waterfront Red Car Line proposed project area. According to the records search, **t**wo prehistoric sites (CA-LAn-150 and CA-LAn-283) are located adjacent to the proposed Waterfront Red Car Line location and one archaeological site, CA-LAn-2135H, is located less than ⅛th of a mile from the proposed approximate alignment. In addition, archival and historic map research has indicated the potential for subsurface archaeological deposits associated with the early development of Wilmington within the Avalon Development District and the Waterfront Red Car Line.

Therefore, LAHD will ensure that, prior to final design approval for affected parcels, a qualified archaeologist will be retained to perform additional Phase I level archaeological surveys and research to determine the potential for prehistoric and historical archaeological deposits within these portions of the proposed project area in accordance with professional standards and guidelines.

MM CR-2: Incorporate the Tracks into the Design Plan

The proposed Project will incorporate the Pacific Electric Railway (PERy) tracks into the project design in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Weeks and Grimmer 1995). A substantial portion of the track will be preserved in place, which may include compatible alterations consistent with original PERy practice and intent. Examples of such alternations include raising or lowering track elevation to maintain its relationship to adjacent grade or removing or relocating sections to make repairs, fill in gaps, or to realign the public right-of-way. Where it is determined portions of the track will be reconnected, rail bonding shall be repaired and trackwork will be executed by an experienced railway construction contractor. Portions of the track where in place preservation is not feasible, such as the track within the Waterfront Red Car Line and California Coastal Trail alignment, will be statically incorporated into the Railroad Green Park landscape and hardscape design by a qualified landscape architect so as to memorialize the historical significance of

the PERy. Any portion of the track not incorporated into the park design will be preserved for reuse in a storage facility determined suitable for long-term preservation.

MM CR-3: Develop and Implement Historical Resources Treatment Plan Prior to Demolition and/or Ground Disturbing Activities

Disturbance of these archaeological deposits would be considered a significant impact under CEQA, which would require mitigation. Avoidance and/or preservation in place is the preferred mitigation for archaeological deposits. However, when this is not possible, the excavation of archaeological deposits to recover the data they contain is also appropriate (Section 15126.4 (b)(3)). Such data recovery excavation requires careful planning in the form of a Treatment Plan. Prior to any ground-disturbing activities and/or demolition, a treatment plan would be developed and implemented. This document would address areas where potentially significant historical archaeological deposits are likely to be located within the proposed commercial portion of the proposed project area. The treatment plan would also include methods for: (1) archaeological monitoring during demolition of existing buildings, (2) subsurface testing after demolition, and (3) data recovery of archaeological deposits. A detailed historic context that clearly demonstrates the themes under which any identified subsurface deposits would be determined significant would be included in the document as well as anticipated artifact types, artifact analysis, report writing, repatriation of human remains and associated grave goods, and curation. Implementation of Mitigation MM CR-3 would reduce potential impacts on archaeological resources associated with the commercial portion of the proposed project to less-than-significant levels.

MM CR-4: Develop an Archaeological and/or Native American Research Design and Treatment Plan

The Phase I historical resources study (ICF Jones & Stokes 2008) has identified a low potential for historical archaeological deposits associated with a Civil War-era Government Depot within a portion of the Wilmington Waterfront District. In addition, the Phase I historical resources study identified a low potential for prehistoric archaeological deposits associated with CA-LAN-150 and CA-LAN-283. However, because there is potential for ground-disturbing activities to impact potentially CRHR and/or NRHP-eligible historical archaeological deposits, the following steps will be taken prior to any ground-disturbing activities:

- A research design and treatment plan will be generated that would address areas where potentially significant archaeological deposits are likely to be located within this portion of the project area and clearly demonstrates the themes under which any deposits would be determined significant.
- LAHD will require at least one pre-field meeting with environmental management staff, project engineers, construction contractors, and construction inspectors to discuss protocols and procedures related to treatment of identified archaeological resources.
- A qualified archaeologist shall monitor all ground-disturbing activities in the vicinity of the Government Depot within the Wilmington Waterfront District

portion of the project area. The qualified archaeological monitor will have demonstrated knowledge of, and experience with the treatment of historical archaeological resources.

- A qualified archaeologist and Native American monitor will monitor all ground-disturbing activities within the vicinity of CA-LAn-150 and CA-LAn-283 along the California Coastal Trail portion of the proposed project area. The qualified archaeologist will have demonstrated knowledge of, and experience with, the treatment of prehistoric archaeological resources.
- Due to potentially hazardous soil conditions associated with the DWP facility (as included in the project description), a safety plan will be generated in conjunction with the LAHD that addresses all issues associated with contamination and remediation. It is further recommended that the qualified archaeological monitor also be 40-hour Hazwoper certified.
- In the event that subsurface deposits are identified during monitoring, ground disturbing activities will halt within 100 feet of the find to allow the qualified archaeologist to assess the find(s) and determine if treatment of the resource(s) is required.

Residual Impacts

With implementation of mitigation measures MM CR-1, MM CR-2, MM CR-3, and MM CR-4, impacts on known or suspected archaeological resources would be less than significant.

Impact CR-2: Construction of the proposed Project would not disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.

Excavation and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy previously unidentified, significant archeological resources within the proposed project area. Archaeological resources were analyzed for the five components of the proposed Project: the project-level impact analysis for the Railroad Green portion of the Avalon Development District, the Avalon Waterfront District, and the California Coastal Trail; and the program-level impact analysis for the remaining portions of the Avalon Development District, the Avalon Triangle Park, and the Waterfront Red Car Line.

Impact Determination

Because portions of the site are covered by existing pavement, structures, or buildings that may be demolished at a future time, a field survey and/or soil testing at these locations was not feasible. However, based upon archival research and known archaeological resources in the area, it is likely unknown prehistoric and/or historical archaeological resources are contained with the ground. In most cases,

implementation of mitigation measures MM CR-1 and MM CR-3 would preclude the potential for a significant impact. However, in the event these mitigation measures do not identify all archaeological resources in the area and construction activities commence, any unidentified resources would have the potential to be destroyed. Impacts on unidentified archaeological resources would be significant.

Mitigation Measures

MM CR-5: Stop Work if Previously Unidentified Resources Are Encountered during Ground Disturbing Activities

In the event that any artifact or an unusual amount of bone, shell, or nonnative stone is encountered during construction, work will be immediately stopped and relocated to another area. The contractor will stop construction within 100 feet of the exposed resource until a qualified archaeologist can be retained by the Port to evaluate the find (see 36 CFR 800.11.1 and CCR, Title 14, Section 15064.5(f)). Examples of such cultural materials might include concentrations of ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; historic trash pits containing bottles and/or ceramics; or structural remains. If the resources are found to be significant, they will be avoided or will be mitigated consistent with SHPO Guidelines. All construction equipment operators will attend a preconstruction meeting presented by a professional archaeologist retained by the Port that will review types of cultural resources and artifacts that would be considered potentially significant, to ensure operator recognition of these materials during construction.

Prior to beginning construction, the Port will meet with applicable Native American Groups, including the Gabrieliño/Tongva Tribal Council to identify areas of concern. In addition to monitoring, a treatment plan will be developed in conjunction with the Native American Groups to establish the proper way of extracting and handling all artifacts in the event of an archaeological discovery.

Residual Impacts

Implementation of mitigation measures MM CR-1 for the program-level portions of the proposed project and MM CR-5 for the project-level portions of the proposed project would reduce impacts to unknown resources to less than significant.

Impact CR-3: Construction of the proposed Project would not disturb, damage, or degrade unknown human remains.

The results of the proposed project technical analysis has indicated a low potential to encounter buried prehistoric and/or historic period human remains within the proposed project area. According to the Phase I historical resources study (ICF Jones & Stokes 2008) no known prehistoric burials have been encountered within a one-mile radius of the proposed project area. In addition, no historic period cemeteries have been documented within the proposed project boundaries. However, there is a possibility to encounter previously unidentified, buried human remains.

In the event human remains are discovered, the Port would be required to comply with state law which states that there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner is contacted and the appropriate steps taken pursuant to Health and Safety Code §7050.5 and Public Resource Code §5097.98.

Impact Determination

While the possibility of encountering unidentified buried human remains is low, the possibility cannot be ruled out. Impacts related to the possible disturbance, damage, or degradation of unknown human remains would be significant.

Mitigation

Implement MM CR-1, MM CR-3, MM CR-4, and MM CR-5 (see Impacts CR-1 and CR-2 for the full text of the mitigation measures).

Residual Impacts

Implementation of mitigation measures MM CR-1, MM CR-3, MM CR-4, and MM CR-5 would substantially reduce the potential of impacting unknown buried human remains. With mitigation, impacts would be less than significant.

Impact CR-4: The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

Excavation, trenching, and pile driving, as well as other ground-disturbing actions, have the potential to damage or destroy significant paleontological resources within the proposed project area. Paleontological resources were analyzed for the five components of the proposed Project: the project-level impact analysis for the Avalon Waterfront District, California Coastal Trail, and the Avalon Development District and the program-level impact analysis for Avalon Triangle Park and the Waterfront Red Car Line. Figure 3.4-1 depicts the surface geology in the proposed project vicinity.

Avalon Waterfront District

Proposed project features and improvements in the Avalon Waterfront District include a waterfront promenade with restaurant/visitor-serving retail development, a pedestrian bridge and observation tower, 44,000 square feet of new viewing piers, replacement of approximately 17,000 square feet of existing piers, two floating dock totaling 5,870 square feet for transient boats (Phase I), and a 10-acre landscaped bridge providing the Wilmington Community safe access to the waterfront. Excavation in the Avalon Waterfront District and removal of the LADWP oil tanks and remediation of the site would encounter Holocene-age sediments and artificial fill. The thickness of these overlying Holocene sediments, which are unlikely to contain paleontological resources, above geologic deposits that may contain

paleontological resources is not known. Any excavation operations within the LADWP Marine Tank Farm that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources. These features would involve excavation for bridge footing in some areas, and for buildings and other structures.

Artificial fill materials presumably were derived from earlier channel dredging operations and were placed in such a way as to provide topographically high areas for development. No fossils of scientific interest are located in the artificial fill materials. Any organic remains have lost their original stratigraphic and geologic context due to the disturbed nature of the artificial fill materials.

In specific locations, during a proposed project-related excavation, the thickness of fill materials is as yet unknown, as is the thickness of the Holocene-age younger alluvium; therefore, depth of cover to buried geologic deposits that may contain paleontological resources is not known. Without comprehensive geotechnical reporting of subsurface conditions in areas of deep excavation, based on geotechnical boring, it is not possible to assess the extent (i.e., depth of sensitive units in comparison to depth of excavations) of proposed project impacts on paleontological resources. However, any excavation operations that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

It is possible that pile-driving may impact paleontological resources. This impact is unlikely, however, due to the small impact footprint of pile-driving.

Avalon Development District

Proposed project infrastructure improvements and enhancements within the Avalon Development District include the potential development of industrial and commercial space, a 1-acre park located on the vacated Railroad Green, and adaptive reuse of the historic 14,500-square-foot Bekins Storage property for a Waterfront Red Car Museum. Several streets will be vacated or realigned.

In this area, near-surface excavations will encounter Holocene-age sediments and artificial fill, and, again, the depth to buried geologic deposits that may contain paleontological resources is not known. Any excavation operations within the Avalon Development that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

Avalon Triangle Park

At the program level, the proposed Project includes extending the Port Plan boundary to Harry Bridges Boulevard, which would include Avalon Triangle Park, resulting in a corresponding retraction of the Wilmington–Harbor City Community Plan boundary. At the program level, this action will have no impact or effect on paleontological resources. However, future developments in this area have the

potential to temporarily unearth and permanently destroy sensitive paleontological resources.

In this area, near-surface excavations will encounter Holocene-age sediments and artificial fill, and, again, the depth to buried geologic deposits that may contain paleontological resources is not known. Any excavation operations within the Avalon Triangle Park that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

Waterfront Red Car Line/California Coastal Trail

At the program level, the proposed Project includes extension of the Waterfront Red Car Line and, at the project level, the continuation of the California Coastal Trail from Avalon Boulevard to Swinford Street.

The eastern extent of the Waterfront Red Car Line/California Coastal Trail from Avalon Boulevard along Harry Bridges Boulevard is underlain by Holocene-age beach sediments and artificial fill. The thickness of these overlying sediments above geologic deposits that may contain paleontological resources is not known.

The western extent of the Waterfront Red Car Line/California Coastal Trail west of Figueroa Street along John S. Gibson Boulevard to Swinford Street is underlain by Quaternary alluvium, Quaternary older alluvium, and Pleistocene-age offshore marine deposits of San Pedro Sand. The Pleistocene-age San Pedro Sand is mapped at the surface between the Northwest and Southwest Slips, and in patches near the Vincent Thomas Bridge. These deposits are of fossil-bearing age, and are of scientific interest if intact.

Any excavation operations for the Waterfront Red Car Line/California Coastal Trail that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

Impact Determination

The geologic assessment and literature review demonstrate that excavation in association with development of the proposed Project has the potential to impact significant nonrenewable fossil resources. Excavation into undisturbed geologic deposits underlying the proposed project area, which include Quaternary alluvium, Pleistocene-age marine deposits of Palos Verdes Sand, and Pleistocene-age offshore marine deposits of San Pedro Sand, would potentially impact fossil resources. Construction of the proposed Project would result in significant impacts because of the potential to damage or destroy significant nonrenewable fossil resources.

Mitigation Measures

MM CR-6: Develop a Program to Mitigate Impacts on Nonrenewable Paleontologic Resources prior to Excavation or Construction of any Proposed Project Components.

This mitigation program will be conducted by a qualified vertebrate paleontologist and will be consistent with the provisions of CEQA, as well as the proposed guidelines of the Society of Vertebrate Paleontology. This program will include, but not be limited to:

1. Assessment of site-specific excavation plans to determine areas that will be designated for paleontological monitoring during initial ground disturbance.
2. Development of monitoring protocols for these designated areas. Areas consisting of artificial fill materials will not require monitoring. Paleontologic monitors qualified to Society of Vertebrate Paleontology standards will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if some of the potentially fossiliferous units described herein are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources.
3. Preparation of all recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts on the resources.
4. Identification and curation of all specimens into an established, accredited museum repository with permanent retrievable paleontologic storage. These procedures are also essential steps in effective paleontologic mitigation and CEQA compliance (Scott and Springer 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts on significant paleontologic resources is not considered complete until such curation into an established museum repository has been fully completed and documented.
5. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts on paleontologic resources to a level less than significant.

Residual Impacts

Implementation of mitigation measure MM CR-6 by a qualified vertebrate paleontologist would reduce impacts to less-than-significant levels.

Impact CR-5: The proposed Project would not result in a substantial adverse change in the significance of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.

The following four properties are within the proposed Project's Area of Potential Effects (APE) that are listed in or determined eligible for the NRHP, the CRHR, and the Los Angeles Historic-Cultural Monument List.

- **Masonic Temple, 221–227 N. Avalon Boulevard, HCM No. 342**, **listed on the CRHR**. The proposed Project includes street and sidewalk landscaping along Avalon Boulevard. This new sidewalk landscaping could slightly obscure the primary east elevation of the building, but no impact would occur.
- **Bekins Storage Facilities, 245 N. Fires Avenue, CRHR eligible under Criterion 3.** The proposed Project includes street and sidewalk landscaping on the north and primary east elevation, and a railroad screen along the southeast elevation. The new street sidewalk landscaping, and railroad screen, may slightly obscure building elevations, but no impact would occur.
- **College of Engineering and Oceaneering, 272 S. Fries Avenue, HCM eligible.** The proposed Project includes landscaping and green lawn to be placed north of the building. No impact would occur.
- **Wilmington Iron Works Building, 432 West C Street, CRHR eligible under Criterion 1.** The proposed Project includes street and sidewalk landscaping along C Street and Lagoon Avenue. This new sidewalk landscaping could slightly obscure the west and north elevations of the building, but no impact would occur.

As discussed in the Methodology section, a rehabilitation project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Weeks and Grimmer 1995) would be considered as mitigated to a level of less than significant. As part of the proposed Project, the Bekins Storage buildings would undergo rehabilitation in accordance with the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. While exact details of the rehabilitation are still being deliberated, rehabilitation consistent with these standards and guidelines would assure a significant impact would not occur from the rehabilitation process.

To accommodate the Avalon Boulevard alignment, the street would be straightened to a north–south axis into parcels with existing buildings. The straightening of Avalon Boulevard would require the demolition of three buildings, located in the Avalon Development District, that were found to be 50 years of age or older (listed in Table 3.4-7).

Table 3.4-7. Historical Resources Determined Not to Be Significant by the Lead Agency that Meet the 50-Year Age Criteria for Evaluation and Are Proposed for Demolition.

Address	*APN*	*Year Built*	*Recommendation*
133 N. Avalon Boulevard	7440-066-011	1947	Not eligible for CRHR under Criterion 3, and not eligible under Criteria 1 or 2, as identified by research and local historical society.
131 N. Avalon Boulevard	7440-006-012	1954	Not eligible for CRHR under Criterion 3, and not eligible under Criteria 1 or 2, as identified by research and local historical society.
115 N. Avalon Boulevard	7440-006-015	1957	Not eligible for CRHR under Criterion 3, and not eligible under Criteria 1 or 2, as identified by research and local historical society.

These structures were evaluated under the CRHR criteria by a professional architectural historian for potential eligibility under Criterion 3, which is defined as a building having distinctive architectural design characteristics, a unique construction type, that represents the work of a master, or that possesses high artistic value. For identifying resources under Criterion 1, which is defined as a building having significance because of its association with an important event, an oral interview with Hank and Jane Osterhoudt, curators of the Wilmington Historical Society, was conducted. For association with an important person (Criterion 2), building permits were reviewed, data searched within the California Index, and an oral interview with the Osterhoudts was conducted on May 14, 2008. They reported that they were unaware of any associations with important persons in regards to the three resources located along the 100 N. block of Avalon Boulevard.

No other additional research was conducted to identify potential historical resources under Criteria 1 or 2. These three buildings were found to be ineligible for CRHR consideration as historically significant resources, as discussed below.

133 N. Avalon Boulevard

The building located at 133 N. Avalon Boulevard is a one-story commercial facility, rectangular in plan. It was designed in a minimal-traditional style and is simplistic in plan. The building has a flat roof, and the elevations contain a stucco finish with a belt course located below the roof line. The primary façade, which faces east, features a wooden garage door and a picture window in a wood frame. There is an off-center inset entryway that provides primary access into the building through what appears to be a replaced door. To the north of the entrance on the primary elevation there are two smaller one-over-one double-hung wood-frame windows.

This building has undergone alterations that include refinishing with stucco and replacement of its primary entrance. It does not rise to the level of historical significance because it does not possess a distinctive architectural design characteristic or unique construction type, nor does it represent the work of a master or possess high artistic value under Criterion 3 of the California Register. Furthermore, this building is not associated with any persons or events that would qualify for listing in the California Register under Criteria 1 or 2.

131 N. Avalon Boulevard

The two buildings located at 131 N. Avalon Boulevard are one-story commercial facilities, rectangular in plan. The buildings are almost identical in their minimalist design and have been refinished in stucco. The primary façades, which face east, contain original casement windows in wood frames and a wood door, which has been replaced on the southern building. The northern building contains one-over-one double-hung wood frame windows. Both buildings feature a projecting cornice line that is located on all of the elevations below the flat roof. Circular vents are positioned below the cornice line and are located on all elevations.

These buildings have undergone alterations that include refinishing with stucco and replacement of primary entrances. They do not rise to the level of historical significance because they do not possess a distinctive architectural design characteristic or unique construction type, nor do they represent the work of a master or possess high artistic value under Criterion 3 of the California Register. Furthermore, the buildings are not associated with any persons or events that would qualify for listing in the California Register under Criteria 1 or 2.

115 N. Avalon Boulevard

The building located at 115 North Avalon Boulevard is a one-story commercial facility, rectangular in plan. The building is set back from the street, where it faces east. It contains a stucco finish and a flat roof, with a projecting roof line above the primary façade that has a series of slightly protruding vertical metal bands. The primary façade consists of a primary entrance that is accessed via a concrete step and covered from the cornice line protrusion. The door appears to be replaced and surrounded by concrete. It is flanked to the south on the main elevation by a band of projecting windows, below which is a garden wall composed of field stone. An elevation clad in field stone is to the north of the off-center entrance. The property line is bounded by a tall metal fence and there is asphalt between the subject building and Avalon Boulevard.

This building has undergone alterations that include the field stone cladding and a replaced primary entrance. It does not rise to the level of historical significance because it does not possess a distinctive architectural design characteristic or unique construction type, nor does it represent the work of a master or possess high artistic value under Criterion 3 of the California Register. Furthermore, this building is not associated with any persons or events that would qualify for listing in the California Register under Criteria 1 or 2.

Impact Determination

The proposed Project would not result in significant direct impacts on the following historical resources because the new development would be approximately 300 feet from the historical resources, and would not alter in an adverse manner those physical characteristics that convey their historical significance.

- Harbor Generating Station, 161 N. Island Avenue
- Masonic Temple, 221–227 N. Avalon Boulevard, HCM No. 342
- Bekins Storage Facilities, 245 N. Fires Avenue and 312–316 W. C Street, CRHR eligible under Criteria 3
- Wilmington Iron Works Building, 432 West C Street, HCM eligible.
- National Polytechnic College of Engineering and Oceaneering, 272 S. Fries Avenue, HCM eligible.

The proposed Project would result in less-than-significant indirect impacts on the following resources; however, the proposed Project does not materially alter in an adverse manner those physical characteristics that convey these historical resources' significance and that justify their eligibility for inclusion in the CRHR and HCM Lists:

- Masonic Temple, 221–227 N. Avalon Boulevard, HCM No. 342
- Bekins Storage Facilities, 245 N. Fires Avenue and 312–316 W. C Street, CRHR eligible under Criterion 3
- Wilmington Iron Works Building, 432 West C Street, HCM eligible

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.4.4.3.2 Summary of Impact determinations

Table 3.4-8 summarizes the impact determinations of the proposed Project related to Cultural Resources, as described in the detailed discussion in Section 3.4.4.3.1. Identified potential impacts may be based on Federal, State, or City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact and impact determinations, describes any applicable mitigation measures, and notes the residual

impacts (i.e., the impact remaining after mitigation). Impacts, whether significant or not, are included in this table.

Table 3.4-8. Summary Matrix of Potential Impacts and Mitigation Measures for Cultural Resources Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.4 Cultural Resources			
CR-1: Construction of the proposed Project would not disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.	Significant	**MM CR-1: Conduct Future Cultural Resources Studies along the Waterfront Red Car Line** The analysis of cultural resources along the Waterfront Red Car Line is in the program level of analysis. Archival research indicates that archaeological resources may be located within the Waterfront Red Car Line proposed project area. According to the records search, **t**wo prehistoric sites (CA-LAn-150 and CA-LAn-283) are located adjacent to the proposed Waterfront Red Car Line location and one archaeological site, CA-LAn-2135H, is located less than ⅛th of a mile from the proposed approximate alignment. In addition, archival and historic map research has indicated the potential for subsurface archaeological deposits associated with the early development of Wilmington within the Avalon Development District and the Waterfront Red Car Line. Therefore, the LAHD will ensure that, prior to final design approval for affected parcels, a qualified archaeologist will be retained to perform additional Phase I level archaeological surveys and research to determine the potential for prehistoric and historical archaeological deposits within these portions of the proposed	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		project area in accordance with professional standards and guidelines. **MM CR-2: Incorporate the Tracks into the Design Plan** The proposed Project will incorporate the Pacific Electric Railway (PERy) tracks into the project design in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Weeks and Grimmer 1995). A substantial portion of the track will be preserved in place, which may include compatible alterations consistent with original PERy practice and intent. Examples of such alternations include raising or lowering track elevation to maintain its relationship to adjacent grade or removing or relocating sections to make repairs, fill in gaps, or to realign the public right-of-way. Where it is determined portions of the track will be reconnected, rail bonding shall be repaired and trackwork will be executed by an experienced railway construction contractor. Portions of the track where in place preservation is not feasible, such as the track within the Waterfront Red Car Line and California Coastal Trail alignment, will be statically incorporated into the Railroad Green Park landscape and hardscape design by a qualified landscape architect so as to memorialize the historical significance of the PERy. Any	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		portion of the track not incorporated into the park design will be preserved for reuse in a storage facility determined suitable for long-term preservation. **MM CR-3: Develop and Implement Historical Resources Treatment Plan Prior to Demolition and/or Ground Disturbing Activities** Disturbance of these archaeological deposits would be considered a significant impact under CEQA, which would require mitigation. Avoidance and/or preservation in place is the preferred mitigation for archaeological deposits. However, when this is not possible, the excavation of archaeological deposits to recover the data they contain is also appropriate (Section 15126.4 (b)(3)). Such data recovery excavation requires careful planning in the form of a Treatment Plan. Prior to any ground-disturbing activities and/or demolition, a treatment plan would be developed and implemented. This document would address areas where potentially significant historical archaeological deposits are likely to be located within the proposed Commercial portion of the proposed project area. The treatment plan would also include methods for: (1) archaeological monitoring during demolition of existing buildings, (2) subsurface testing after demolition, and (3) data recovery of archaeological deposits. A detailed historic context that clearly demonstrates the themes under which any identified subsurface deposits would be determined significant	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		would be included in the document as well as anticipated artifact types, artifact analysis, report writing, repatriation of human remains and associated grave goods, and curation. Implementation of Mitigation MM CR-3 would reduce potential impacts on archaeological resources associated with the Commercial portion of the proposed project to less-than-significant levels. **MM CR-4: Develop an Archaeological and/or Native American Research Design and Treatment Plan** The Phase I historical resources study (ICF Jones & Stokes 2008) has identified a low potential for historical archaeological deposits associated with a Civil War-era Government Depot within a portion of the Wilmington Waterfront District. In addition, the Phase I historical resources study identified a low potential for prehistoric archaeological deposits associated with CA-LAN-150 and CA-LAN-283. However, because there is some potential for ground-disturbing activities to impact potentially CRHR and/or NRHP-eligible historical archaeological deposits, the following steps will be taken prior to any ground-disturbing activities: ■ A research design and treatment plan will be generated that would address areas where potentially significant archaeological deposits are likely to be located within this portion of the project area and clearly demonstrates the themes under which any deposits would be determined	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		significant. ■ LAHD will require at least one pre-field meeting with environmental management staff, project engineers, construction contractors, and construction inspectors to discuss protocols and procedures related to treatment of identified archaeological resources. ■ A qualified archaeologist shall monitor all ground-disturbing activities in the vicinity of the Government Depot within the Wilmington Waterfront District portion of the project area. The qualified archaeological monitor will have demonstrated knowledge of, and experience with the treatment of historical archaeological resources. ■ A qualified archaeologist and Native American monitor will monitor all ground-disturbing activities within the vicinity of CA-LAn-150 and CA-LAn-283 along the California Coastal Trail portion of the proposed project area. The qualified archaeologist will have demonstrated knowledge of, and experience with, the treatment of prehistoric archaeological resources. ■ Due to potentially hazardous soil conditions associated with the DWP facility (as included in the project description), a safety plan will be generated in conjunction with the LAHD	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		that addresses all issues associated with contamination and remediation. It is further recommended that the qualified archaeological monitor also be 40-hour Hazwoper certified. ■ In the event that subsurface deposits are identified during monitoring, ground disturbing activities will halt within 100 feet of the find to allow the qualified archaeologist to assess the find(s) and determine if treatment of the resource(s) is required.	
CR-2: Construction of the proposed Project would not disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.	Significant	**MM CR-1, MM CR-3, MM CR-4** and **MM CR-5: Stop Work if Previously Unidentified Resources Are Encountered during Ground Disturbing Activities** In the event that any artifact or an unusual amount of bone, shell, or nonnative stone is encountered during construction, work will be immediately stopped and relocated to another area. The contractor will stop construction within 100 feet of the exposed resource until a qualified archaeologist can be retained by the Port to evaluate the find (see 36 CFR 800.11.1 and CCR, Title 14, Section 15064.5(f)). Examples of such cultural materials might include concentrations of ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; historic trash pits containing bottles and/or	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		ceramics; or structural remains. If the resources are found to be significant, they will be avoided or will be mitigated consistent with SHPO Guidelines. All construction equipment operators will attend a preconstruction meeting presented by a professional archaeologist retained by the Port that will review types of cultural resources and artifacts that would be considered potentially significant, to ensure operator recognition of these materials during construction. Prior to beginning construction, the Port will meet with applicable Native American Groups, including the Gabrieliño/Tongva Tribal Council to identify areas of concern. In addition to monitoring, a treatment plan will be developed in conjunction with the Native American Groups to establish the proper way of extracting and handling all artifacts in the event of an archaeological discovery.	
CR-3: Construction of the proposed Project would not disturb, damage, or degrade unknown human remains.	Significant	Implement **MM CR-1, MM CR-3, MM CR-4,** and **MM CR-5**	Less than significant
CR-4: The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.	Significant	**MM CR-6: Develop a Program to Mitigate Impacts on Nonrenewable Paleontologic Resources prior to Excavation or Construction of any Proposed Project Components** This mitigation program will be conducted by a qualified vertebrate paleontologist and will be consistent with the provisions of CEQA, as well as the proposed guidelines of the Society of Vertebrate Paleontology. This program will include, but not be limited to:	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		1. Assessment of site-specific excavation plans to determine areas that will be designated for paleontological monitoring during initial ground disturbance. 2. Development of monitoring protocols for these designated areas. Areas consisting of artificial fill materials will not require monitoring. Paleontologic monitors qualified to Society of Vertebrate Paleontology standards will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if some of the potentially fossiliferous units described herein are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources. 3. Preparation of all recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts on the resources. 4. Identification and curation of all specimens into an established, accredited	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		museum repository with permanent retrievable paleontologic storage. These procedures are also essential steps in effective paleontologic mitigation and CEQA compliance (Scott and Springer 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts on significant paleontologic resources is not considered complete until such curation into an established museum repository has been fully completed and documented. 5. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts on paleontologic resources to a level less than significant.	
CR-5: The proposed Project would not result in a substantial adverse change in the significance of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.	Less than significant	No mitigation is required	Less than significant

1

3.4.4.4 Mitigation Monitoring

Table 3.4-9. Mitigation Monitoring for Cultural Resources

CR-1: Construction of the proposed Project would not disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource..	
Mitigation Measure	**MM CR-1: Conduct Future Cultural Resources Studies along the Waterfront Red Car Line**
Timing	Prior to approval of the final map
Methodology	Require additional study for areas with a high sensitivity for archaeological resources
Responsible Parties	LAHD and contractor
Residual Impacts	Less than significant
Mitigation Measure	**MM CR-2: Incorporate the Tracks into the Design Plan**
Timing	Show in final design
Methodology	Incorporate historic tracks into the final design plan
Responsible Parties	LAHD and contractor
Residual Impacts	Less than significant
Mitigation Measure	**MM CR-3: Develop and Implement Historical Resources Treatment Plan Prior to Demolition and/or Ground Disturbing Activities**
Timing	Prior to any ground-disturbing activities
Methodology	Test for subsurface artifacts, develop a plan for treatment
Responsible Parties	LAHD, contractor, and consulting archaeologist
Residual Impacts	Less than significant
Mitigation Measure	**MM CR-4: Develop an Archaeological and/or Native American Research Design and Treatment Plan**
Timing	During any ground-disturbing activities in Vicinity of Government Depot Portion
Methodology	Monitor for subsurface artifacts
Responsible Parties	LAHD, contractor, and consulting archaeologist
Residual Impacts	Less than significant
CR-2: Construction of the proposed Project would not disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.	
Mitigation Measure	**MM CR-1** and **MM CR-5: Stop Work if Previously Unidentified Resources Are Encountered during Ground Disturbing Activities.**
Timing	During excavation if resources unearthed
Methodology	Stop work and implement treatment plan based on CR-1
Responsible Parties	LAHD, contractor, and monitoring archaeologist
Residual Impacts	Less than significant
CR-3: Construction of the proposed Project would not disturb, damage, or degrade unknown human remains.	
Mitigation Measure	Implement **MM CR-1, MM CR-3, MM CR-4, and MM CR-5.**
Timing	See above
Methodology	Monitor for human remains during construction
Responsible Parties	LAHD
Residual Impacts	Less than significant
CR-4: The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource	

of regional or statewide significance.	
Mitigation Measure	**MM CR-6: Develop a Program to Mitigate Impacts on Nonrenewable Paleontologic Resources prior to Excavation or Construction of any Proposed Project Components.**
Timing	Prior to ground disturbing activities including excavation or construction
Methodology	Put a monitoring program into place and design a treatment plan if fossils are discovered
Responsible Parties	LAHD, contractor, and monitoring paleontologist
Residual Impacts	Less than significant

3.4.5 Significant Unavoidable Impacts

With the required mitigation, construction and operation of the proposed Project would not result in significant unavoidable impacts on cultural resources.

3.5

GEOLOGY

3.5.1 Introduction

This section presents the geologic conditions for the proposed project area and analyzes: (1) seismic hazards, including surface rupture, ground shaking, liquefaction, subsidence, tsunamis, and seiches; (2) other geologic issues, including potentially unstable soils and slopes; and (3) mineral resources. This analysis is based on published reports and the general geologic setting as indicators of potential geologic hazards. During both construction and operation, the proposed Project would be exposed to significant and unavoidable seismic-related impacts as a result of numerous active faults in southern California.

3.5.2 Environmental Setting

3.5.2.1 Regional Setting

The proposed project site is located near sea level in the coastal area of the Los Angeles Basin, a low-lying plain that rises inland to the Santa Monica Mountains to the north, the Repetto and Puente Hills to the northeast, the Santa Ana Mountains to the east, and the San Joaquin Hills to the southeast. The basin is bordered on the west by the Pacific Ocean and the Palos Verdes Hills. The geologic structure of the West Los Angeles Basin is characterized by several northwest-trending folds and faults. The major folds in the area include the Gaffey and the Wilmington anticline-synclines. The Wilmington syncline crosses the proposed project site through the proposed Harry Bridges Boulevard Buffer, and the smaller Gaffey anticline-syncline crosses the proposed bike lane and California Coastal Trail expansion along John S. Gibson Boulevard in the westerly portion of the proposed project site. The Gaffey anticline-syncline folds are the result of deformation along the Palos Verdes fault zone. The major faults in the region that contribute to the seismic hazard at the proposed project site include the Palos Verdes fault zone, which crosses John S. Gibson Boulevard in the westerly portion of the proposed project site, and the more

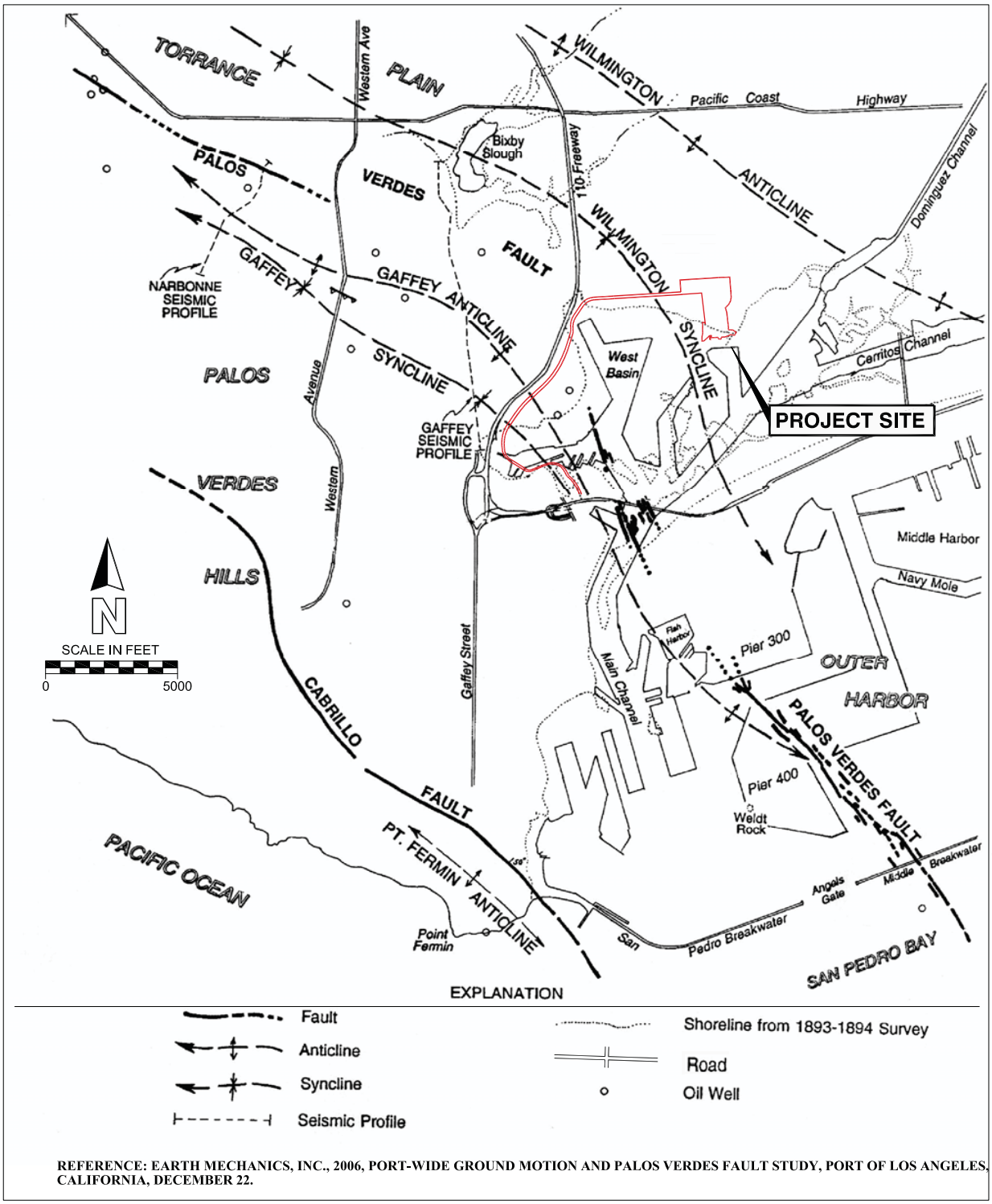
distant Newport-Inglewood fault zone, located approximately 5 miles northeast. The Cabrillo fault, located just south of the federal breakwater, may be a branch of the Palos Verdes fault zone, but not much is known about its seismic activity. Figure 3.5-1 presents the faults and geologic structure in the area.

Surficial geology of the Los Angeles Harbor is characterized by Holocene-age, near-shore, marine and non-marine deposits, including beach, estuary, tidal flat, lagoon, shallow-water bay sediments, and shoreline terrace deposits. The proposed project site is primarily underlain by Holocene-age beach sediments that may be overlain in some areas by artificial fill. Dredging and filling operations within the Los Angeles Harbor area have created extensive land masses to the south of the proposed project site, including Mormon Island. The Waterfront Red Car Line/California Coastal Trail expansion along John S. Gibson Boulevard in the westerly portion of the site is underlain primarily by older alluvial deposits and beach sediments (Dibblee 1999). Figure 3.5-2 presents a geologic map of the area surrounding the proposed project site.

3.5.2.1.1 Seismicity and Major Faults

An earthquake is classified by the magnitude of wave movement (related to the amount of energy released), which traditionally has been quantified using the Richter scale. This is a logarithmic scale, wherein each whole number increase in magnitude (M) represents a tenfold increase in the wave magnitude generated by an earthquake. A M8.0 earthquake is not twice as large as a M4.0 earthquake; it is 10,000 times larger (i.e., 10^4, or 10 x 10 x 10 x 10). Damage typically begins at M5.0. A limitation of the Richter magnitude scale is that at the upper limit large earthquakes have about the same magnitude. As a result, the Moment Magnitude Scale, which does not have an upper limit magnitude, was introduced in 1979 and is often used for earthquakes greater than M3.5. Earthquakes of M6.0 to 6.9 are typically classified as moderate; those between M7.0 and M7.9 are classified as major; and those of M8.0 or greater are classified as great.

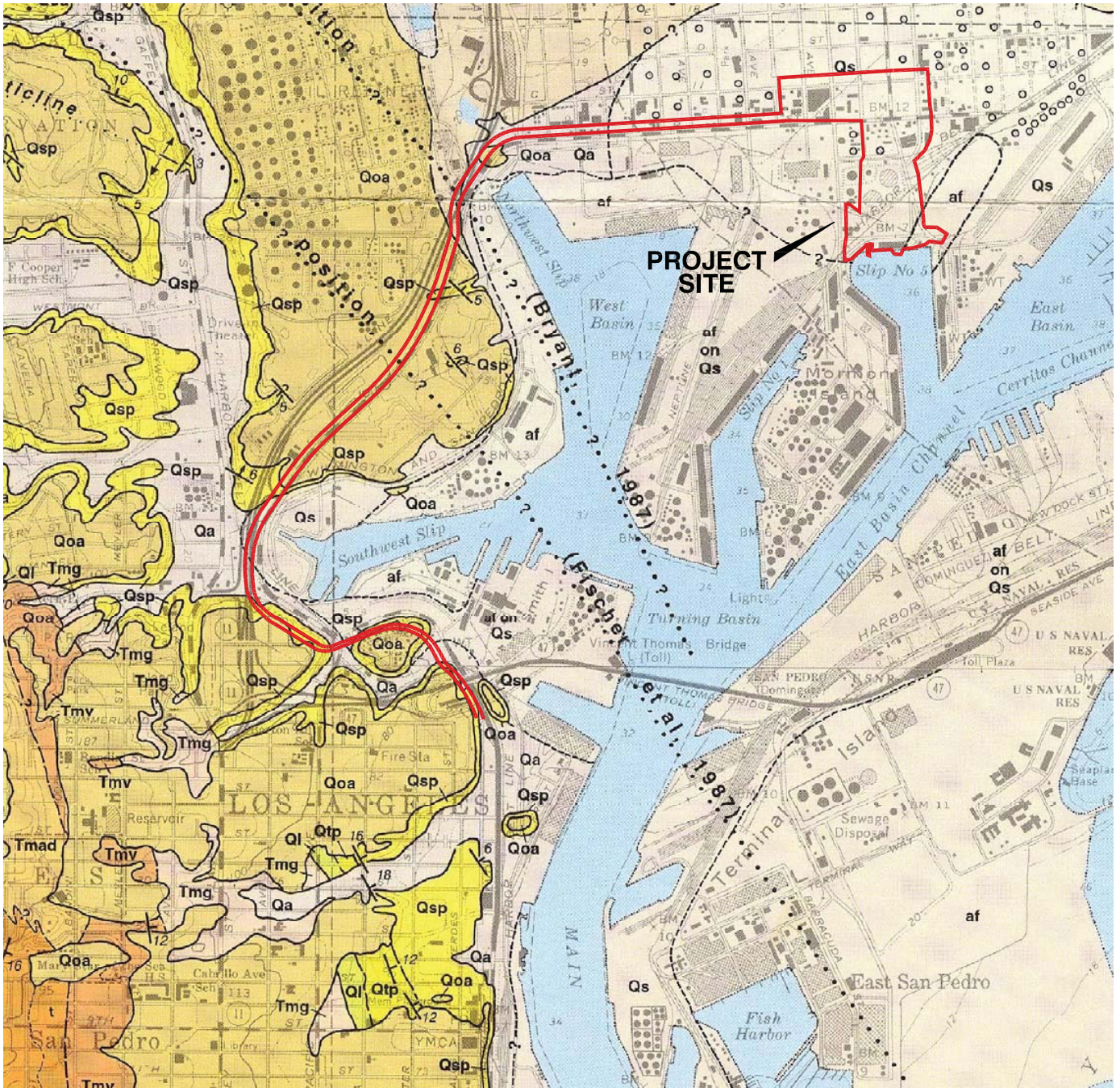
Southern California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 50 earthquakes of M6 or greater since 1796. Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Large earthquakes, like the 1857 San Andreas Fault earthquake, are quite rare in southern California. Earthquakes of M7.8 or greater occur at the rate of about two or three per 1,000 years, corresponding to a 6 to 9% probability in 30 years. However, the probability of a M7.0 or greater earthquake in southern California before 2024 is 85% (Working Group on California Earthquake Probabilities 1995). Table 3.5-1 lists selected earthquakes that have caused damage in the Los Angeles Basin.



REFERENCE: EARTH MECHANICS, INC., 2006, PORT-WIDE GROUND MOTION AND PALOS VERDES FAULT STUDY, PORT OF LOS ANGELES, CALIFORNIA, DECEMBER 22.

ICF Jones & Stokes
an ICF International Company

Figure 3.5-1
Faults and Geologic Structures
Wilmington Waterfront Development Project



REFERENCE: 1999, THOMAS DIBBLEE, JR., GEOLOGIC MAP OF THE PALOS VERDES PENNINSULA AND VICINITY, MAP #DF-70.

ICF Jones & Stokes
an ICF International Company

Figure 3.5-2
Geologic Map and Soils
Wilmington Waterfront Development Project

Table 3.5-1: Earthquakes in the Los Angeles Basin Area

Fault Name	*Place*	*Date*	*Moment Magnitude*
Palos Verdes	*	*	*
San Pedro Basin	*	*	*
Santa Monica-Raymond	*	1855	6.0
San Andreas	Fort Tejon Kern County	1857 1952	8.2† 7.7
Newport-Inglewood	Long Beach	1933	6.3
San Fernando/Sierra Madre-Cucamonga	San Fernando Sierra Madre	1971 1991	6.4 6.0
Whittier-Elsinore	Whittier Narrows	1987	5.9
Camp Rock/Emerson	Landers	1992	7.4
Blind thrust fault beneath Northridge	Northridge	1994	6.6

Notes:
*No known earthquakes within the last 200 years
†Approximate magnitude

Source: USGS 2007

Seismic analyses generally include discussions of maximum credible and maximum probable earthquakes. A maximum credible earthquake (MCE) is the largest event a fault is believed to be capable of generating. The probability of occurrence is not considered in this characterization. The maximum probable earthquake (MPE) is an earthquake having a 10% probability of being exceeded in 50 years, which corresponds to a return interval of approximately 475 years. In addition, the Port uses a combination of probabilistic and deterministic seismic hazard assessments for seismic design. Probabilistic hazard assessments are required to define two-level design events, including the Operational Level Earthquake (OLE), which is the peak horizontal firm ground acceleration with a 50% probability of exceedance in 50 years, and the Contingency Level Earthquake (CLE), which is the peak ground acceleration with a 10% probability of exceedance in 50 years.

3.5.2.1.2 Faults

Segments of the active Palos Verdes Fault zone cross the Los Angeles Harbor in the vicinity of the westerly portion of the proposed project site. Current data suggest that segments of the fault may cross beneath the proposed bike lane and CCT expansion along John S. Gibson Boulevard (Figure 3.5-1). Recent studies indicate that the Palos Verdes Fault zone is capable of producing an earthquake of moment M6.7 to

M7.2, and peak ground accelerations in the Port area of 0.23g[1] and 0.52g, for the OLE and CLE, respectively (Earth Mechanics, Inc. 2006).

Numerous other active faults and fault zones are located within the general region, such as the Newport-Inglewood, Whittier-Elsinore, Santa Monica, Hollywood, Malibu Coast, Raymond, San Fernando, Sierra Madre, Cucamonga, San Jacinto, and San Andreas Faults. Table 3.5-2 lists the potentially hazardous faults and the anticipated earthquake magnitudes in the Los Angeles Basin area. Active faults, such as those noted above, are typical of Southern California. Therefore, it is reasonable to expect a strong ground motion seismic event during the lifetime of any proposed project in the region.

Numerous active faults located off site are also capable of generating earthquakes in the proposed project area (Tables 3.5-1 and 3.5-2). The Newport-Inglewood Fault zone, which was the source of the 1933 Long Beach M6.4 earthquake, is noteworthy due to its proximity to the proposed project site. Large events could occur on more distant faults in the general area, but because of the greater distance from the site, earthquakes generated on these faults are less significant with respect to ground accelerations.

In 1974, the California Division of Mines and Geology (CDMG) was designated by the Alquist-Priolo Act to delineate those faults deemed active and likely to rupture the ground surface. No faults within the area of the Port are currently zoned under the Alquist-Priolo Act; however, there is evidence that the Palos Verdes Fault, which lies beneath John S. Gibson Boulevard, may be active and ground rupture cannot be ruled out (Fischer et al. 1987; McNeilan et al. 1996).

3.5.2.1.3 Liquefaction

Liquefaction is defined as the transformation of a granular material from a solid state into a liquefied state as a consequence of increased pore pressure, which results in the loss of grain-to-grain contact. Seismic ground shaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium density, saturated sands and silts. The effects of liquefaction may be excessive if total and/or differential settlement of structures occurs on liquefiable soils.

Natural drainages at Port berths have been backfilled with undocumented fill materials. Dredged materials from the Los Angeles Harbor area were spread across lower Wilmington from 1905 until 1910 or 1911 (Ludwig 1927). In addition, the natural alluvial deposits and beach sediments below the site generally are unconsolidated, soft, and saturated. Groundwater is present at shallow depths beneath the site. These conditions are conducive to liquefaction.

[1] g = acceleration due to gravity

Table 3.5-2: Major Regional Faults

Fault		*Maximum Moment Magnitude*	*Fault Type*	*Slip Rate (mm/yr)*	*Approximate Distance from Site in Miles*
Palos Verdes		7.2*	SS	3	0
Newport-Inglewood		7.1	SS	1	5.2
Whittier-Elsinore		6.8	SS	2.5	20.5
Malibu-Santa Monica-Raymond Fault Zone	Santa Monica	6.6	DS	1	22.0
	Hollywood	6.4	DS	1	23.3
	Malibu Coast	6.7	DS	0.3	23.9
	Raymond	6.5	DS	1.5	24.5
Cucamonga		6.9	DS	5	39.2
San Andreas		7.4	SS	30	52.4
San Jacinto		6.7	SS	12	61.4

Notes:
DS = Dip Slip
SS = Strike Slip

Source: Blake 2001b; *Earth Mechanics, Inc. 2006

Some authors (Tinsley and Youd 1985) have indicated that the liquefaction potential in the harbor area during a major earthquake on either the San Andreas or Newport-Inglewood Fault is high. The Seismic Hazards Zone Maps published by the State of California (CDMG 1999a and 1999b) and the City of Los Angeles General Plan, Safety Element (City of Los Angeles 1996b) show the site to be in an area susceptible to liquefaction because of the nature of the soils (recent alluvial deposits and hydraulic fill) and the presence of groundwater approximately 10 feet or less below the ground surface. Extended ground shaking could result in liquefaction and settlement of saturated subsurface materials. Figure 3.5-3 presents a liquefaction map of the area of the proposed project site.

3.5.2.1.4 Tsunamis

Tsunamis are gravity waves of long wavelength generated by a sudden disturbance in a body of water. Typically, oceanic tsunamis are the result of sudden vertical movement along a fault rupture in the ocean floor, submarine landslides or subsidence, or volcanic eruption, where the sudden displacement of water may set off transoceanic waves with wavelengths of up to 125 miles and with periods generally from 5 to 60 minutes. The trough of the tsunami wave arrives first, leading to the classic retreat of water from the shore as the ocean level drops. This is followed by

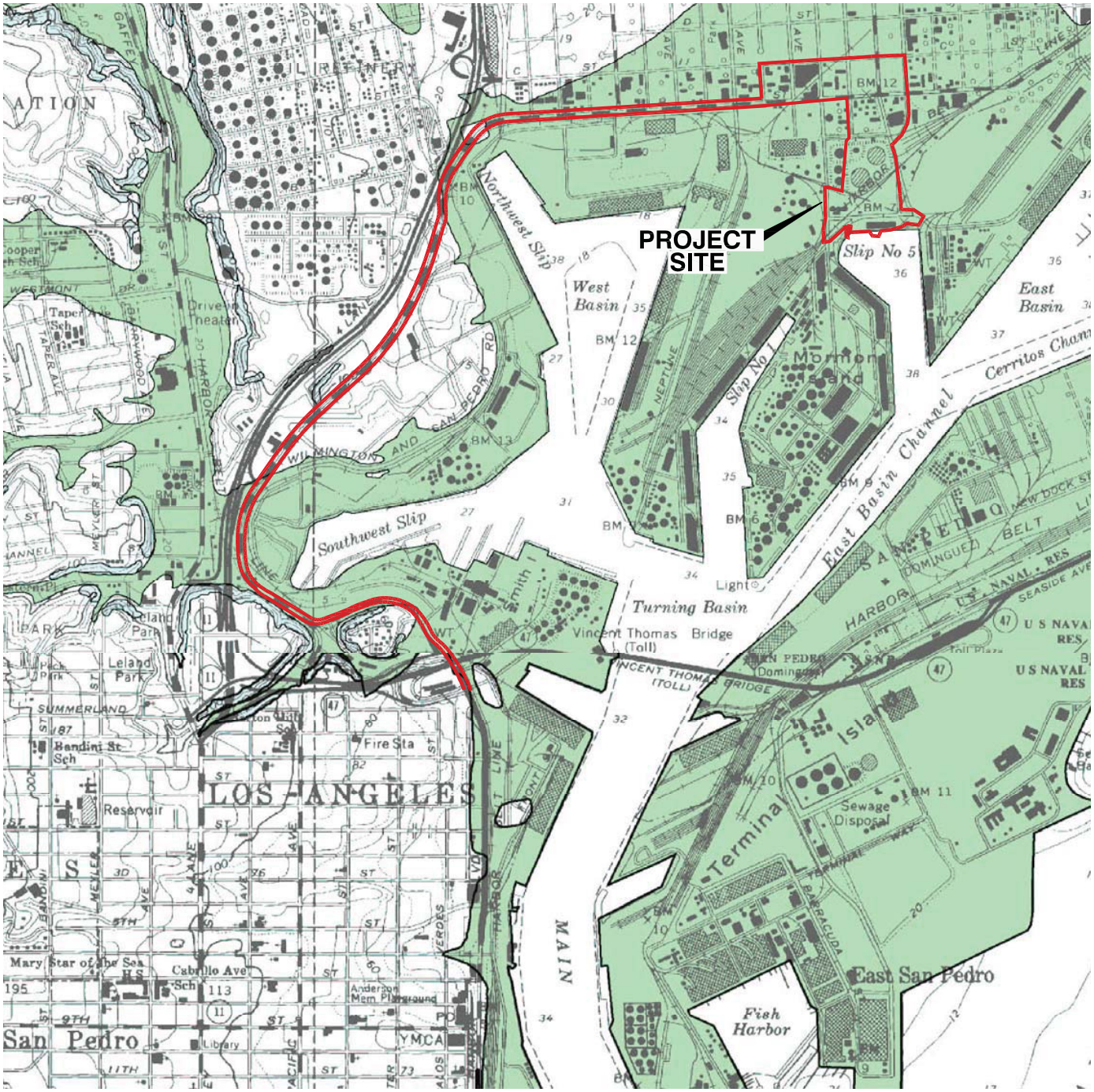
the arrival of the crest of the wave, which can run up on the shore in the form of bores or surges in shallow water or simple rising and lowering of the water level in relatively deeper water, such as in harbor areas.

Tsunamis are a relatively common natural hazard, although most of the events are small in amplitude and not particularly damaging. However, in the event of a large submarine earthquake or landslide, coastal flooding may be caused by either run-up of broken tsunamis in the form of bores and surges or by relatively dynamic flood waves. In the process of bore/surge–type run-up, the onshore flow (up to tens of feet per second) can cause tremendous dynamic loads on the structures onshore in the form of impact forces and drag forces, in addition to hydrostatic loading. The subsequent drawdown of the water after run-up exerts the often crippling opposite drag on the structures and washes loose/broken properties and debris to sea; the floating debris brought back on the next onshore flow has been found to be a significant cause of extensive damage after successive run-up and drawdown. As has been shown historically, the potential loss of human life in the process can be great if such events occur in populated areas.

Recent studies (e.g., Synolakis et al. 1997; Borrero et al. 2001; Borrero et al. 2005) have projected larger tsunami run-ups based on near-field events, such as earthquakes or submarine landslides occurring in proximity to the California coastline. Offshore faults present a larger local tsunami hazard than previously thought, posing a direct threat to near-shore facilities. For example, one of the largest such features, the Catalina Fault, lies directly underneath Catalina Island, located only 22 miles from the Port. Simulations of tsunamis generated by uplift on this fault suggest waves in the Port in excess of 12 feet, with an arrival time within 20 minutes (Legg et al. 2004; Borrero et al. 2005). These simulations were based on rare events, representing worst-case scenarios.

In addition, landslide-derived tsunamis are now perceived as a viable local tsunami hazard. Such tsunamis can potentially be more dangerous due to the lack of warning for such an event. This mechanism is illustrated by an earthquake in 1998, centered onshore in Papua-New Guinea, which appears to have created an offshore landslide that caused tsunami inundation heights in excess of 33 feet, claiming more than 2,500 lives.

In a study modeling potential tsunami generation by local offshore earthquakes, Legg et al. (2004) considered the relative risk of tsunamis from a large catastrophic submarine landslide (likely generated by a seismic event) in offshore southern California versus fault-generated tsunamis. The occurrence of a large submarine landslide appears quite rare by comparison with the tectonic faulting events. Although many submarine landslides have been mapped off the southern California shore, few appear to be of the scale necessary to generate a catastrophic tsunami. Of two large landslides that appear to be of this magnitude, Legg et al. (2004) indicated that one is over 100,000 years old and the other is approximately 7,500 years old. In contrast, the recurrence of 3 to 20 feet of fault movement on offshore faults would be several hundred to several thousand years. Consequently, the study concluded that the likely direct cause of the majority of the local tsunamis in southern California was tectonic movement during large offshore earthquakes.



REFERENCE: STATE OF CALIFORNIA, 1999, SEISMIC HAZARD ZONES, SAN PEDRO QUADRANGLE; STATE OF CALIFORNIA, 1998, SEISMIC HAZARD ZONES, TORRANCE QUADRANGLE

LIQUEFACTION:
Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE

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Figure 3.5-3
Liquefaction Map
Wilmington Waterfront Development Project

Based on these studies (Synolakis et al. 1997; Borrero et al. 2001), the CSLC has developed tsunami run-up projections for the Ports of Los Angeles and Long Beach of 8.0 feet and 15.0 feet above MSL, at 100- and 500-year intervals, respectively, as a part of their Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) (CSLC 2005). However, these projections, which assume a 15-foot height, do not incorporate consideration of the localized landfill configurations, bathymetric features, and the interaction of the diffraction, reflection, and refraction of the tsunami wave propagation within the Los Angeles/Long Beach Port Complex in their predictions of tsunami wave heights.

3.5.2.1.5 Seiches

Seiches are seismically induced water waves that surge back and forth in an enclosed basin and may be expected in the harbor as a result of earthquakes. Any significant wave front could cause damage to seawalls and docks, and could breach sea walls at the proposed project site. Modern shoreline protection techniques are designed to resist seiche damage. The Los Angeles/Long Beach Port Complex model considered impacts from both tsunamis and seiches. In each case, impacts from a tsunami were equal to or more severe than those from a seiche.

3.5.2.1.6 Subsidence

Subsidence is the phenomenon where the soils and other earth materials underlying the site settle or compress, resulting in a lower ground surface elevation. Fill and native materials on site can be water saturated, and a net decrease in the pore pressure and contained water will allow the soil grains to pack closer together. This closer grain packing results in less volume and the lowering of the ground surface.

Subsidence in the Los Angeles-Long Beach Harbor area was first observed in 1928 and has affected the majority of the harbor area. Based on extensive studies by the City of Long Beach and the California Division of Oil and Gas and Geothermal Resources, it has been determined that most of the subsidence was the result of oil and gas production from the Wilmington Oil Field following its discovery in 1936, and the extraction of large volumes of groundwater for dry dock construction in the early 1940s. By 1945 subsidence of more than 4 feet was noted in the area of Long Beach Harbor (City of Long Beach 2006). By 1962 subsidence had spread over a wide area and reached approximately 26 feet in the area of Terminal Island (Parks 1999). Today, water injection continues to be maintained at rates greater than the total volume of produced substances, including oil, gas, and water, to prevent further reservoir compaction and subsidence (City of Long Beach, 2006). Subsidence in the vicinity of the proposed Project, due to previous oil extraction in the Port area, has been mitigated and no longer poses a risk at the proposed project site.

3.5.2.1.7 Landslides

Generally, a landslide is defined as the downward and outward movement of loosened rock or earth down a hillside or slope. Landslides can occur either very suddenly or slowly, and frequently accompany other natural hazards such as earthquakes, floods, or wildfires. Most landslides are single events, but more than a third are associated with heavy rains or the melting of winter snows. Landslides can also be triggered by ocean wave action or induced by the undercutting of slopes during construction, improper artificial compaction, or saturation from sprinkler systems or broken water pipes. In areas on hillsides where the ground cover has been destroyed, landslides are probable because there is nothing to hold the soil. Immediate dangers from landslides include destruction of property and possible fatalities from rocks, mud, and water sliding downhill or downstream. Other dangers include broken electrical, water, gas, and sewage lines. The proposed project site is relatively flat and paved, and no known or probable bedrock landslide areas have been identified (City of Los Angeles 1996b).

3.5.2.1.8 Expansive Soils

Expansive soils generally result from specific clay minerals that expand when saturated and shrink in volume when dry. These expansive clay minerals are common in the geologic units in the adjacent Palos Verdes Peninsula. Clay minerals in geologic units and previously imported fill soils at the proposed project area could have expansive characteristics.

3.5.2.1.9 Mineral Resources

The proposed project site is located within the Wilmington Oil Field, which is approximately 11 miles long and 3 miles wide, covering approximately 13,500 acres. From January 1998 through October 2002, the field as a whole produced 84.4 million barrels (bbl) of oil, making it the 6th largest producing oil field in the state (California Department of Conservation 2002). However, the proposed project site is located primarily on Holocene-age beach sediments. According to the California Geological Survey (CGS), the proposed project site is located in a Mineral Resource Zone (MRZ) area classified as "MRZ-1," which is defined as an area where adequate information indicates that no significant mineral deposits (i.e., aggregate deposits) are present or where it is judged that little likelihood exists for their presence (CGS 2008).

3.5.3 Applicable Regulations

3.5.3.1 Geologic Hazards

Geologic resources and hazards in the proposed project vicinity are governed primarily by the City of Los Angeles. The Conservation and Safety Elements of the City of Los Angeles General Plan contain policies for the protection of geologic features and avoidance of geologic hazards (City of Los Angeles 1996b, 2001a). Local grading ordinances establish detailed procedures for excavation and earthwork required during construction in upland areas. In addition, City of Los Angeles building codes and building design standards for the Port establish requirements for construction of aboveground structures (City of Los Angeles 2002e). Local jurisdictions, including LAHD, rely upon the 1997 California Uniform Building Code (UBC) as a basis for seismic design for land-based structures. However, with respect to wharf construction, LAHD standards and specifications would be applied to the design of the proposed Project. The LAHD must comply with regulations of the Alquist-Priolo Act, which regulates development near active faults to mitigate the hazard of a surface fault rupture.

The Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) were approved by the California Building Standards Commission on January 19, 2005, and are codified as part of 24 Cal. Code Reg., Part 2, Marine Oil Terminals, Chapter 31F. These standards apply to all existing marine oil terminals in California and include criterion for inspection, structural analysis and design, mooring and berthing, geotechnical considerations, fire, piping, and mechanical and electrical systems. The MOTEMS became effective on January 6, 2006 (CSLC 2005). The process of developing the MOTEMS has produced parallel guidelines and recommended provisions. The Seismic Design Guidelines for Port Structures, published in 2001 by the Port International Navigation Association (PIANC) uses text virtually identical to that found in the MOTEMS. The language for the PIANC and the MOTEMS is derived from the Naval Facilities Engineering Service Center Technical Report (TR-2103-SHR), Seismic Criteria for California Marine Oil Terminals.

3.5.3.2 Mineral Resources

Excavations and construction in the immediate vicinity of abandoned oil wells is regulated in accordance with standards and procedures as set forth by the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR). Pub. Res. Code §3208.1 authorizes the State Oil and Gas Supervisor to order re-abandonment of any previously abandoned well when construction of any structure over or in proximity to the well could result in a hazard.

The Surface Mining and Reclamation Act of 1975 (SMARA, Pub. Res. Code §2710 et seq.) was enacted to promote conservation of the state's mineral resources and to ensure adequate reclamation of lands once they have been mined. Among other provisions, SMARA requires the State Geologist to classify land in California for

mineral resource potential. To be considered significant for the purpose of mineral land classification, a mineral deposit, or a group of mineral deposits that can be mined as a unit, must meet marketability and threshold value criteria adopted by the California State Mining and Geology Board. The State Geologist submits the mineral land classification report to the State Mining and Geology Board, which transmits the information to appropriate local governments that maintain jurisdictional authority in mining, reclamation, and related land use activities. Local governments are required to incorporate the report and maps into their general plans and consider the information when making land use decisions.

3.5.4 Impact Analysis

3.5.4.1 Methodology

Geological impacts have been evaluated in two ways: (1) impacts of the proposed Project on the local geologic environment, and (2) impacts of geohazards on components of the proposed Project that may result in substantial damage to structures or infrastructure or expose people to substantial risk of injury. Impacts would be considered significant if the proposed Project meets any of the significance criteria listed in Section 3.5.4.2 below.

The description of the environmental setting in Section 3.5.2 was used as the baseline physical conditions by which significant potential impacts were evaluated. Some of the geologic maps and literature used to prepare the environmental setting are 10 to 20 years old. However, the geologic conditions do not change significantly over 10 to 20 years, and therefore the use of these materials is considered appropriate for this study.

The IS/NOP determined that the proposed Project would have less-than-significant impacts on the following geology issues; therefore, these will not be discussed in the geology impact analysis below:

- Result in substantial soil erosion or the loss of topsoil

The IS/NOP determined that the proposed Project would have a less-than-significant impact on soil erosion and/or the loss of top soil. Although the majority of the proposed project site is currently paved or developed, some soil erosion may occur during construction activities. Adherence to the requirements of the General Storm Water Permit for Construction Activities and to SCAQMD rules and regulations (such as Rule 403 for fugitive dust) will help to ensure that wind or water erosion impacts are reduced to less than significant. Additionally, during construction, the site will be managed in accordance with a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the General Construction Activity Storm Water Permit (GCASP) adopted by the State Water Resources Control Board (SWRCB). The proposed Project would result in the placement of some new impermeable surfaces as well as softscape and landscape materials. After

construction activities and during operation, the proposed Project would not result in any further wind or water erosion of soils. Therefore, this criterion will not be discussed in the geology impact analysis below.

- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater

The IS/NOP determined that the Los Angeles Department of Public Works Bureau of Sanitation provides sewer service to all areas within its jurisdiction, including the proposed Project site. The proposed Project would be connected to this system, and sewage would be sent to the Terminal Island Treatment Facility. There would be no use of septic tanks or alternative wastewater disposal systems and hence no impact from the proposed Project. Therefore, this criterion will not be discussed in the geology impact analysis below.

- Contribute to inundation by seiche, tsunami, or mudflow

Additionally, the IS/NOP determined that the proposed Project would have a less-than-significant impact on the following hydrology and water quality issue that is relevant to geology. As discussed on page 42 of the IS/NOP, [w]hile the proposed Project site is identified to be within an area "potentially impacted by a tsunami" (City of Los Angeles 1994c), detailed studies of tsunami risk within the Ports of Los Angeles and Long Beach indicate that the Wilmington Waterfront Project area is sufficiently interior and distant from open ocean such that waves under various scenarios would not reach above 0.6 meters and would not exceed deck elevations (Moffatt & Nichol 2007). Furthermore, the City of Los Angeles Tsunami Response Plan does not identify the Wilmington Waterfront Project area as part of the Tsunami Inundation Zone for San Pedro and the Harbor Area (City of Los Angeles 2007). Impacts [would be] considered less than significant. Therefore, this criterion will not be discussed in the geology impact analysis below.

Furthermore, the IS/NOP determined that the proposed Project would have a less-than-significant impact on the following mineral issue that is relevant to geology; therefore, it will not be discussed in the geology impact analysis below:

- Result in the permanent loss of availability of a known mineral resource of regional, state, or local significance that would be of future value to the region and the residents of the state

The proposed project area is not within a significant aggregate resource zone; the proposed project site is in a mineral resource zone area classified as MRZ-1, which is defined as an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence (California Department of Conservation, Division of Mines and Geology 1994). The proposed project site is within the identified boundaries of the Wilmington Oil Field, one of the major oil drilling areas of the Los Angeles basin

(City of Los Angeles 1994d). However, there are no oil drilling rigs or current oil exploration investigations within the proposed project area, and the proposed Project would not preclude the exploration or access to subsurface mineral resources.

The assessment of impacts is based on regulatory controls and on the assumptions that the proposed Project would include the following standards and engineering requirements:

- LAHD or authorized developers within the proposed project area will design and construct upland improvements in accordance with Los Angeles Building Code, Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, to minimize impacts associated with seismically induced geohazards. These sections regulate construction in upland areas of the Port. These building codes and criteria provide requirements for construction, grading, excavations, use of fill, and foundation work, including type of materials, design, procedures, etc. These codes are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Necessary permits, plan checks, and inspections are also specified. The Los Angeles Municipal Code also incorporates structural seismic requirements of the California Building Code, which classifies almost all of coastal California (including the proposed project site) within Seismic Zone 4, on a scale of 1 to 4, with 4 being most severe. The project engineers will review the proposed project plans for compliance with the appropriate standards in the building codes.
- LAHD will design and construct new wharf improvements in accordance with MOTEMS and LAHD standards, to minimize impacts associated with seismically induced geohazards. Such construction will include, but not be limited to, completion of site-specific geotechnical investigations regarding construction and foundation engineering. Measures pertaining to temporary construction conditions, such as protecting adjacent structures, will be incorporated into the design. A licensed geologist or engineer will monitor construction to check that construction occurs in concurrence with the proposed project design.

3.5.4.2 Thresholds of Significance

The following significance criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and are the basis for determining the significance of impacts associated with geology resulting from development of the proposed Project.

Geologic hazard impacts are considered significant if the proposed Project causes or accelerates hazards that would result in substantial damage to structures or infrastructure, or exposes people to substantial risk of injury. Because the region is considered to be geologically active, most projects are exposed to some risk from geologic hazards, such as earthquakes. Geologic impacts are, therefore, considered significant only if the proposed Project would result in substantial damage to

structures or infrastructure, or expose people to substantial risk of injury from the following:

GEO-1: Fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure

GEO-2: Land subsidence/settlement

GEO-3: Expansive soils

GEO-4: Landslides or mudflows

GEO-5: Unstable soil conditions from excavation, grading, or fill

In addition, a project would normally have a significant impact on landform alteration or mineral resources if:

GEO-6: One or more distinct and prominent geologic or topographic features would be destroyed, permanently covered, or materially and adversely modified. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

3.5.4.3 Impacts and Mitigation

The geology impact analysis presented below is based on the determinations made in the IS/NOP for issues that were determined to be potentially significant, or for issues identified by reviewing agencies, organizations, or individuals commenting on the IS/NOP that made a reasonable argument that the issue was potentially significant (Appendix A).

3.5.4.3.1 Construction Impacts

Impact GEO-1a: Construction of the proposed Project would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.

There would be a minor increase in the exposure of people and property to seismic hazards relating to the baseline condition. The proposed project area lies in the vicinity of the Palos Verdes Fault zone. Strands of the fault may pass beneath the westerly portion of the proposed project area, in the vicinity of John S Gibson Boulevard (Figure 3.5.1). Strong-to-intense ground shaking, surface rupture, and liquefaction could occur in these areas due to the location of the fault beneath the

proposed project area and the presence of water-saturated soil. Projects in construction phases are especially susceptible to earthquake damage due to temporary conditions, such as temporary slopes and unfinished structures, which are typically not in a condition to withstand intense ground shaking. Strong ground shaking would potentially cause damage to unfinished structures resulting in injury or fatality to construction workers. With the exception of ground rupture, similar seismic impacts would occur due to earthquakes on other regional faults. Earthquake-related hazards, such as fault rupture, liquefaction, and seismic ground shaking cannot be avoided in the Los Angeles region and in particular in the harbor area where the Palos Verdes Fault is present and liquefaction-prone soils underlie the site.

Impact Determination

As discussed above, seismic activity along the Palos Verdes Fault zone, or other regional faults, would potentially produce fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Seismic hazards are common to the Los Angeles region and are not increased by the proposed Project. However, because the proposed project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soil, there is a substantial risk of seismic impacts such as fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Because construction would occur over an extended period, increased exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded, even with incorporation of modern construction engineering and safety standards. Therefore, impacts due to seismically induced ground failure would be significant and unavoidable.

Mitigation Measures

MM GEO-1: Seismic Design. A site-specific geotechnical investigation will be completed by a California-licensed geotechnical engineer and/or engineering geologist. The design and construction recommendations will be incorporated into the structural design of proposed project components.

Residual Impacts

Design and construction in accordance with recommendations of a site-specific geotechnical investigation, as well as applicable laws and regulations pertaining to seismically induced ground movement, would minimize structural damage in the event of an earthquake. However, increased exposure of people and property during operations to seismic hazards from a major or great earthquake cannot be precluded even with the incorporation of modern construction engineering and safety standards. Therefore, potential impacts due to seismically induced ground failure would remain significant and unavoidable.

Impact GEO-2a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.

Subsidence in the vicinity of the proposed Project, due to previous oil extraction in the Port area, has been mitigated through water injection and is not anticipated to adversely impact the proposed Project (City of Long Beach 2006). However, in the absence of proper engineering, proposed structures would potentially be cracked and warped as a result of saturated, unconsolidated/compressible sediments. During project design, the geotechnical engineer would evaluate the settlement potential in areas where structures are proposed.

The settlement potential of existing onshore soils would be evaluated through a site-specific geotechnical investigation, which includes subsurface soil sampling, laboratory analysis of samples collected to determine soil compressibility, and an evaluation of the laboratory testing results by a geotechnical engineer. Recommendations of the engineer would be incorporated into the design specifications for the proposed Project, consistent with City design guidelines, including Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, in conjunction with criteria established by LAHD. Sections 91.000 through 91.7016 regulate construction in upland areas of the Port. These building codes and criteria provide requirements for construction, grading, excavations, use of fill, and foundation work, including type of materials, design, procedures, etc. These codes are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Such geotechnical engineering would substantially reduce the potential for soil settlement and would allow for construction of the proposed Project that would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury.

Impact Determination

Settlement impacts in upland areas would be less than significant, as the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-3a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.

Expansive soil may be present in the proposed project area and may be present in excavated or imported soils used for proposed project grading. Expansive soils beneath the proposed Project's foundations, pavement, or behind retaining structures would potentially result in cracking and distress of these structures. However, during the proposed project design phase, the geotechnical engineer would evaluate the expansion potential associated with onsite soils. The soil expansion potential would be evaluated through a site-specific geotechnical investigation, which includes subsurface soil sampling, laboratory analysis of samples collected to determine soil expansion potential, and an evaluation of the laboratory testing results by a geotechnical engineer. Recommendations of the engineer would be incorporated into the design specifications for the proposed Project, consistent with City design guidelines, including Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, in conjunction with criteria established by LAHD. Recommendations for soils subject to expansion typically include over-excavation and replacement of expansive soils with sandy, non-expansive soils, which would allow for construction of a conventional slab-on-grade; construction of post-tensioned concrete slabs, which can accommodate movement of underlying expansive soils; or, alternatively, installation of concrete or steel foundation piles through the expansion-prone soils, to a depth of non-expansive soils. Therefore, required geotechnical site engineering would substantially reduce the potential for soil expansion and damage to overlying structures.

Impact Determination

Expansive soil impacts in upland areas would be less than significant as the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD. Therefore, the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury, and the impact would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-4a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.

Numerous ancient and recent landslides have occurred within the southerly portion of the Palos Verdes Hills, including the large Portuguese Bend landslide complex. This area is approximately 6½ miles to the southwest of the proposed project site. The topography of the proposed project site is flat with no significant slopes nearby; therefore, the risk associated with landslides or mudflows is considered low. In addition, the proposed project site and vicinity are not located in an area susceptible to earthquake-induced landslides (CDMG 1999a, 1999b).

Impact Determination

As the topography in the vicinity of the proposed project site is flat and not subject to landslides or mudflows, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact GEO-5a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.

Natural alluvial deposits and beach sediments, as well as fill consisting of dredged deposits or imported soils, may be encountered during excavations for utility pipeline relocation or for construction of foundations, retaining walls, manholes, and other structures. Groundwater is present at depths of approximately 10 feet or shallower. Materials near and below the groundwater table would be relatively fluid and unstable, requiring implementation of geotechnical engineering standards, such as dewatering wells, installation of sheet piling, and other special handling procedures to facilitate excavation. For example, dewatering wells would lower the groundwater level, thus reducing the potential for unstable soils. Various types of temporary shoring would also be used to stabilize excavations.

The proposed waterfront park of the proposed project site will involve construction of engineered fill slopes and hills. A site-specific geotechnical evaluation would be performed during the design phase to provide recommendations for stability of the

fill slopes. Such recommendations would include specification of the material type to be used for fill, compaction specifications, slope inclination, removal of unsuitable material prior to placing fill, and slope planting to enhance surficial stability.

Granular material, if encountered during excavation, may be suitable for reuse as fill during construction. Excess excavation material could be used at other nearby construction sites, if suitable, or transported to an appropriate disposal facility. Contaminated material, if encountered, would be evaluated by an environmental professional. Handling of contaminated soil, including disposal at an appropriate facility, would be performed under the direction of the environmental professional. Further information regarding the handling and disposal of contaminated materials is further discussed in Section 3.6 "Groundwater and Soils."

Impact Determination

Due to implementation of standard engineering practices regarding unstable soils, people and structures would not be exposed to substantial adverse effects from the proposed Project, and impacts associated with unstable soil would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-6a: Construction of the proposed Project would not result in one or more distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified.

Since the proposed project area is relatively flat and paved, with no prominent geologic or topographic features, proposed project construction would not result in any distinct and prominent geologic or topographic features being destroyed, or permanently covered. The proposed Project includes the waterfront promenade floating docks at Slip #5. Currently, Slip #5 is a working slip used to support Port operations. Construction of the proposed Project would not materially or adversely modify the existing operation of Slip #5; rather the proposed Project would enhance and improve operations within Slip #5.

Impact Determination

Because the topography in the vicinity of the proposed project site is flat and does not contain prominent geologic or topographic features and the proposed Project would not materially or adversely modify Slip 5, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.5.4.3.2 Operations Impacts

Impact GEO-1b: Operation of the proposed Project would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.

As discussed above for Impact GEO 1a, the proposed project area lies in the vicinity of the Palos Verdes Fault zone. Strands of the fault may pass beneath the westerly portion of the proposed project area, in the vicinity of John S. Gibson Boulevard (Figure 3.5-1). Strong-to-intense ground shaking, surface rupture, and liquefaction would potentially occur in these areas due to the location of the fault beneath the proposed project area and the presence of water-saturated alluvial deposits and hydraulic fill. With the exception of ground rupture, similar seismic impacts could occur due to earthquakes on other regional faults. As previously stated, seismic hazards are common in the Los Angeles region. As discovered during previous earthquake events in the region, building codes are often inadequate to completely protect engineered structures from hazard associated with liquefaction, ground rupture, and large ground accelerations. Consequently, proposed project facilities, including new buildings, the Waterfront Red Car Line and other structures, may be subject to significant damage from a major or great earthquake on the Palos Verdes Fault or any other regional fault. Earthquake-related hazards, such as liquefaction, ground rupture, and seismic ground shaking cannot be avoided in the Los Angeles region and in particular in the harbor area where the Palos Verdes Fault is present and liquefaction-prone soils underlie the site. Because the proposed project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soils, there is a substantial risk of seismic impacts. For example, part of the proposed Project includes the adaptive reuse of the Bekins Storage Property for a Waterfront Red Car Museum. Even though the Bekins Building's structure would be reinforced to modern standards, structural upgrades would not preclude the possibility of serious damage and possible harm to occupants during a major earthquake event.

Increased exposure of people and property during operations to seismic hazards from a major or great earthquake cannot be precluded even with the incorporation of modern construction engineering and safety standards. Therefore, potential impacts due to seismically induced ground failure would remain. The proposed Project

would not increase the risk of seismic ground shaking, but it would contribute to the potential for ground shaking to result in ground failure (e.g., liquefaction, differential settlement). It would also contribute to the potential for seismically induced ground shaking to result in damage to people and structures because it would increase the amount of structures and people working in the area.

Impact Determination

As discussed above, seismic activity along the Palos Verdes fault zone, or other regional faults, could produce fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Seismic hazards are common to the Los Angeles region and are not increased by the proposed Project. However, because the proposed project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soil, there is a substantial risk of seismic impacts. Increased exposure of people and property during operations to seismic hazards from a major or great earthquake cannot be precluded, even with incorporation of modern construction engineering and safety standards. Therefore, impacts due to seismically induced ground failure would be significant and unavoidable.

Mitigation Measures

There are no mitigation measures available that would reduce impacts below significance.

Residual Impacts

Impacts would be significant and unavoidable.

Impact GEO-2b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.

As discussed for Impact GEO-2a, subsidence in the proposed project vicinity due to previous oil extraction in the Port area has been mitigated and would not adversely impact the proposed Project. However, in the absence of proper engineering, proposed structures would potentially be cracked and warped during proposed project operations as a result of saturated, unconsolidated/compressible sediments. Recommendations for soils subject to settlement typically include over-excavation and recompaction of compressible soils, which would allow for construction of a conventional slab-on-grade; or, alternatively, installation of concrete or steel foundation piles through the settlement-prone soils to a depth of competent soils. During the proposed project design phases, a geotechnical engineer would evaluate the settlement potential in areas where structures are proposed, as discussed for Impact GEO-2a, to reduce the potential for soil settlement.

Impact Determination

Settlement impacts in upland areas would be less than significant, as the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts

Impacts would be less than significant.

Impact GEO-3b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.

As discussed for Impact GEO-3a, subsidence in the proposed project vicinity, due to previous oil extraction in the Port area, has been mitigated and is not anticipated to adversely impact the proposed Project. However, in the absence of proper engineering, proposed structures could be cracked and warped during proposed project operations as a result of saturated, unconsolidated/compressible sediments. However, during the proposed Project's design phase, the engineer would evaluate the settlement potential in all areas where structures are proposed. The settlement potential would be evaluated during the construction phase, as discussed for Impact GEO-3a**,** to reduce the potential for soil settlement. As described in Impact GEO-3a, expansive soil may be present in the proposed project area and may be present in excavated or imported soils used for proposed project grading. In the absence of proper engineering the existence of expansive soils beneath proposed project foundations, pavement, or behind retaining structures would potentially result in cracking and distress of these structures during the proposed project operations. Part of the proposed Project includes the adaptive reuse of the Bekins Storage Property for a Waterfront Red Car Museum. Even though the Bekins Building's structure would be reinforced to modern standards, structural upgrades would not preclude the possibility of serious damage and possible harm to occupants during a major earthquake event.

Increased exposure of people and property to seismic hazards during operations from a major or great earthquake cannot be precluded even with the incorporation of modern construction engineering and safety standards. Therefore, potential impacts due to seismically induced ground failure would remain. The proposed Project would not increase the risk of seismic ground shaking, but it would contribute to the

potential for ground shaking to result in ground failure (e.g., liquefaction, differential settlement). It would also contribute to the potential for seismically induced ground shaking to result in damage to people and structures because it would increase the amount of structures and people working in the area. However, during the design phase, the proposed Project's geotechnical engineer would evaluate the expansion potential associated with onsite soils and provide geotechnical design and construction recommendations for soil compaction, foundation specifications, and retaining structures, as described in Impact GEO-3a, to reduce the potential for soil expansion and damage to overlying structures.

Impact Determination

Expansive soil impacts in upland areas would be less than significant as the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer and contained within the geotechnical report, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-4b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.

As discussed above in Impact GEO-4a, numerous ancient and recent landslides have occurred within the southerly portion of the Palos Verdes Hills, including the large Portuguese Bend landslide complex. This area is approximately 6½ miles to the southwest of the proposed project site. The topography of the proposed project site is flat with no significant slopes nearby; therefore, the risk associated with landslides or mudflows is considered low. In addition, the proposed project site and vicinity are not located in an area susceptible to earthquake-induced landslides (CDMG 1999a, 1999b).

Impact Determination

As the topography in the vicinity of the proposed project site is flat and not subject to landslides or mudflows, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact GEO-5b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.

Excavations, grading, or fill placement would not be performed as a part of proposed project operations; therefore, onsite soils would not be subject to unstable conditions.

Impact Determination

Excavations, grading or fill placement would not be performed as a part of proposed project operations; therefore, impacts associated with unstable soils would not occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact GEO-6b: Operation of the proposed Project would not result in one or more distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified.

Since the proposed project area is relatively flat and paved, with no prominent geologic or topographic features, proposed project operations would not result in any distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified. The operation of the proposed Project includes the waterfront promenade floating docks at Slip #5. Currently, Slip #5 is a working slip used to support Port operations. Therefore, operations of the proposed Project would not materially or adversely modify the existing operation of Slip #5; rather, the proposed Project would enhance and improve operations within Slip #5.

Impact Determination

Because the topography in the vicinity of the proposed project site is flat and does not contain prominent geologic or topographic features and the proposed Project would not materially or adversely modify Slip 5, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.5.4.3.3 Summary of Impact Determinations

The following Table 3.5-3 summarizes the impact determinations of the proposed Project related to Geology, as described in the detailed discussion in Sections 3.5.4.3.1 and 3.5.4.3.2. Identified potential impacts may be based on Federal, State, or City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the geotechnical engineers responsible for the preparation of the majority of this section.

For each type of potential impact, the table describes the impact and impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). Impacts, whether significant or not, are included in this table.

Table 3.5-3: Summary Matrix of Potential Impacts and Mitigation Measures for Geology Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.5 Geology			
Construction			
GEO-1a: Construction of the proposed Project would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	Significant and unavoidable	No mitigation measures are available to reduce below significance **MM GEO-1: Seismic Design.** A site-specific geotechnical investigation will be completed by a California-licensed geotechnical engineer and/or engineering geologist. The design and construction recommendations will be incorporated into the structural	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		design of proposed project components.	
GEO-2a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.	Less than significant	No mitigation is required	Less than significant
GEO-3a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.	Less than significant	No mitigation is required	Less than significant
GEO-4a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.	No impact would occur	No mitigation is required	No impact would occur
GEO-5a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill**.**	Less than significant	No mitigation is required	Less than significant
GEO-6a: Construction of the proposed Project would not result in one or more distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified.	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Operations			
GEO-1b: Operation of the proposed Project would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	Significant and unavoidable	No mitigation measures are available to reduce below significance	Significant and unavoidable
GEO-2b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.	Less than significant	No mitigation is required	Less than significant
GEO-3b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.	Less than significant	No mitigation is required	Less than significant
GEO-4b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.	No impact would occur	No mitigation is required	No impact would occur
GEO-5b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
GEO-6b: Operation of the proposed Project would not result in one or more distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified.	No impact would occur	No mitigation is required	No impact would occur

3.5.4.4 Mitigation Monitoring

Table 3.5-4. Mitigation Monitoring for Geology

GEO-1a: Construction of the proposed Project would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	
Mitigation Measure	**GEO-1: Seismic Design.**
Timing	Prior to the approval of the building plans and issuance of the building permit
Methodology	Implement design recommendations from the geotechnical investigation into new construction and site preparation
Responsible Parties	LAHD and Contractor
Residual Impacts	Significant

3.5.5 Significant Unavoidable Impacts

Design and construction in accordance with applicable laws and regulations pertaining to seismically induced ground movement would minimize structural damage in the event of an earthquake. However, increased exposure of people and property during construction and operation to seismic hazards from a major or great earthquake cannot be avoided, even with incorporation of modern construction engineering and safety standards. Therefore, impacts due to seismically induced ground failure would remain significant for the proposed Project.

3.6

GROUNDWATER AND SOILS

3.6.1 Introduction

This section describes the existing environmental and regulatory setting for groundwater and soils, analyzes the potential significant impacts on groundwater and soils related to implementing the proposed Project as well as the impacts from existing contaminated groundwater and soils on the proposed Project, and provides mitigation measures that would reduce the significance of these impacts. No significant unavoidable impacts were identified.

A preliminary Hazardous Materials Assessment (HMA) was prepared for the proposed Project and can be found in Appendix F; the HMA findings are summarized in Section 3.6.2.3 below.

3.6.2 Environmental Setting

The study area for groundwater and soils encompasses approximately 123 acres within the Port of Los Angeles and the southern portion of the Wilmington community, which is approximately 29 acres larger than the proposed project site. Of these 94 acres, roughly 60 acres comprise the Avalon Development District and Avalon Waterfront District, an area defined by Lagoon Avenue to the west, Broad Avenue to the east, C Street to the north, and Banning's Landing and the waterfront of Slip 5 to the south. In addition, the study area includes the Waterfront Red Car Line/California Coastal Trail extension, which begins at Avalon Boulevard and runs along Harry Bridges Boulevard, continuing on to John S Gibson Boulevard, and then on to Front Street, before terminating at Swinford Street. While no physical modifications are proposed at the Avalon Triangle Park site at the southeastern block of Avalon and Harry Bridges Boulevards, this has been assessed because of its proximity to the proposed project elements and because it would be included in the proposed Port Plan and PMP boundary . Also included in the study area, but outside the proposed project boundaries, is the Harbor Generating Station and associated peaker unit sites immediately west of the Avalon Waterfront District. Finally, because the Marine Tank Farm is proposed for demolition, a feasible relocation site

for the oil tanks, known as the Olympic Tank site, has been evaluated at the programmatic level under the scope of this EIR. The Olympic Tank site is approximately 1.5 miles northeast of Harry Bridges Boulevard on the southeastern corner of Alameda Street and Robidoux Street and is not geographically within the proposed project site and its acreage count is not included in the overall 123 acre study area; nevertheless, a records searched was performed on the site. It is important to note that the possible relocation is not called for under the proposed Project and would be processed under a separate action, possibly by LADWP; however, it is considered in this analysis to account for the whole of the action that may result from the proposed Project's implementation.

3.6.2.1 Groundwater

Four major aquifers—the Silverado, Lynwood, Gage, and Gaspur—are present within the Los Angeles Basin and are used for industrial and municipal water supply outside of the harbor area. The proposed project area is located within the southern portion of the West Coast Basin. The two major water-bearing zones that occur beneath the proposed project area are the Gaspur and Gage aquifers (LAHD and USACE 2007). Both of the aquifers are composed of fine- to medium-grained sand and silty sand. Shallow groundwater beneath the site is saline, is not currently considered potable water, and would not likely be considered a potable or beneficial water source in the future. Drinking water is provided to the area by the LADWP.

Groundwater levels are influenced by seasonal precipitation and runoff, irrigation, groundwater pumping, and subsurface stratification and are subject to variation. Groundwater in the study area ranges from approximately 9 feet to 18 feet below the ground surface (Ninyo & Moore 2008). Seepage and saturated soil were also encountered at a depth of approximately 3 feet.

Spills of petroleum products and hazardous substances from long-term industrial land uses have resulted in contamination of some localized onshore soils and shallow groundwater. A discussion of the potential contaminated areas is provided in Section 3.6.2.3 below.

3.6.2.2 Soils

The proposed Project is located within the Los Angeles Basin, which is part of the Transverse Ranges geomorphic province of southern California. The Los Angeles Basin has been divided into four blocks that are generally separated by prominent fault systems: the Northwestern, the Southwestern, the Central, and the Northeastern Blocks. The proposed Project is located within the Southwestern Block, which is bounded on the east by the Newport-Inglewood Fault Zone. The Southwestern Block includes anticlinal (upwardly folded rock) and synclinal (a fold in a rock formation shaped like a basin or trough and contains younger rocks in its core) structural features within the basement rocks, which are overlain by younger sedimentary rocks and alluvium.

Surficial geology of the Los Angeles Harbor is characterized by Holocene-age (the present epoch of geologic time, which began 10,000 years ago), nearshore, marine and non-marine deposits, including beach, estuary, tidal flat, lagoon, shallow-water bay sediments, and shoreline terrace deposits. Dredging and filling operations have modified these native sediments to create extensive land masses of dredged fill material that support numerous harbor facilities. Consequently, most of the harbor facilities in the proposed project area have been constructed on dredged fill material. Both the fill and the native sediments overlie older late-Pleistocene age (the epoch of geologic time, about 1.6 million to 10,000 years ago, characterized by the disappearance of continental ice sheets and the appearance of humans) deposits. These older deposits are exposed in the bluffs that border the westerly side of the proposed project area and include the San Pedro Sand comprised primarily of sand and pebbly gravel and the San Timms Point Silt consisting largely of siltstone (Ninyo & Moore 2008).

3.6.2.3 Historic and Existing Sources Resulting in Soil and Groundwater Contamination

Historical uses at the proposed project site were predominantly heavy industry, such as gas and oil facilities, garage and repair shops, engine repair, truck and diesel warehouses, ship yards, foundries, steel shops using marine solvents, machine shop/welding facilities, iron works, brass works, oil wells, above-ground storage tanks (ASTs), and railroad rights-of-way. Chemicals that are used or would have been used include, but are not limited to, fuels, oil, lubricants, solvents, metals, wood preservatives, polychlorinated biphenyls (PCBs), pesticides, and herbicides (Ninyo & Moore 2008). Long-term industrial use in the vicinity of the proposed project area has contributed to a "toxic plume" within the proposed project area. A toxic plume can be form as an accumulation of contaminated or hazardous soils, groundwater, or vapors that can migrate to areas beyond where they were created. The exact origin of a toxic plume can thus be unknown. All construction, operation, and remediation practices associated with the proposed Project would be performed under guidance with the DTSC, EPA, and state and local regulatory agencies. Therefore, all construction operation and remediation would meet all standards and would not pose a substantial threat to construction workers, the public, or visitors.

A preliminary HMA was prepared for the proposed project site by Ninyo & Moore in May 2008. The purpose of the HMA was to evaluate the likelihood that hazardous materials may be present in soil or groundwater beneath the proposed project site as a result of existing and former onsite construction and operation activities. The assessment methodology included review of historical aerial photographs, historical topographic maps, historical oil and gas maps, regulatory database searches, review of previous hazards material assessments prepared for the site and nearby surroundings, interviews with onsite operators, and a site reconnaissance. The final report is attached as Appendix F.

Based on historical research, review of environmental databases, a review of previous technical HMAs, regulatory agency inquiries, and a site reconnaissance, the HMA

designated properties within the study area with a low, moderate, or high potential for soil and groundwater contamination. Table 3.6-1 presents known contaminated sites from the FirstSearch™ database reports. Properties that were given the high or moderate risk classification are presented in Table 3.6-2.

The following are general areas of concern that fall within the proposed project areas. These include widespread industrial-type operations that occurred within the study areas over several decades and that have the potential to contain hazardous materials that could be exposed during construction and operation of the proposed project, thus potentially exposing construction workers and the public to potentially hazardous materials.

- **Avalon Development District**: Widespread and varied historical industrial usage, which included former gas and oil facilities, railroad rights-of-way, machine shops, and repair shops.
- **Avalon Waterfront District**: Varied historical industrial uses including railroad rights-of-way, machine shops, and repair shops.
- **Waterfront Red Car Line Extension/CCT:** Varied historical industrial and retail uses, which included gas and oil facilities, machine shops, and repair shops.

Table 3.6-1: Known Contaminated Sites from the FirstSearch™ Database Reports

Business Name and Address	*Case Summary*
AVALON DEVELOPMENT DISTRICT	
Koppers Co., Inc. 210 South Avalon Boulevard	Soil contamination discovered (pentachlorophenol [PCP], copper, chromium, and arsenic). Site was paved over; contamination left in place.
AVALON WATERFRONT DISTRICT	
No properties of concern	
WATERFRONT RED CAR LINE AND CALIFORNIA COASTAL TRAIL	
TraPac, Inc. 920 West B Street	The database report indicated that 55 gallons of "3.3 flammable liquid" had been released from a storage tank and that 5 gallons of ethanol had been released.
American President Lines Sexton Trucking Australian New Zealand Lines 2001 John S. Gibson Boulevard (TraPac, Inc.)	The listings indicate varying amounts of different chemicals that have been released. Chemicals include carbon disulfide, triethylamine, potassium nitrate, ethyl butyrate, terpene hydrocarbons, oil, diesel, miscellaneous oils, petroleum distillates, 1,1,1-Trichloroethane (TCA), fak aerosols, corrosive liquid, diethylenetriamine, propylene glycol, pesticides, and ethyl methacrylate.
HARBOR GENERATING STATION AND PEAKER UNIT SITES (OUTSIDE PROJECT BOUNDARIES)	
No known cases	
OLYMPIC TANK SITE (OUTSIDE PROJECT BOUNDARIES)	
Ultramar Olympic Tank Farm 1220 North Alameda Street	Current and/or historic large bulk storage of petroleum products.

Table 3.6-2: Current Properties of High or Moderate Concern for Soil and/or Groundwater Contamination

Location	*Property Name/Address*	*Site Operations—Reason for Risk Class*	*Data Source*[2]	*Risk Class*[3]	*Map ID From HMA*
Avalon Development District	Dockside Machine and Ship Repair 211 North Marine Avenue	Machine and ship repair (metals, lubricants, fuels)	R, H	M	A1
	Bromma Authorized Warranty Repair Facility North Marine Avenue	Repair facility (metals, lubricants, fuels)	R	M	A2
	Wilmington Iron Works 432 C Street	Iron works (metals, lubricants, solvents)	R, H	M	A3
	Iron shops (402 West C Street and 221 Island Avenue), iron works (432 West C Street), iron warehouse (230 Lagoon Avenue), iron manufacturing (222 Lagoon Avenue)	Iron works (metals, lubricants, solvents)	R and/or H	M	A4
	Former Brass Works 227 Island Avenue	Brass works (metals, lubricants, solvents)	H	M	A5
	Former Koppers Co. Inc. 210 South Avalon Boulevard	Soil contamination left in place (PCP, copper, chromium, and arsenic).	D	H	A6
	Former gas and oil facility 200 Avalon Boulevard/101 East B Street	Gas and oil	H	M	A7
	Former Marine Solvents 214 Marine Avenue	Solvents	H	M	A8
	Five completed wells named "Exxon (WTU-)" numbered: 641, 601, 602, 643, and 644; one completed directional well named "Exxon (WTU-)" number 600; and one plugged and abandoned oil well named "13 Comm" number 6	Completed and plugged and abandoned oil wells	H	M	

Location	*Property Name/Address*	*Site Operations—Reason for Risk Class*	*Data Source*[2]	*Risk Class*[3]	*Map ID From HMA*
Avalon Waterfront District	Former boat building yards 125 West A Street and 128 Avalon Boulevard	Boat building (metals, lubricants, fuels)	H	M	B1
	Vacant Land Southeast corner of West Harry Bridges and Avalon Boulevards	Wells, soil vapor probes present (on-going remediation)	R	H	B2
	Dockside Machine and Ship Repair Avalon Boulevard	Ship repair facility (metals, lubricants, fuels)	R	M	B3
	Valero Southwest corner of Avalon Boulevard and West A Street	Facility contains two very large ASTs and one smaller AST of unknown use; parcel leased from the LADWP	R, I	M	B4
	Eleven completed oil wells named "Exxon (TUA-1)" numbered: 112, 113, 114, 115, 116B, 126, 127, 128, 129, 130, and 131	Completed wells	H	M	
Waterfront Red Car Line/California Coastal Trail	Trans Pacific Container Terminal (TraPac) 920 West B Street	Release of "3.3 flammable liquid" and ethanol	R , D, H	M	C1
	American President Lines Sexton Trucking Australian New Zealand Lines 2001 John S. Gibson Boulevard (TraPac)	Release of varying amounts of different chemicals that have been released. Chemicals include carbon disulfide, triethylamine, potassium nitrate, ethyl butyrate, terpene hydrocarbons, oil, diesel, miscellaneous oils, petroleum distillates, 1,1,1-TCA, fak aerosols, corrosive liquid, diethylenetriamine, propylene glycol, pesticides, and ethyl methacrylate.	D, H	H	C2
	Former gas and oil facility 837 Wilmington and San	Gas and oil	H	M	C3

Location	Property Name/Address	Site Operations—Reason for Risk Class	Data Source[2]	Risk Class[3]	Map ID From HMA
	Pedro Road (North Pacific Avenue)				
	Former gas and oil facility 789 Wilmington & San Pedro Road (North Front Street)	Gas and oil	H	M	C4
	J&J Body Shop 837 North Pacific Avenue	Repair facility (metals, lubricants, fuels)	R	M	C3
	Unlimited Auto 789 North Front Street	Repair facility (metals, lubricants, fuels)	R	M	C4
	Six plugged and abandoned dry holes. One well named King Oil Inc "King"; two wells named Hogan Pet Co "Burkhard"; and three wells named Hogan Pet Co. "Burkhard Core Hole"	Plugged and abandoned dry holes	H	M	

[1]Description of site operations/primary reasons for risk class

[2]Indicates primary information sources for listing: R=Reconnaissance, D=Database, H=Historical Documentation, I= Interviews with POLA or Jones & Stokes staff

[3]Risk Class H = high, M = moderate, L = low

3.6.2.3.1 LADWP Marine Tank Farm Site

The LADWP Marine Tank Farm is located within the Avalon Waterfront District, immediately south of the Avalon Development District. It is bounded by A Street to the north, Avalon Boulevard to the east, a rail line to the south, and the LADWP peaker unit site to the west. The proposed Project would remove the LADWP Marine Tank Farm, remediate the site, and develop a 10-acre land bridge complete with landscaped lawn and a water feature.

A Phase II Environmental Site Assessment (ESA) for the Marine Tank Farm site was prepared by Kleinfelder on May 27, 2004, for LADWP and can be found in Appendix F. The Phase II ESA collected and analyzed soil, soil vapor, and groundwater to assess whether soil and groundwater had been affected by fuel storage activities. The purpose of the ESA was to evaluate the site for the presence of hazardous materials or compounds "to assess the potential feasibility of utilizing

the property as a public park." It does not appear that any oversight regulatory agency involvement, including from RWQCB or Department of Toxic Substances Control (DTSC), has occurred to date.

The Phase II ESA determined that soils contain concentrations of arsenic above the residential Preliminary Remediation Goals (PRGs), and selenium, which exceeded the Soluble Threshold Limit Concentration (STLC) test. Groundwater under the site contains metals and volatile organic compounds (VOCs) that exceed tap water PRGs and/or Maximum Contaminant Levels (MCLs), which pose potential concerns for human health. The Phase II ESA recommends the preparation of a Health Based Risk Assessment (HBRA) to determine whether remediation of soil and/or groundwater is warranted prior to redevelopment of the site.

3.6.2.3.2 Olympic Tank Farm Site

The Olympic Tank Farm site is bounded to the north by Robidoux Street, to the east by Goodrich Avenue, to the south by railroad right-of-ways, and to the west by Alameda Street. Because this site is only a potential relocation site for the existing Marine Tank Farm, a site reconnaissance and historical review were not performed. Based on the review of the database report, however, the Olympic Tank Farm site appears to comprise several large aboveground petroleum storage tanks associated with the Ultramar Olympic Tank Farm.

The Resource Conservation and Recovery Act (RCRA) Generator database identifies sites that generate hazardous waste as defined by RCRA. Inclusion on these lists is for permitting purposes and is not indicative of a release. The Ultramar Inc., Olympic Tank Farm (1220 Alameda Street) is listed as a large quantity generator with no violations recorded. Other information indicated that this facility is a petroleum and petroleum products merchant wholesaler. No other data were available. Based on this information, this facility would not be considered an environmental concern. However, although no violations or documented releases are noted for the Olympic Tank Site, the HMA concluded that the facility is an environmental concern based on the large volume of petroleum products that have been stored at this site.

3.6.3 Applicable Regulations

Applicable federal, state, and local laws contain lists of hazardous materials or hazardous substances that may require special handling in accordance with the regulations if encountered in soil or groundwater during construction of the proposed Project.

3.6.3.1 Federal Regulations

Proper site characterization and site remediation of hazardous materials is regulated by the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the state Hazardous Substances Account Act (Health and Safety Code Section 25300, et seq.). California's DTSC is authorized to administer the federal hazardous waste program under the RCRA and is also responsible for administering the state Superfund Program under the Hazardous Substance Account Act. DTSC provides guidance for cleanup oversight through an Environmental Oversight Agreement, for government agencies, or a voluntary Cleanup Agreement, for private parties.

Additional requirements for hazardous materials are specified under Health and Safety Code Section 25501; hazardous substances under 40 CFR Part 116; and priority toxic pollutants under CFR Part 122.

In July 2002, EPA amended the Oil Pollution Prevention regulation at Title 40 of the Code of Federal Regulations, Part 112 (40 CFR 112). The regulation incorporated revisions proposed in 1991, 1993, and 1997. Subparts A through C of the Oil Pollution Prevention regulation are often referred to as the SPCC Rule because they describe the requirements for certain facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. These plans ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. In addition, oil spill contingency plans are required as part of this legislation to address spill cleanup measures after a spill has occurred.

3.6.3.2 State and Local Regulations

Hazardous materials are frequently defined under local hazardous materials ordinances, such as the Uniform Fire Code. Depending on the type and degree of contamination that is present in soil and groundwater, any of several governmental agencies may have jurisdiction over the proposed project site. Generally, the agency with the most direct statutory authority over the affected media is designated as the lead agency for purposes of overseeing any necessary investigation or remediation.

Typically, sites that are nominally contaminated with hazardous materials remain within the jurisdiction of local hazardous materials agencies, such as the Los Angeles County Fire Department's (LAcFD's) Health Hazardous Materials Division (HHMD). In 1997, HHMD became a Certified Unified Program Agency (CUPA) to administer the following programs within Los Angeles County: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the California Accidental Release Prevention Program (Cal-ARP), the Aboveground Storage Tank Program, and the Underground Storage Tank Program. HHMD consists of an Inspection Section, Emergency Operations Section, Special Operations composed of the Site Investigations Unit and Site Mitigation Unit, and an Administrative/Planning Section.

Sites that have more heavily contaminated soils are more likely to fall under the jurisdiction of DTSC, which, as mentioned above, regulates hazardous waste in California primarily under the authority of the federal RCRA, and the California Health and Safety Code as well as other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. DTSC's major program areas develop regulations and consistent program policies and procedures using these laws. The regulations specify, for hazardous waste handlers, how to comply with the laws. As is the case with environmental risk management decisions, these rulemakings are subject to public review and comment (DTSC 2008).

Sites that have contaminated groundwater fall within the jurisdiction of the Los Angeles RWQCB and are subject to the requirements of the Porter-Cologne Water Quality Control Act. Contaminated groundwater that is proposed to be discharged to surface waters or to a publicly owned treatment works would be subject to the applicable provisions of the CWA, including permitting and possibly pretreatment requirements. A National Pollution Discharge Elimination System (NPDES) permit is required to discharge pumped groundwater to surface waters, including local storm drains, in accordance with California Water Code Section 13260. Additional restrictions may be imposed upon discharges to water bodies that are listed as impaired under Section 303(d) of the CWA, including San Pedro Bay.

3.6.4 Impact Analysis

3.6.4.1 Methodology

The existing conditions, impacts, and mitigation measures related to contaminated sites described in this EIR are based on the HMA for the Wilmington Waterfront Project (Ninyo & Moore 2008). To establish the environmental baseline, the HMA used a range of sources, including a review of historical aerial photographs and historical topographic maps, historical oil and gas maps, environmental regulatory database searches, review of previous HMAs prepared within the study area and nearby surroundings, interviews with onsite operators, and a site reconnaissance. This impact analysis evaluates the changes the proposed Project would have on existing conditions and how existing conditions may adversely affect the proposed Project.

3.6.4.1.1 Analytical Framework

Groundwater and onshore soils impacts have been evaluated with respect to several general parameters, including groundwater quality and quantity, and soil contaminants. The impact of the proposed Project on each of these parameters has been evaluated with respect to the significance criteria listed below. The assessment of impacts is also based on regulatory controls and on the assumptions that the proposed Project would include the following:

- An individual NPDES permit for stormwater discharges or coverage under the General Construction Activity Storm Water Permit would be obtained for the proposed Project.
- The contractors would prepare a SPCC plan and an oil spill contingency plan (OSCP), which would be reviewed and approved by the California Department of Fish and Game (DFG) Office of Spill Prevention and Response, in consultation with other responsible agencies. The SPCC Plan would detail and implement spill prevention and control measures to prevent oil spills from reaching navigable waters. The OSCP would identify and plan as necessary for contingency measures that would minimize damage to water quality and provide for restoration to pre-spill conditions.
- All contaminated soil and groundwater occurring as a result of oil spills related to the proposed Project would be remediated, in accordance with LAHD lease conditions and all federal, state, and local regulations. Remediation effort would be supervised by the appropriate lead agency, which could include DTSC, RWQCR, or LACFD.
- In accordance with standard LAHD lease conditions, the future tenants would implement a source control program, which provides for the inspection, control, and cleanup of leaks from aboveground tank and pipeline sources, as well as requirements related to groundwater and soil remediation.

Potential impacts to surface water, off-shore sediments, and marine water quality are addressed in Section 3.14, "Water Quality, Sediments, and Oceanography."

3.6.4.2 Thresholds of Significance

3.6.4.2.1 CEQA Criteria

Significance criteria used in this assessment are based on the *L.A. CEQA Threshold Guide* (City of Los Angeles 2006), LAHD criteria, and the scientific judgment of the report preparers. The effects of a project on groundwater and soils resources are considered to be significant if the proposed Project would result in any of the following:

GW-1: Exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.

GW-2: Changes in the rate or direction of movement of existing contaminants; expansion of the area affected by contaminants; or increased level of groundwater contamination, which would increase risk of harm to humans.

GW-3: Demonstrable and sustained reduction in potable groundwater recharge capacity or change in potable water levels sufficient to:

- reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, storage of imported water, summer/winter peaking, or to respond to emergencies and drought;
- reduce yields of adjacent wells or well fields (public or private); or
- adversely change the rate or direction of groundwater flow.

GW-4: Violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

3.6.4.3 Impacts and Mitigation

3.6.4.3.1 Construction Impacts

Impact GW-1a: Proposed project construction activities may result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.

Soil and groundwater within the proposed project area have been adversely affected by hazardous substances and petroleum products as a result of spills during historic industrial land uses. All of these areas are in various stages of contaminant site characterization and remediation, as previously described in Table 3.6-2. For example, the historical review indicated the presence of abandoned oil production wells in the Avalon Development District, the Avalon Waterfront District, and within the vicinity of the Waterfront Red Car Line/California Coastal Trail. Moreover, the LADWP Tank Farm site was identified with soil and groundwater contamination. It is unknown if each of these properties (as listed in Table 3.6-2) is currently contaminated. LAHD would determine the contamination level for each area and would mitigate contaminated soil and groundwater where necessary prior to construction. In addition, LAHD would take measures to address the potential to encounter unanticipated contaminated soil and groundwater during construction in areas outside currently identified contaminated sites.

In addition, Phase I of the proposed Project would be in operation beginning in 2012. As such, any onsite personnel, visitors, or recreational users of the Phase I facilities may be exposed to soils containing toxic substances and petroleum hydrocarbons associated with Phase II construction, including LADWP tank demolition, if proper containment measures are not followed.

Additionally, demolition of structures built prior to 1980 may result in the exposure of the public and/or the environment to asbestos containing materials (ACMs) and/or lead based paint (LBP). Human health and safety impacts would be significant

pursuant to exposure levels established by CalEPA's Office of Environmental Health Hazard Assessment (OEHHA).

Impact Determination

The proposed Project would result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site. Specifically, grading and construction would potentially expose construction personnel, existing operations personnel, and Phase 1 recreational users to contaminated soil, toxic plumes, or contaminated water. Grading and construction activities may also encounter previously unidentified underground storage tanks (USTs), hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes.

Mitigation Measures

MM GW-1. Preparation of a Soil Management Plan or Phase II Environmental Site Assessment. LAHD will prepare a soil management plan prior to construction and will implement it during all phases of construction. Disturbed soils will be monitored for visual evidence of contamination (e.g., staining or discoloration). Soil will also be monitored for the presence of VOCs using appropriate field instruments such as organic vapor measurement with photoionization detectors or flame ionization detectors. If the monitoring procedures indicate the possible presence of contaminated soil, a contaminated soil contingency plan will be implemented and will include procedures for segregation, sampling, and chemical analysis of soil. Contaminated soil will be profiled for disposal and will be transported to an appropriate hazardous or non-hazardous waste or recycling facility licensed to accept and treat the type of waste indicated by the profiling process. The contaminated soil contingency plan will be developed and in place during all construction activities. If these processes generate any contaminated groundwater that must be disposed of outside of the dewatering/NPDES process, the groundwater will be profiled, manifested, hauled, and disposed of in the same manner.

Alternatively, preparation of a Phase II ESA will be prepared. In general, the Phase II ESA will include the following:

- A work plan that includes the number and locations of proposed soil/monitoring wells, sampling intervals, drilling and sampling methods, analytical methods, sampling rationale, site geohydrology, field screening methods, quality control/quality assurance, and reporting methods. Where appropriate, the work plan is approved by a regulatory agency such as the LACFD or the RWQCB.
- A site-specific health and safety plan signed by a Certified Industrial Hygienist.
- Necessary permits for encroachment, boring completion, and well installation.
- A traffic safety plan.
- Sampling program (fieldwork) in accordance with the work plan and health and safety plan. Fieldwork is completed under the supervision of a State of California registered geologist.

- Hazardous materials testing through a state-certified laboratory.
- Documentation including a description of filed procedures, boring logs/well construction diagrams, tabulations of analytical results, cross-sections, an evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the environmental condition of the site and the need for further assessment. Recommendations may include additional assessment or handling of the contaminants found though the contaminated soil contingency plan. If the contaminated soil contingency plan is inadequate for the contamination found, a remedial action plan will be developed. Contaminated groundwater will generally be handled through the NPDES/dewatering process.
- Disposal process including transport by a state-certified hazardous material hauler to a state-certified disposal or recycling facility licensed to accept and treat the identified type of waste.

MM GW-2: Site Remediation. Unless otherwise authorized by the lead regulatory agency for any given site, LAHD will remediate all contaminated soils within proposed project boundaries prior to or during demolition and grading activities. Remediation will occur in compliance with local, state, and federal regulations as described in Section 3.6.3 and as directed by the LACFD, DTSC, and/or RWQCB.

Soil remediation will be completed such that contamination levels are below health screening levels established by OEHHA of CalEPA and/or applicable action levels established by the lead regulatory agency with jurisdiction over the site. Soil contamination waivers may be acceptable as a result of encapsulation (i.e., paving) in upland areas and/or risk-based soil assessments, but would be subject to the discretion of the lead regulatory agency.

Existing groundwater contamination throughout the proposed project boundary will continue to be monitored and remediated, simultaneous and/or subsequent to site redevelopment, in accordance with direction provided by the RWQCB.

Unless otherwise authorized by the lead regulatory agency for any given site, areas of soil contamination that will be remediated prior to or in conjunction with proposed project demolition, grading, and construction will include, but not be limited to, the properties within and adjacent to the proposed Project as listed in the HMA and filed as Appendix F of this EIR.

MM GW-2a: Remediate Former Oil Wells in the Avalon Development District (Area A), Avalon Waterfront District (Area B), and within the Immediate Vicinity of the Waterfront Red Car Line/CCT (Area C). Locate the well using geophysical or other methods. Contact the Division of Oil, Gas, and Geothermal Resources (DOGGR) to review abandonment records and inquire whether re-abandonment is necessary prior to any future construction related to the proposed Project (re-abandonment is required if previously abandoned wells were abandoned in accordance with the standards of the time and those standards are now considered too low). Implement corrective measures as directed by DOGGR. Successful site remediation will require compliance with MM GW-2.

MM GW-2b: Remediate Soil along Existing and Former Rail Lines. Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum hydrocarbons, and metals. Successful site remediation will require compliance with MM GW-2.

MM GW-2c: Health Based Risk Assessment for the Marine Tank Farm. LAHD will prepare a HBRA to determine whether remediation of soil and/or groundwater is needed at the Marine Tank Farm site and, if so, determine the appropriate work plan to ensure the site would comply with applicable local, state, and federal laws. Successful site remediation will require compliance with MM GW-2.

MM GW-3: Contamination Contingency Plan for Non-Specific Facilities and Unidentified Sources of Hazardous Materials. LAHD will prepare a hazardous materials contingency plan addressing the potential for discovery of unidentified USTs, hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes encountered during construction. The following will be implemented to address previously unknown contamination during demolition, grading, and construction:

a) All trench excavation and filling operations will be observed for the presence of free petroleum products, chemicals, or contaminated soil. Deeply discolored soil or suspected contaminated soil will be segregated from light colored soil. In the event unexpected suspected chemically impacted material (soil or water) is encountered during construction, the contractor will notify LAHD's Chief Harbor Engineer, the Director of Environmental Management, and Risk Management's Industrial Hygienist. LAHD will confirm the presence of the suspect material; direct the contractor to remove, stockpile, or contain the material; and characterize the suspect material identified within the boundaries of the construction area. Continued work at a contaminated site will require the approval of the Chief Harbor Engineer.

b) A photoionization detector (or other similar devices) will be present during grading and excavation of suspected chemically impacted soil.

c) Excavation of VOC-impacted soil will require obtaining and complying with a SCAQMD Rule 1166 permit.

d) The remedial option(s) selected will be dependent upon a number of criteria (including but not limited to types of chemical constituents, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and will be determined on a site-specific basis. Both off-site and onsite remedial options will be evaluated.

e) The extent of removal actions will be determined on a site-specific basis. At a minimum, the chemically impacted area(s) within the boundaries of the construction area will be remediated to the satisfaction of the lead regulatory agency for the site. The LAHD Project Manager overseeing removal actions will inform the contractor when the removal action is complete.

f) Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials will be submitted to the Chief Harbor Engineer within 30 days of project completion.

g) In the event that contaminated soil is encountered, all onsite personnel handling or working in the vicinity of the contaminated material will be trained in accordance with Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that "general site workers" will receive a minimum of 40 hours of classroom training and a minimum of 3 days of field training. This training provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place.

h) In cases where potential chemically impacted soil is encountered, a real-time aerosol monitor will be placed on the prevailing downwind side of the impacted soil area to monitor for airborne particulate emissions during soil excavation and handling activities.

i) All excavations will be filled with structurally suitable fill material that is free from contamination.

j) Prior to dewatering activities, LAHD will obtain a NPDES permit. In areas of suspected contaminated groundwater, special conditions will apply with regard to acquisition of the NPDES permit, including testing and monitoring, as well as discharge limitations under the NPDES permits.

k) Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum hydrocarbons, and metals.

l) Demolition of chemical/fuel storage facilities will include decommissioning and removal of USTs and ASTs in accordance with local and state regulatory agencies. These agencies will likely require soil and groundwater sampling. This sampling will be conducted in accordance with local and state regulatory agency requirements.

m) Prior to construction activities, LAHD, or its contractors, will conduct an evaluation of all buildings (built prior to 1980) to be demolished to evaluate the presence of asbestos-containing building materials and lead-based paint. Remediation will be implemented in accordance with the recommendations of these evaluations.

n) Upon discovery of soil or groundwater contamination, the lead agency responsible for site remediation will determine if the identified contaminants pose a health risk to the general public, operation personnel, or other possible human receptors present at Phase 1 operational locations. If it is determined that an adverse risk to the general public, operation personnel, or other human receptors is present, Phase 1 Project elements in operation will be closed as a precaution to prevent human exposure to toxic substances.

Residual Impacts

Excavated soil would be managed in accordance with MM GW-1. Soil and groundwater remediation of known contaminated areas would occur as outlined in MM GW-2. The potential of encountering unknown soil contamination and remediation requirements are outlined in MM GW-3. Prior to any visitor activity on site all soils and potentially hazardous materials will be remediated to satisfy the

appropriate regulatory standards. Examples of areas that will be remediated to satisfactory levels prior to occupation include the former oil wells in the Avalon Development District (Area A), Avalon Waterfront District (Area B), and within the immediate vicinity of the Waterfront Red Car Line/CCT (Area C). Implementation of mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3 would reduce health and safety impacts on construction personnel and recreational users to less-than-significant levels.

Impacts after mitigation would be less than significant.

Impact GW-2a: Proposed project construction would not result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans.

As discussed for Impact GW-1, soil and groundwater in limited portions of the proposed project site have been affected by hazardous substances and petroleum products as a result of spills during historic industrial land uses. Excavation and grading in contaminated soils, as well as dredging of potentially contaminated soil and marine sediments, would potentially result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances. The lead agency responsible for remediation would provide containment guidance and would assist in overseeing construction and remediation activities for the proposed Project, including ensuring that remediation efforts would be conducted in accordance with federal, state, and local laws. The local and state regulatory agencies would also provide guidance and oversight on the proper construction BMPs implemented for the proposed Project.

Impact Determination

Grading and construction in upland areas would potentially change the rate or direction of movement of existing contaminants; expand the area affected by contaminants; or increase the level of groundwater contamination, which would increase risk of harm to humans. Human health and safety impacts would be significant pursuant to exposure levels established by OEHHA.

Mitigation Measures

Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.

Residual Impacts

Excavated soil would be managed in accordance with MM GW-1. Soil and groundwater remediation of known contaminated areas would occur as outlined in

mitigation measure MM GW-2, MM GW-2a, MM GW-2b, and MM GW-2c. The potential of encountering unknown soil contamination and the remediation requirements are outlined in mitigation measure MM GW-3. Implementation of these mitigation measures would substantially reduce the possibility of expanding the area affected by contaminants, and agency oversight and regulatory requirements would significantly reduce the consequences of movement, expansion, or an increase in groundwater contamination.

Impacts after mitigation would be less than significant.

Impact GW-3a: Construction activities for the proposed Project would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity nor would construction result in a change in potable water levels.

Most of the proposed project area is paved and impermeable to groundwater recharge. Construction activities at the proposed project site would result in removal of pavement in select areas, thus resulting in an increase in groundwater recharge at the site. The proposed project area is predominantly underlain by deep, unconfined potable aquifers of highly saline, non-potable groundwater, and is not a designated recharge area for potable groundwater; therefore it is not used by any utility for public water uses, such as storage of imported water, summer or winter peak water usage, or as a defense against a drought season or emergency. The proposed project construction activities would not interfere with the potential yields of any adjacent groundwater wells or well fields (public or private) as all groundwater underlying the entire vicinity of the proposed project area is highly saline and non-potable. It is also not expected that any construction activities would adversely alter the rate or direction of groundwater flow in the vicinity of the proposed project area.

Drinking water is provided to the proposed project area by LADWP. Although shallow groundwater may be locally extracted during construction dewatering operations, this perched groundwater under the proposed project area is highly saline and non-potable. As such, if any potential groundwater withdrawal in the vicinity of the proposed project area would occur, it would have no impact on potential underlying potable water supplies. Furthermore, in the event groundwater is encountered during excavation, appropriate dewatering and engineering standards would be implemented to ensure water levels are not substantially affected.

Impact Determination

Although proposed project construction would result in a temporary increase in groundwater recharge, the proposed project site is underlain by saline, non-potable groundwater. Because the water is non-potable, the amount of recharge is irrelevant with respect to potential utilization of the perched aquifer as a drinking water source, and any extracted groundwater would be replaced to reduce the potential of seawater intrusion inland. Therefore, any temporary increase in recharge would be

inconsequential, and no impacts would occur with respect to potable groundwater recharge.

Because drinking water is provided to the proposed project area by LADWP and the groundwater is highly saline and non-potable, no impact would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact GW-4a: Construction activities for the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

Drinking water is provided to the proposed project area by LADWP. No existing production wells are located in the vicinity of the proposed project site as the underlying groundwater is not suitable for drinking.

Impact Determination

Because no existing production wells are located in the vicinity of the proposed project site, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.6.4.3.2 Operational Impacts

Impact GW-1b: Proposed project operations would not result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.

Soil and groundwater in limited portions of the proposed project site have been affected by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above. Implementation of mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3 prior to or during proposed project demolition, grading, and construction would reduce onsite contamination to levels acceptable by the applicable lead regulatory agency prior to project operations.

Impact Determination

Mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3 would reduce onsite contamination to levels acceptable by the applicable lead regulatory agency prior to proposed project operations. In addition, no excavations that might encounter contaminated soil and/or groundwater would be completed as part of proposed project operations. Therefore, impacts would be less than significant.

Mitigation Measures

Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.

Residual Impacts

Impacts after mitigation would be less than significant.

Impact GW-2b: Proposed project operations would not result changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination which would increase risk of harm to humans.

As discussed for Impact GW-1b, soil and groundwater in limited portions of the proposed project site have been affected by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above. Implementation of mitigation measures MM GW-1, MM GW-2, and

MM GW-3 prior to or during proposed project demolition, grading, and construction would reduce onsite contamination to levels acceptable by the applicable lead regulatory agency prior to project operations.

Impact Determination

Mitigation measures MM GW-1, GW-2, MM GW-2a, MM GW-2b, MM GW-2c,and MM GW-3 would reduce onsite contamination to levels acceptable by the applicable lead regulatory agency prior to proposed project operations. In addition, excavations that might encounter contaminated soil, which could be inadvertently spread to non-contaminated areas, would be mitigated under MM GW-1 and MM GW-3. Therefore, impacts would be less than significant.

Mitigation Measures

Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.

Residual Impacts

Impacts after mitigation would be less than significant.

Impact GW-3b: Proposed project operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity and would not result in a change in potable water levels.

Most of the proposed project area is currently paved and impermeable to groundwater recharge. Most of the proposed project site would be converted to park space with a smaller amount being paved, resulting in a greater amount of recharge at the majority of the site. However, the proposed project area is underlain by highly saline, non-potable groundwater.

Drinking water is provided to the proposed project area by LADWP.

Impact Determination

The proposed project operations would increase recharge; however, the proposed project site is underlain by saline, non-potable groundwater. Therefore, no impacts would occur under CEQA with respect to loss of potable groundwater recharge.

Furthermore, because drinking water is provided to the proposed project area by LADWP and does not come from beneath the site, no impacts would occur with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact GW-4b: Proposed project operations would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

Drinking water is provided to the proposed project area by LADWP. No existing production wells are located in the vicinity of the proposed project site.

Impact Determination

Because no existing production wells are located in the vicinity of the proposed project site, no impacts would occur under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.6.4.3.3 Summary of Impact Determinations

Table 3.6-3 summarizes the impact determinations of the proposed Project related to groundwater and soils, as described in the detailed discussion in Sections 3.6.4.3.1 and 3.6.4.3.2. Identified impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the conclusions of the technical reports.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.6-3: Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
3.6 Groundwater and Soils			
Construction			
GW-1a: Proposed project construction activities may result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	Significant	**MM GW-1**. **Preparation of a Soil Management Plan or Phase II Environmental Site Assessment.** LAHD will prepare a soil management plan prior to construction and will implement it during all phases of construction. Disturbed soils will be monitored for visual evidence of contamination (e.g., staining or discoloration). Soil will also be monitored for the presence of VOCs using appropriate field instruments such as organic vapor measurement with photoionization detectors or flame ionization detectors. If the monitoring procedures indicate the possible presence of contaminated soil, a contaminated soil contingency plan will be implemented and will include procedures for segregation, sampling, and chemical analysis of soil. Contaminated soil will be profiled for disposal and will be transported to an appropriate hazardous or non-hazardous waste or recycling facility licensed to accept and treat the type of waste indicated by the profiling process. The contaminated soil contingency plan will be developed and in place during all construction activities. If these processes generate any contaminated groundwater that must be disposed of outside of the dewatering/NPDES process, the groundwater will be profiled, manifested, hauled, and disposed of in the same manner. Alternatively, preparation of a Phase II ESA will be prepared. In general, the Phase II ESA will include the following: ■ A work plan that includes the number and locations of	Less than significant

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
		proposed soil/monitoring wells, sampling intervals, drilling and sampling methods, analytical methods, sampling rationale, site geohydrology, field screening methods, quality control/quality assurance, and reporting methods. Where appropriate, the work plan is approved by a regulatory agency such as the LAFD or the RWQCB. ■ A site-specific health and safety plan signed by a Certified Industrial Hygienist. ■ Necessary permits for encroachment, boring completion, and well installation. ■ A traffic safety plan. ■ Sampling program (fieldwork) in accordance with the work plan and health and safety plan. Fieldwork is completed under the supervision of a State of California registered geologist. ■ Hazardous materials testing through a state-certified laboratory. ■ Documentation including a description of filed procedures, boring logs/well construction diagrams, tabulations of analytical results, cross-sections, an evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the environmental condition of the site and the need for further assessment. Recommendations may	

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
		include additional assessment or handling of the contaminants found though the contaminated soil contingency plan. If the contaminated soil contingency plan is inadequate for the contamination found, a remedial action plan will be developed. Contaminated groundwater will generally be handled through the NPDES/dewatering process. ■ Disposal process including transport by a state-certified hazardous material hauler to a state-certified disposal or recycling facility licensed to accept and treat the identified type of waste. **MM GW-2: Site Remediation.** Unless otherwise authorized by the lead regulatory agency for any given site, LAHD will remediate all contaminated soils within proposed project boundaries prior to or during demolition and grading activities. Remediation will occur in compliance with local, state, and federal regulations as described in Section 3.6.3 and as directed by the LACFD, DTSC, and/or RWQCB. Soil remediation will be completed such that contamination levels are below health screening levels established by OEHHA of CalEPA and/or applicable action levels established by the lead regulatory agency with jurisdiction over the site. Soil contamination waivers may be acceptable as a result of encapsulation (i.e., paving) in upland areas and/or risk-based soil assessments, but would be subject to the discretion of the lead regulatory agency. Existing groundwater contamination throughout the proposed project	

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
		boundary will continue to be monitored and remediated, simultaneous and/or subsequent to site redevelopment, in accordance with direction provided by the RWQCB. Unless otherwise authorized by the lead regulatory agency for any given site, areas of soil contamination that will be remediated prior to or in conjunction with proposed project demolition, grading, and construction will include, but not be limited to, the properties within and adjacent to the proposed Project as listed in the HMA and filed as Appendix F of this EIR. **MM GW-2a: Remediate Former Oil Wells in the Avalon Development District (Area A), Avalon Waterfront District (Area B), and within the Immediate Vicinity of the Waterfront Red Car Line/CCT (Area C)**. Locate the well using geophysical or other methods. Contact the Division of Oil, Gas, and Geothermal Resources (DOGGR) to review abandonment records and inquire whether re-abandonment is necessary prior to any future construction related to the proposed Project (re-abandonment is required if previously abandoned wells were abandoned in accordance with the standards of the time and those standards are now considered too low). Implement corrective measures as directed by DOGGR. Successful site remediation will require compliance with MM GW-2. **MM GW-2b: Remediate Soil along Existing and Former Rail Lines.** Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum hydrocarbons, and metals. Successful site remediation will require compliance with MM GW-2.	

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
		MM GW-2c: Health Based Risk Assessment for the Marine Tank Farm. LAHD will prepare a HBRA to determine whether remediation of soil and/or groundwater is needed at the Marine Tank Farm site and, if so, determine the appropriate work plan to ensure the site would comply with applicable local, state, and federal laws. Successful site remediation will require compliance with MM GW-2. **MM GW-3: Contamination Contingency Plan for Non-Specific Facilities and Unidentified Sources of Hazardous Materials**. LAHD will prepare a hazardous materials contingency plan addressing the potential for discovery of unidentified USTs, hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes encountered during construction. The following will be implemented to address previously unknown contamination during demolition, grading, and construction: a) All trench excavation and filling operations will be observed for the presence of free petroleum products, chemicals, or contaminated soil. Deeply discolored soil or suspected contaminated soil will be segregated from light colored soil. In the event unexpected suspected chemically impacted material (soil or water) is encountered during construction, the contractor will notify LAHD's Chief Harbor Engineer, the Director of Environmental Management, and Risk Management's Industrial Hygienist. LAHD will confirm the presence of the suspect material; direct the contractor to remove, stockpile, or contain the material; and characterize	

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
		the suspect material identified within the boundaries of the construction area. Continued work at a contaminated site will require the approval of the Chief Harbor Engineer. b) A photoionization detector (or other similar devices) will be present during grading and excavation of suspected chemically impacted soil. c) Excavation of VOC-impacted soil will require obtaining and complying with a SCAQMD Rule 1166 permit. d) The remedial option(s) selected will be dependent upon a number of criteria (including but not limited to types of chemical constituents, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and will be determined on a site-specific basis. Both off-site and onsite remedial options will be evaluated. e) The extent of removal actions will be determined on a site-specific basis. At a minimum, the chemically impacted area(s) within the boundaries of the construction area will be remediated to the satisfaction of the lead regulatory agency for the site. The LAHD Project Manager overseeing removal actions will inform the contractor when the removal action is complete. f) Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials will be submitted to the Chief Harbor Engineer within 30 days of project completion. g) In the event that contaminated soil is encountered, all onsite	

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
		personnel handling or working in the vicinity of the contaminated material will be trained in accordance with Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that "general site workers" will receive a minimum of 40 hours of classroom training and a minimum of 3 days of field training. This training provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place. h) In cases where potential chemically impacted soil is encountered, a real-time aerosol monitor will be placed on the prevailing downwind side of the impacted soil area to monitor for airborne particulate emissions during soil excavation and handling activities. i) All excavations will be filled with structurally suitable fill material that is free from contamination. j) Prior to dewatering activities, LAHD will obtain a NPDES permit. In areas of suspected contaminated groundwater, special conditions will apply with regard to acquisition of the NPDES permit, including testing and monitoring, as well as discharge limitations under the NPDES permits. k) Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum hydrocarbons, and metals.	

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
		l) Demolition of chemical/fuel storage facilities will include decommissioning and removal of USTs and ASTs in accordance with local and state regulatory agencies. These agencies will likely require soil and groundwater sampling. This sampling will be conducted in accordance with local and state regulatory agency requirements. m) Prior to construction activities, LAHD, or its contractors, will conduct an evaluation of all buildings (built prior to 1980) to be demolished to evaluate the presence of asbestos-containing building materials and lead-based paint. Remediation will be implemented in accordance with the recommendations of these evaluations. n) Upon discovery of soil or groundwater contamination, the lead agency responsible for site remediation will determine if the identified contaminants pose a health risk to the general public, operation personnel, or other possible human receptors present at Phase 1 operational locations. If it is determined that an adverse risk to the general public, operation personnel, or other human receptors is present, Phase 1 Project elements in operation will be closed as a precaution to prevent human exposure to toxic substances.	

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
GW-2a: Proposed project construction would not result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans.	Significant	Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.	Less than significant
GW-3a: Construction activities for the proposed Project would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity nor would construction result in a change in potable water levels.	No impact would occur	No mitigation is required	No impact would occur
GW-4a: Construction activities for the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact would occur	No mitigation is required	No impact would occur
Operations			
GW-1b: Proposed project operations would not result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	Significant	Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.	Less than significant
GW-2b: Proposed project operations would not result changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination which would increase risk of harm to humans.	Significant	Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.	Less than significant

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
GW-3b: Proposed project operations would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity and would not result in a change in potable water levels.	No impact would occur	No mitigation is required	No impact would occur
GW-4b: Proposed project operations would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact would occur	No mitigation is required	No impact would occur

3.6.4.4 Mitigation Monitoring

Table 3.6-4: Mitigation Monitoring for Groundwater and Soils

Impact GW-1a: Proposed project construction activities may result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	
Mitigation Measure	**MM GW-1**. **Preparation of a Soil Management Plan or Phase II Environmental Site Assessment.**
Timing	Prior to construction activities.
Methodology	Preparation of a soil management plan prior to construction and its required implementation during all phases of construction.
Responsible Parties	LAHD
Residual Impacts	None
Mitigation Measure	**MM GW-2: Site Remediation.**
Timing	Prior to construction activities.
Methodology	Required remedial actions will be specified by the appropriate lead agency responsible for remediation of each site.
Responsible Parties	LAHD will coordinate with the appropriate oversight agencies, e.g. DTSC, LAFD, LACFD, LADWP, etc.
Residual Impacts	None
Mitigation Measure	**MM GW-2a: Remediate Former Oil Wells in the Avalon Development District (Area A), Avalon Waterfront District (Area B), and within the Immediate Vicinity of the Waterfront Red Car Line/CCT (Area C)**

Timing	Prior to construction activities at or within close proximity to oil wells identified in the HMA.
Methodology	Consult with DOGGR to determine abandonment status and determine workplan to remediate the wells in accordance with MM GW-2.
Responsible Parties	LAHD will coordinate with DOGGR.
Residual Impacts	None
Mitigation Measure	**MM GW-2b: Remediate Soil along Existing and Former Rail Lines.** .
Timing	Prior to construction or grading activities along the existing and former rail lines.
Methodology	Same as GW-2
Responsible Parties	LAHD
Residual Impacts	None
Mitigation Measure	**MM GW-2c: Health Based Risk Assessment for the Marine Tank Farm.**
Timing	Prior to construction activities at the Marine Tank Farm.
Methodology	Prepare a Health Based Risk Assessment for the Marine Tank Farm to determine necessary remediation. A workplan will be developed in accordance with MM GW-2.
Responsible Parties	LAHD in coordination with the appropriate regulatory agencies.
Residual Impacts	None
Mitigation Measure	**MM GW-3: Contamination Contingency Plan for Non-Specific Facilities and Unidentified Sources of Hazardous Materials**.
Timing	Prior to construction activities.
Methodology	LAHD will prepare a hazardous materials contingency plan addressing the potential for discovery of unidentified USTs, hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes encountered during construction.
Responsible Parties	LAHD and all construction contractors who could come into contact with historical soil or groundwater contamination.
Residual Impacts	None
Impact GW-2a: Proposed project construction would not result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans.	
Mitigation Measure	Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.
Timing	Same as above
Methodology	Same as above
Responsible Parties	Same as above
Residual Impacts	Less than significant
Impact GW-1b: Proposed project operations would not result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	
Mitigation Measure	Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM

	GW-2c, and MM GW-3.
Timing	Same as above
Methodology	Same as above
Responsible Parties	Same as above
Residual Impacts	Less than significant
Impact GW-2b: Proposed project operations would not result changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination which would increase risk of harm to humans.	
Mitigation Measure	Implement mitigation measures MM GW-1, MM GW-2, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3.
Timing	Same as above
Methodology	Same as above
Responsible Parties	Same as above
Residual Impacts	Less than significant

3.6.5 Significant Unavoidable Impacts

The proposed Project would not result in any significant unavoidable impacts regarding groundwater and soils. Identification, characterization, and remediation of known historical contaminated sites (as well as any currently unknown contaminated sites encountered during construction) would ensure that contaminated sites would pose no significant risks to soil, groundwater, worker exposure, or public exposure.

3.7

HAZARDS AND HAZARDOUS MATERIALS

3.7.1 Introduction

This section addresses hazards and hazardous materials, including existing hazardous conditions, applicable regulations, the potential impacts associated with existing hazards and hazardous materials on sensitive receptors associated with the proposed Project, and the potential hazards and hazardous materials that would be introduced by the proposed Project that may have an adverse effect on public health and safety. For impacts associated with known or suspected soil or groundwater contamination in the area of the proposed Project, please refer to Section 3.6, "Groundwater and Soils," and Appendix F for the Preliminary Hazardous Materials Assessment. For impacts associated with health risks from air contaminants please refer to Section 3.2, "Air Quality and Meteorology."

3.7.2 Environmental Setting

3.7.2.1 Hazardous Materials

Hazardous materials are generally the raw materials for a product or process that may be classified as toxic, flammable, corrosive, or reactive. Hazardous materials that may be stored, handled, or transported within the study area are classified by the following:

- corrosive materials—solids, liquids, or gases that can damage living material or cause fire;
- explosive materials—any compound that is classified by the National Fire Protection Association (NFPA) as an A, B, or C explosive;
- oxidizing materials—any element or compound that yields oxygen or reacts when subjected to water, heat, or fire conditions;

- toxic materials—gases, liquids, or solids that may create a hazard to life or health by ingestion, inhalation, or absorption through the skin;
- unstable materials—those materials that react from heat, shock, friction, contamination, etc., and are capable of violent decomposition or autoreaction but are not designed primarily to be explosives;
- radioactive materials—those materials that undergo spontaneous emission of radiation from decaying atomic nuclei; and
- water-reactive materials—those materials that react violently or dangerously upon exposure to water or moisture.

3.7.2.2 Existing Onsite Operational Hazards

Unlike many other tenant sites of the Port, the proposed project site does not support waterside container storage and transport operations. The waterfront at Slip 5 is not capable of handling cargo containers or shipping activities. The handling, storage, and transport of hazardous material are generally limited to the LADWP Marine Tanks, the LADWP Harbor Generating Station (HGS), existing gas and petroleum pipelines, business operations located within the Avalon Development District, and the offsite Olympic Tank Farm that has been included in the analysis because it is a feasible relocation site for the LADWP Marine Tank Farm.

3.7.2.2.1 LADWP Marine Tanks

There is one liquid bulk storage facility, the LADWP Marine Tank Farm, located within the proposed project area in Planning Area (PA) 5 of the Port Plan and PMP, between Fries Avenue and Avalon Boulevard, north of Water Street and south of A Street. This storage facility consists of three bulk storage tanks and associated petroleum pipelines. The facility stores gas oil and is expected to continue to store gas oil until the storage tanks are relocated (Lee, pers. comm. 2008). LADWP owns the site and the tanks, which it leases to the Valero Energy Corporation. See Table 3.7-1 for a detailed description of the products stored on site and Figure 2-2 for the location of the LADWP Marine Tanks.

A Phase II Environmental Site Assessment (Kleinfelder 2004b) was performed on the site and included the collection and analysis of soil, soil vapor, and groundwater samples to assess whether the soil and groundwater at the site has been impacted by liquid bulk fuel storage activities. The analysis and its conclusions are discussed in Section 3.6, “Groundwater and Soils.”

Table 3.7-1: Liquid Bulk Facilities within the Wilmington Waterfront Project Area

Facility Number	*Approximate Storage Volume (Barrels)*	*Commodity*	*Flash Point*	*Diked Area (Estimated square footage)*
TK-450.0011	450,000	Hydro Treated Gas Service	180°F	276,000
TK-450.002	450,000	Raw Gas Oil Service	151°F	
TK-30.001	30,000 barrels	Hydro Treated Gas Oil Service	180°F	22,400
Source: Lee, pers. comm.2008.				

3.7.2.2.2 Existing Petroleum Pipelines

The region surrounding the Port (the Los Angeles Basin) contains a number of natural oil and gas fields. Development and use of these natural resources have been ongoing in the area for nearly a century. As a result, there are a variety of oil-production and refining facilities scattered throughout the area and connected by various pipelines. Although these oil facilities and pipelines are engineered with safety standards and undergo extensive environmental review prior to their approval and construction, and rigorous safety testing prior to their operation, the nature of the materials handled by these facilities and pipelines nonetheless poses risks to people, the environment, and property in the vicinity. Upsets are possible even under normal operating conditions for oil pipelines and oil facilities, and they therefore pose a risk of exposing the surrounding population to accidental releases of materials. These releases can subsequently lead to biological and/or hydrological damage, fires, and/or releases of petroleum fire hazardous combustion byproducts (Pacific L.A. Marine Terminal LLC Crude Oil Terminal Draft SEIS/SEIR April 2008.)

There are several active petroleum pipelines within the general vicinity of the proposed Project area. Primarily these active pipelines extend along Water Street and Fries Avenue. The pipelines range from 1 to 18 inches in diameter. The owner-operators of these pipelines are responsible for the maintenance and upkeep of the existing pipelines per the federal and state regulations described below in Section 3.7.3, "Applicable Regulations." Although the owners and operators of the pipelines change frequently, currently they include the following companies: Texaco, GATX, Ultramar, Shell, Unocal, Mobil, and Exxon. These lines are not associated with the LADWP Marine Tank site but rather are part of the petroleum pipeline infrastructure of the Port. These existing pipelines would remain under the proposed Project.

The LADWP Marine Tank site does have its own pipeline infrastructure on site to support the tanks. The onsite pipeline infrastructure would be removed as part of the proposed Project when the storage tanks are removed. The connections of the onsite

pipeline to the greater Port petroleum pipeline infrastructure (described above) would be capped and the onsite pipelines would be removed and use would be discontinued.

3.7.2.3 Offsite Operational Hazards

3.7.2.3.1 Harbor Generating Station and Peaker Units

Physical Setting

The Harbor Generating Station is located to the west of Fries Avenue at the intersection of Fries Avenue and A Street. In addition, there are five combustion turbines (also known as Peaker Units) associated with the Harbor Generating Station that are located to the east of Fries Avenue. The HGS is owned and operated by LADWP and is located on an 18.3-acre site outside the existing jurisdiction of the Port Plan and the PMP. It was originally constructed in the late 1940s, with the Peaker Units added in 2001, to provide local in-basin generation, voltage and VAR (Volts Ampere Reactive) support, transmission support, southern system security, and emergency support for the LADWP electrical system. The basic power generation activities and corresponding facility areas are power generation units, electrical switching and receiving, and fuel storage tanks. However, the HGS does have diesel fixed generators to provide emergency back-up power.

The primary fuel for the simple- and combined-cycle combustion turbines of the HGS is natural gas. The Peaker Units are typically used at times of peak demand when all other supply sources are fully employed, during transmission system disturbances or emergencies, or when other units are forced off line. Both the HGS and Peaker Units use a selective catalytic reduction (SCR) system to generate electricity to meet SCAQMD requirements. The SCR system uses aqueous ammonia to reduce oxides of nitrogen (NO_X) emissions in the presence of a catalyst. The HGS is also permitted to burn distillate oil (Diesel No. 2) in the event of a natural gas curtailment.

The HGS stores and uses hazardous materials on site. There are three fuel oil bulk storage tanks (Diesel No. 2) at two different locations (two tanks at the HGS west of Fries Avenue and one tank at the corner of Fries Avenue and A Street), two existing aqueous ammonia bulk storage tanks along the western side of the main building, and an aqueous ammonia pipeline extending east from the ammonia bulk storage tanks, under Fries Avenue, to the Peaker Units, cooling towers, and transformers. Additionally, there is a natural gas pipeline that feeds the HGS, which extends along Fries Avenue.

Regulatory Framework

Since the HGS handles, stores, and uses hazardous materials they are required by state and local agencies (LAFD, LACFD, DTSC, SCAQMD, and Cal/OSHA) to have safety mechanisms in place to protect employees. These mechanisms include a Risk

Management Plan and emergency preparedness and evacuation procedures should a hazardous accident occur. Other safety measures include:

- digitally controlled monitoring devices, such as the use of an ammonia;
- detector, level sensors, and an alarm to control room if there is an accidental release;
- separate containment areas for each ammonia tank;
- pressure change alarms;
- 24/7 operating crew;
- the aqueous ammonia tanks are located under a roof to suppress vapors and reduce the temperature;
- the truck unloading area is sloped with containment basin;
- there is a closed loop truck delivery system, with an internal valve system on the trucks with a non-return check valve for truck unloading

Additional applicable regulations and requirements are described in further detail below.

California Assembly Bill 3777

In 1986, California Assembly Bill 3777 first required facilities handling Acutely Hazardous Materials (AHMs) to establish Risk Management Prevention Programs (RMPPs). The objective of these regulations was to identify facilities that handle AHMs above certain threshold limits and to require these facilities to develop RMPPs to address the potential hazards involved. The California Office of Emergency Services published guidelines for preparing RMPPs in November of 1989. In some cases, administering agencies (usually cities or counties responsible for emergency response and preparedness) have issued additional guidance. The RMPP program has been replaced with the California Accidental Release Program (Cal-ARP) discussed below.

The EPA established a federal Risk Management Program (RMP) under the Clean Air Act Amendments (CAAA), which were promulgated in November 1990. The CAAA mandated that EPA create regulations to require facilities possessing listed chemicals above specified threshold amounts to develop and implement Risk Management Plans. A Risk Management Plan contains a hazard assessment of potential worst-credible accidents, an accident prevention program, and an emergency-response program. Federal RMP regulations were promulgated in June 1996. The Federal RMP was provisionally accepted by California in January 1997 to replace the California RMPP and California regulations. The Cal-ARP was finalized by June 1997, as California's version of the RMP. The HGS is subject to the Cal-ARP and EPA RMP reporting requirements.

Port of Los Angeles Risk Management Plan

As the proposed Project is in proximity to the HGS and Peaker Units, and these facilities handle and store liquid bulk products (aqueous ammonia and diesel oils), a risk analysis was conducted pursuant to the Port's Risk Management Plan. The analysis addressed the storage of diesel oil at the HGS since diesel oil No. 2 has a flashpoint range of between 125–190°F and is therefore considered a hazardous commodity (flash point greater than 140°F). The analysis also addressed the handling and storage of aqueous ammonia at the HGS because it is capable of producing a toxic vapor cloud. Analysis on how the potential hazards associated with the storage tanks affect the proposed Project is provided in Section 3.7.4.1.4.

2001 HGS Environmental Impact Report

In 2001 the South Coast Air Quality Management District approved the Environmental Impact Report for the Los Angeles Department of Water and Power Electrical Generating Station Modifications Project (SCH#2000101008). This EIR analyzed the physical environmental impacts associated with the modification of three power plants, including the HGS, to meet AQMD standards. The proposed project in the EIR included the following changes to HGS:

- installation of five 47-MW combustion turbines (the existing Peaker Units identified adjacent to the Wilmington Waterfront Development Project), each with a SCR system that will use aqueous ammonia to reduce NO_X emissions;
- installation of a pipeline to transport aqueous ammonia from existing aboveground storage tanks at the HGS under Fries Avenue to the new Peaker Units;
- installation of new natural gas line and delivery of natural gas from the main line to the five new Peaker Units; and
- installation of a 565 kW diesel fired generator to provide emergency power for "black start" situations.

The expansion also included an incremental increase in the quantity of aqueous ammonia being delivered to the HGS. Under the proposed project HGS would receive one 5,000-gallon tanker truck delivery of aqueous ammonia per week, which would include pumping the aqueous ammonia into the storage tanks through a liquid fill line while extracting ammonia vapor from the tank through a vapor recovery system.

The EIR analyzed the new ammonia-related components of the HGS in the Hazards and Hazardous Material section evaluating both the probability of an accidental spill, release, or explosion of aqueous ammonia and the consequences of such a release.

The EIR ultimately determined that although remote and improbable, the potential does exist to exceed the EPA risk management exposure endpoints off site when aqueous ammonia is stored, transported, and used in association with the proposed

project activities. Mitigation measures were included to further reduce the risks associated with the proposed project. The mitigation measures primarily focused on risk management and safety mechanisms that would significantly reduce the likelihood of spills or releases of ammonia. However, the EIR determined the expansion would still present the potential for significant hazards impacts based on the transport, storage and use of aqueous ammonia, since the SCAQMD's significance determination for hazards relies on the consequences of a hazardous release, spill, or explosion rather than the potential for a release. Therefore, the EIR was approved with significant and unavoidable findings for hazards and hazardous materials. A Statement of Overriding Considerations was prepared identifying that the emissions reductions associated with using the aqueous ammonia in the SCR process provide benefits which outweigh the risk of transporting, storing, and using the aqueous ammonia.

3.7.2.3.2 Olympic Tank Site (Off Site)

As noted in Chapter 2, "Project Description," the Olympic Tank Farm site is identified as a feasible relocation site for the storage tanks currently located at the Marine Tank Farm site. Relocation may not occur at this site as the action to relocate the storage tanks is not certain; however, the analysis of the whole of the action requires that a potential relocation site be analyzed since the removal of the existing Marine Tank Farm facility is proposed and it is reasonably foreseeable that the existing facility would be relocated and continue operation at the new location. In the event relocation were to occur, LAHD would not be the lead agency, and it is possible another site would be chosen as more planning occurs. The Olympic Tank site is bound to the north by Roubidoux Street, to the east by Goodrich Venue, to the south by railroad rights-of-way, and to the west by Alameda Street (Figure 2-12). The Olympic Tank site is comprised of several aboveground storage tanks associated with the Ultramar Olympic Tank Farm. The aboveground storage tanks have previously been and continue to be used to store bulk liquid petroleum products.

The Olympic Tank site is outside the jurisdictional boundary of the Port Plan and PMP and is not a Port tenant; therefore, it is not required to follow Port policies or guidelines. However, currently there are no existing vulnerable resources as defined by the PMP RMP within the immediate vicinity of the Olympic Tank site.

3.7.2.4 Existing Public Emergency Services

Emergency response/fire protection for the proposed project area is provided by LAFD; landside and waterside security is provided primarily by the Port Police, LAPD, LAFD, and the USCG. Two large fireboats and three small fireboats are strategically placed within the harbor. There are also fire stations equipped with fire trucks located within the proposed project vicinity and nearby in the communities of Wilmington and San Pedro. Public services, including the availability of fire and police services, are discussed in Section 3.13, "Public Services."

The following emergency plans apply to the Port area:

- LAHD's Emergency Operations and Organization Manual (September 2006)
- City of Los Angeles Tsunami Response Plan Annex of the Emergency Operations and Organization Manual (September 2007)
- City of Los Angeles Hazardous Materials Annex of the Emergency Department Master Plan and Procedures (December 1993)
- LAHD's Emergency Procedures Plan (July 2000)
- LAHD's evacuation plans

The City of Los Angeles' LAHD Emergency Operations and Organization Manual, the Tsunami Response Plan Annex, and the Hazardous Materials Annex provide general emergency response guidance to all City departments, including LAHD. LAHD is responsible for following this guidance in the event of an emergency.

The Homeland Security Division for LAHD maintains the control of LAHD's Emergency Procedures Plan and is responsible for the current update of the plan. This plan is designed to provide overall guidance on how the department responds to general emergencies, including guidance for LAHD employees. It is meant to identify procedures and organize operations during general emergencies at locations where LAHD employees work. The Emergency Procedures Plan does not address tenant locations or the emergency procedures for those locations (Malin pers. comm. 2008a, 2008b).

Tenants of the Port are required to have their own emergency management plans. These requirements and the adequacy of the tenant emergency plans would be enforced by LAFD, the Port Police, the Homeland Security Division of LAHD, and the USCG.

Port evacuation plans are maintained and managed by the Area Maritime Security Evacuation Committee (AMSEC) and cover all areas encompassed by the Ports of Los Angeles and Long Beach. These plans are being revised and are updated on an as-needed basis by the committee. Additionally, LAHD is currently developing an Emergency Notification System that would support Port evacuation plans. Port Police is responsible for implementing the evacuation plans. There is sensitive security material in them, so they are not available to the public (Malin pers. comm. 2008a).

3.7.2.5 Homeland Security of the Port

3.7.2.5.1 Terrorism

Prior to the events of September 11, 2001, the prospect of a terrorist attack on a U.S. port facility or a commercial vessel in a U.S. port would have been considered highly speculative under CEQA and not analyzed. The climate of the world today has added

an additional unknown factor for consideration (i.e., terrorism). There are limited data available to indicate the likelihood of a terrorist attack aimed at the Port or the proposed Project; therefore, the probability component as it relates to terrorism contains a considerable amount of uncertainty.

Application of Risk Principles

Terrorism risk can be generally defined by the combined factors of threat, vulnerability, and consequence. In this context, terrorism risk represents the expected consequences of terrorist actions taking into account the likelihood that these actions will be attempted, and the likelihood that they will be successful. Of the three elements of risk, the threat of a terrorist action cannot be directly affected by activities in the Port. The vulnerability of the Port and of individual cargo terminals can be reduced by implementing security measures. The expected consequences of a terrorist action can also be affected by certain measures, such as emergency response preparations.

3.7.2.5.2 Security Measures at the Port of Los Angeles

Numerous security measures have been implemented in the Port in the wake of the terrorist attacks of September 11, 2001. Federal, state, and local agencies, as well as private industry, have implemented and coordinated many security operations and physical security enhancements. The result is a layered approach to Port security that includes the security program of the LAHD.

Security Regulations

The Maritime Transportation Security Act (MTSA) of 2003 resulted in maritime security regulations in Title 33 CFR Parts 101-106. These regulations apply to cargo terminals in the Port. Title 33 Part 105 requires that cargo terminals meet minimum security standards for physical security, access control, cargo handling security, and interaction with berthed vessels. These regulations require that terminal operators submit a Facility Security Plan (FSP) to the Coast Guard Captain of the Port for review and approval prior to conducting cargo operations. The requirements for submission of the security plans became effective on December 31, 2003. Operational compliance was required by July 1, 2004.

The International Ship and Port Facility Security (ISPS) Code was adopted by the International Maritime Organization (IMO) in 2003. This code requires both ships and ports to conduct vulnerability assessments and to develop security plans for the purpose of: preventing and suppressing terrorism against ships; improving security aboard ships and ashore; and reducing risk to passengers, crew, and port personnel on board ships and in port areas, for vessels and cargo. The ISPS Code applies to all cargo vessels 300 gross tons or larger and ports servicing those regulated vessels, and is very similar to the MTSA regulations.

The USCG is responsible for enforcement of the MTSA and ISPS Code regulations discussed above. Due to the parallel nature of the MTSA and ISPS requirements, compliance with the MTSA is tantamount to compliance with the ISPS. If either the terminal or a vessel berthed at the terminal is found to be not in compliance with these security regulations, the USCG may not permit cargo operations, and the terminal and/or vessel operators may be subject to fines. In accordance with its responsibilities for land-based security under Title 33 CFR Part 105, the USCG may impose additional control measures related to security.

In July 2005, the Port Tariff was modified to require that all Port terminals subject to MTSA regulations fully comply with these regulations, and provide the Port with a copy of their approved FSP.

Vessel Security Measures

All cargo vessels 300 gross tons or larger that are flagged by IMO signatory nations adhere to the ISPS Code standards discussed above. These requirements include the following:

- Ships must develop security plans that address monitoring and controlling access; monitoring the activities of people, cargo, and stores; and ensuring the security and availability of communications.
- Ships must have a Ship Security Officer (SSO).
- Ships must be provided with a ship security alert system. These systems transmit ship-to-shore security alerts to a competent authority designated by the Flag State Administration, which may communicate the company name, identify the ship, establish its location, and indicate that the ship security is under threat or has been compromised. For the west coast, this signal is received by the Coast Guard Pacific Area Command Center in Alameda, California.
- International port facilities that ships visit must have a security plan, including focused security for areas having direct contact with ships.
- Ships may have certain equipment onboard to help maintain or enhance the physical security of the ship, including:
  - monitoring and controlling access;
  - monitoring the activities of people and cargo;
  - ensuring the security and availability of communications; and
  - completing a Declaration of Security signed by the FSO and SSO, which ensures that areas of security overlapping between the ship and facility are adequately addressed.

Vessels flagged by nations that are not IMO signatory are subject to special USCG vessel security boarding prior to entering port.

Security Credentialing

The Transportation Worker Identification Credential (TWIC) program is a Transportation Security Administration (TSA) and USCG initiative that will include issuance of a tamper-resistant biometric credential to maritime workers requiring unescorted access to secure areas of port facilities and vessels regulated under the MTSA. The TWIC program will minimize the potential for unauthorized handling of containers that contain hazardous materials, and will provide additional shoreside security at the terminal. In order to obtain a TWIC, an individual must successfully pass a security threat assessment conducted by TSA. This assessment will include a criminal history check and a citizenship or immigration status check of all applicants. The Port is currently involved in initial implementation of the TWIC program including a series of field tests at selected Port terminals.

Cargo Security Measures

U.S. Customs and Border Protection (CBP) is the federal agency with responsibility for the security of cargo being shipped into the United States. CBP is the lead agency for screening and scanning cargo that is shipped through the Port. CBP conducts several initiatives related to security of the supply chain. Through the Container Security Initiative (CSI) program, CBP inspectors pre-screen U.S.–bound marine containers at foreign ports prior to loading aboard vessels bound for U.S. ports. The Customs Trade Partnership Against Terrorism offers importers expedited processing of their cargo if they comply with CBP measures for securing their entire supply chain. Details of CBP cargo security programs can be found at the CBP website (http://cbp.gov/).

3.7.2.5.3 Existing Port Security Initiatives

The Port has a number of security initiatives under way, including significant expansion of the Port Police, which will result in additional police vehicles on the streets and police boats on the water. The initiatives in this area identified for implementation in fiscal year 2006 to 2007 include:

- expanding Port Police enhancement of its communications capabilities,
- establishing a 24-hour two-vessel presence,
- establishing a vehicle and cargo inspection team,
- establishing a Port Police substation in Wilmington,
- enhancing recruiting and retention of Port Police personnel,
- expanding Port Police communications capabilities to include the addition of dedicated tactical frequencies, and
- enhancing security at Port-owned facilities.

In the area of homeland security, the Port will continue to embrace technology while focusing its efforts on those areas of particular interest to the Port. Current Port homeland security initiatives include

- upgrading security at the World Cruise Center,
- expanding the Port's waterside camera system,
- establishing restricted areas for noncommercial vehicles and vessels,
- installing additional shoreside cameras at critical locations,
- working with TSA to implement the TWIC program,
- promoting increased scanning at overseas ports,
- updating long-range security plans for the Port,
- developing a security awareness training program, and
- enhancing outreach to constituents.

3.7.2.6 Tsunami Hazards

Tsunamis are gravity waves of long wavelength generated by a sudden disturbance in a body of water. Typically, oceanic tsunamis are the result of sudden vertical movement along a fault rupture in the ocean floor, submarine landslides or subsidence, or volcanic eruption, where the sudden displacement of water may set off transoceanic waves with wavelengths of up to 125 miles and with periods generally from 5 to 60 minutes.

Tsunamis are a relatively common natural hazard, although most of the events are small in amplitude and not particularly damaging. However, in the event of a large submarine earthquake or landslide, coastal flooding may be caused by either run-up of broken tsunamis in the form of bores and surges or by relatively dynamic flood waves. As has been shown historically, the potential loss of human life in the process can be great if such events occur in populated areas.

While the Safety Element of the City of Los Angeles General Plan identifies the proposed project site as being within an area "potentially impacted by a tsunami" (City of Los Angeles 1996b), detailed studies of tsunami risk within the Ports of Los Angeles and Long Beach indicate that the proposed project area is located such that waves under various scenarios would not reach above 2 feet and would not exceed deck elevations (Moffatt & Nichol 2007). Furthermore, the City of Los Angeles Tsunami Response Plan does not identify the proposed project area as part of the Tsunami Inundation Zone for San Pedro and the Harbor Area (City of Los Angeles 2007). Tsunamis and the hazard they pose to the proposed project area are further addressed in detail in Section 3.5, "Geology."

3.7.3 Applicable Regulations

Regulations applicable to the proposed Project are designed to govern hazardous materials and prevent their accidental release, and to ensure the security of the Port area. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. Additionally, numerous security measures have been implemented in the Port area in the wake of the terrorist actions of September 11, 2001. Federal, state, and local agencies, as well as private industry, have implemented and coordinated many security operations and physical security enhancements. The result is a layered approach to Port security that includes the security program of the LAHD. The proposed project area is located in close proximity to the Port but does not include any shipping projects. Although LAHD is responsible for the overall protection of the proposed project area, as well as reviewing tenant security operations, each tenant is individually and specifically required to comply with federal and state security and emergency regulations, which are enforced by agencies such as the USCG and LAFD. The proposed Project would be subject to numerous federal, state, and local laws and regulations, including, but not limited to, those described below.

3.7.3.1 Federal Regulations

3.7.3.1.1 Resource Conservation and Recovery Act of 1976 (42 USC Sections 6901–6987)

The goal of the Resource Conservation and Recovery Act of 1976 (RCRA) is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260–299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

3.7.3.1.2 Department of Transportation Hazardous Materials Regulations (49 CFR Parts 100–185)

Department of Transportation (DOT) Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation. Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications), 180 (Packaging Maintenance), and 195 (Transportation of Hazardous Liquids by Pipeline) would all apply to the proposed Project and/or surrounding

operational activities. Part 173.120(a) defines a flammable liquid (Class 3) as liquid having a flash point less than 141°F. Materials with flash points above 141°F that are not intentionally heated and then offered for transport or transported at or above their flash point are not considered a flammable liquid. Materials with a flash point above 141°F and below 200°F are considered combustible liquids. Materials transported to/from and then stored at the Marine Tank Farm are raw gas oil and hydro-treated gas oil with flashpoints at 151°F and 180°F, respectively.

Enforcement of these DOT regulations is shared by each of the following administrations under delegations from the Secretary of the DOT:

- Research and Special Programs Administration (RSPA)—Responsible for container manufacturers, reconditioners, and retesters and shares authority over shippers of hazardous materials.
- Federal Highway Administration (FHWA)—Enforces all regulations pertaining to motor carriers.
- Federal Railroad Administration (FRA)—Enforces all regulations pertaining to rail carriers.
- Federal Aviation Administration (FAA)—Enforces all regulations pertaining to air carriers.
- Coast Guard–Enforces all regulations pertaining to shipments by water

Additionally, the Pipeline Hazardous Materials Safety Administration acting through the Office of Pipeline Safety under the DOT administers the national regulatory program to assure the safe transportation of natural gas, petroleum, and other hazardous materials by pipeline.

3.7.3.1.3 Emergency Planning and Community Right-to-Know Act (42 USC 11001 et seq.)

Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), the Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

3.7.3.1.4 U.S. Coast Guard, Navigation and Navigable Waters (33 CFR)

The USCG, through Title 33, "Navigation and Navigable Waters," is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids, etc.), and operation of the National Response Center for spill response, and is the lead agency for offshore spill response. The USCG is also responsible for reviewing marine terminal operations manuals and issuing Letters of Adequacy upon approval.

There are several sections of 33 CFR specifically applicable to the proposed project components. These include Sections 6, 101 to 106, and 165. 33 CFR 6 defines the security zones within the harbor. *Security zone* means all land, water, or land and water designated by the USCG Captain of the Port and deemed necessary to prevent damage to any vessel or waterfront facility and safeguard ports, harbors, territories, or waters of the U.S. To ensure the security of waterfront facilities at the Port, the USCG Captain of the Port may prescribe conditions and restrictions relating to the safety of waterfront facilities and vessels in port found necessary under existing circumstances.

3.7.3.1.5 Oil Pollution Act of 1990 (OPA 90)

The most recent Act to address spill prevention and response, OPA 90, was enacted to expand prevention and preparedness activities, improve response capabilities, ensure that shippers and oil companies pay the costs of spills that do occur, and establish an expanded research and development program. OPA 90 also establishes a $1 billion Oil Spill Liability Trust Fund, funded by a tax on crude oil received at refineries. A Memorandum of Understanding (MOU) was established to divide areas of responsibility. The USCG is responsible for tank vessels and marine terminals, the EPA for tank farms, and the RSPA for pipelines. Each of these agencies has developed regulations for their area of responsibility. All facilities and vessels that have the potential to release oil into navigable waters are required by OPA 90 to have up-to-date oil spill response plans and to submit such to the appropriate federal agency for review and approval. Of particular importance in OPA 90 is the requirement for facilities and vessels to demonstrate that they have sufficient response equipment under contract to respond to and clean up a worst-case spill.

3.7.3.2 State Regulations

3.7.3.2.1 Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5)

The CalEPA DTSC is authorized by the U.S. EPA to enforce and implement federal hazardous materials laws and regulations. Most state hazardous materials regulations

are contained in Title 22 of the CCR. DTSC provides cleanup and action levels for subsurface contamination; these levels are equal to, or more restrictive than, federal levels. DTSC acts as the lead agency for some soil and groundwater cleanup projects, and has developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

DTSC is responsible for the enforcement of the Hazardous Waste Control Law, which implements the federal RCRA cradle-to-grave waste management system in California. California hazardous waste regulations can be found in Title 22, Division 4.5, "Environmental Health Standards for the Management of Hazardous Wastes."

3.7.3.2.2 Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Chapter 6.6)

This state right-to-know law requires businesses to develop a Hazardous Material Management Plan or a business plan for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In addition, the business plan would include an inventory of all hazardous materials stored or handled at the facility above these thresholds. This law is designed to reduce the occurrence and severity of hazardous materials releases. The Hazardous Materials Management Plan or business plan must be submitted to the Certified Unified Program Agency (CUPA), which, in this case, is LACFD. . In 1997, Health Hazardous Materials Division (HHMD) within the LACFD became a CUPA to administer the following programs within Los Angeles County: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the California Accidental Release Prevention Program (Cal-ARP), the Aboveground Storage Tank Program, and the Underground Storage Tank Program. The state has integrated the federal EPCRA reporting requirements into this law; once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

3.7.3.2.3 Aboveground Petroleum Storage Act (California Health and Safety Code, Division 20, Chapter 6.67)

The owner or operator of a storage tank at a tank facility is required to prepare a spill prevention control and countermeasure plan. Periodic inspections of the storage tank by a qualified inspector is required to assure compliance with Part 112 of Subchapter D of Chapter I of Title 40 of the CFR. The Unified Program Agency (UPA) is required to inspect each storage tank or a representative sampling of the storage tanks at each tank facility that has a storage capacity of 10,000 gallons or more of petroleum. The purpose of the inspection is to determine whether the owner or operator is in compliance with the spill prevention control and countermeasure plan requirements of this chapter. The owner or operator of a tank facility is required by

law to immediately, upon discovery, notify the Office of Emergency Services and the UPA using the appropriate 24-hour emergency number or the 911 number, as established by the UPA, or by the governing body of the UPA, of the occurrence of a spill or other release of one barrel (42 gallons) or more of petroleum that is required to be reported pursuant to subdivision (a) of Section 13272 of the Water Code.

3.7.3.2.4 California Labor Code (Division 5; Part 1, 6, 7 and 7.5)

The California Labor Code is a collection of regulations that include the regulation of the workplace to assure appropriate training on the use and handling of hazardous materials and the operation of equipment and machines which use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5 ensures employees that are in charge of the handling of hazardous materials are appropriately trained and informed of the materials with which they handle. Division 5, Part 6 governs the operation and care of hazardous material storage tanks and boilers. Division 5, Part 7 ensures employees who work with volatile flammable liquids are outfitted in appropriate safety gear and clothing. Division 5, Part 7.5, otherwise referred to as the California Refinery and Chemical Plant Worker Safety Act of 1990, was enacted to prevent or minimize the consequences of catastrophic releases of toxic, flammable, or explosive chemicals. The establishment of process safety management standards is intended to eliminate, to a substantial degree, the risks to which workers are exposed in petroleum refineries, chemical plants, and other related manufacturing facilities.

3.7.3.2.5 California Pipeline Safety Act of 1981

This Act gives regulatory jurisdiction to the California State Fire Marshal (CSFM) for the safety of all intrastate hazardous liquid pipelines and all interstate pipelines used for the transportation of hazardous or highly volatile liquid substances. The law establishes the governing rules for interstate pipelines to be the Federal Hazardous Liquid Pipeline Safety Act and federal pipeline safety regulations.

California Government Code sections 51010 through 51018 provide specific safety requirements that are more stringent than the Federal rules. These include:

- periodic hydrostatic testing of pipelines, with specific accuracy requirements on leak rate determination;
- hydrostatic testing by state-certified independent pipeline testing firms;
- pipeline leak detection; and
- reporting all leaks.

The Code requires that pipelines include leak prevention and cathodic protection, with acceptability to be determined by the CSFM. All new pipelines must be

designed to accommodate the passage of instrumented inspection devices, i.e., smart pigs.

3.7.3.2.6 Oil Pipeline Environmental Responsibility Act (Assembly Bill 1868)

This Act requires every pipeline corporation qualifying as a public utility and transporting crude oil in a public utility oil pipeline system to be held strictly liable for any damages incurred by "any injured party which arise out of, or are caused by, the discharge or leaking of crude oil or fraction thereof...." The law applies only to public utility pipelines for which construction would be completed after January 1, 1996, or that part of an existing utility pipeline that is being relocated after the above date and is more than 3 miles in length.

3.7.3.2.7 California Code of Regulations, Title 8—Industrial Relations

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal OSHA) and the federal OSHA are the agencies responsible for assuring worker safety in the workplace. Cal OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. These standards would be applicable to both construction and operation. Regulations enforced through Cal OSHA pertaining to asbestos-containing material, liquefied petroleum gas, storage tanks, and boilers are listed in CCR Title 8, Chapter 3.2.

3.7.3.2.8 Other State Requirements

California regulates the management of hazardous wastes through Health and Safety Code Section 25100 et seq.; CCR Title 22, Division 4.5, "Environmental Health Standards for the Management of Hazardous Wastes"; and CCR Title 26, "Toxics." The state regulates air particulates during construction, demolition, and operation through the SCAQMD rules.

3.7.3.3 Regional and Local

3.7.3.3.1 Port Master Plan

Intended to guide development within the Port, the PMP was certified in 1979 and was most recently revised in December 2003. The PMP was certified by the California Coastal Commission and approved by the Board of Harbor

Commissioners. The PMP divides the Port into nine individual planning areas. The proposed project site is primarily located in PA5 (Wilmington District), and the Waterfront Red Car Line and pedestrian corridor of the proposed Project skirt the boundaries of PA4 (West Basin) and PA3 (West Turning Basin). The PMP identifies land use compatibility guidelines for PAs5, 4, and 3, as well as short- and long-term plans for these areas.

See Section 3.8, "Land Use and Planning," for a detailed discussion regarding the PMP and its applicability to the proposed Project.

3.7.3.3.2 Port Risk Management Plan

The RMP, an element of the PMP, was adopted in 1983, pursuant to the California Coastal Act of 1976 (LAHD 1983). The purpose of the RMP is to provide siting criteria related to vulnerable resources, and handling and storage guidelines for potentially hazardous liquid bulk materials. Hazard liquid bulk materials are defined in the RMP as

> …a cargo moved through the Ports in liquid bulk form, which is either flammable, explosive, or produces a flammable, toxic, or suffocating gas if released. Such cargos include crude oil, petroleum products, and many liquid chemicals. These do not include cargos packaged in drums, portable tanks as defined by the department of Transportation, Code of Federal Regulation, or other portable containers.

Vulnerable resources are described as high density populations in the Port and adjacent areas and critical impact facilities in the Port, which if damaged or destroyed would have a significant impact on port operations. There are four types of vulnerable populations: residential, recreational, visitor, and the working populations at the Port). Working populations in the Port are protected under the specific risk management plans and emergency policies related to the handling, storage, and use of hazardous materials of the businesses that employ them; therefore, for the purposes of the proposed Project the focus will be on recreating and visiting populations.

The RMP and supporting documents outline the criteria to determine whether a facility is considered hazardous and the appropriate methodology to calculate the hazardous footprint if needed. The hazardous footprint of a hazardous facility is defined by the PMP RMP as the area wherein a specified level of adverse effect would be exceeded against a specified vulnerable resource.

The siting criteria for locating vulnerable resources and hazardous facilities include the following:

- no new vulnerable resources will be permitted to be located within the hazardous footprint areas of existing or approved facilities handling hazardous liquid bulk cargoes except where overriding considerations apply;

- no new hazardous cargo facility will be permitted which creates an overlap of an existing or approved vulnerable resource except where overriding considerations apply;
- a modification or expansion that extends the hazardous footprint overlap of vulnerable resources will not be allowed except where overriding considerations apply; and
- a modification that extends the life of the facility is permitted. However, the facility should meet with the Port to see what impact the RMP has on the facility. The facility should consider this plan before making any such modifications.

The RMP provides guidance for existing activities and future development of the Port to minimize or eliminate impacts on vulnerable resources from accidental releases. The overall policy of the Risk Management Plan has as its objective to minimize or eliminate the overlaps of hazardous footprints and areas of substantial residential, visitor, recreational, and high density working populations and direct high economic impact facilities identified as hazardous.

3.7.3.3.3 Los Angeles Municipal Code (Fire Protection—Chapter 5, Section 57, Divisions 4 and 5)

These portions of the municipal code regulate the construction of buildings and other structures used to store flammable hazardous materials and the storage of these same materials. These sections ensure that the business is properly equipped and operates in a safe manner and in accordance with all applicable laws and regulations. These permits are issued by LAFD.

3.7.3.3.4 Los Angeles Municipal Code (Public Property—Chapter 6, Article 4)

This portion of the municipal code regulates the discharge of materials into the sanitary sewer and storm drains. It requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains.

3.7.3.3.5 Other Regional and Local Requirements

The Safety Element of the City of Los Angeles General Plan addresses the issue of protection of residents from unreasonable risks associated with natural disasters (e.g., fires, floods, and earthquakes). The Safety Element provides a contextual framework for understanding the relationship among hazard mitigation, response to a natural disaster, and initial recovery from a natural disaster.

3.7.4 Impact Analysis

3.7.4.1 Methodology

3.7.4.1.1 General

CEQA guidelines require identifying any adverse change in any of the physical conditions in the area affected by the proposed Project, including a change in the probability of spills or releases. The potential impacts from proposed project–related emergency preparedness procedures and releases of hazardous materials into the environment, which could affect public health and safety, are qualitatively evaluated using the context of existing federal, state, regional, and local regulations and policies.

No container-handling facilities would be associated with the construction or operation of the proposed Project, and no hazardous materials would be transported via containers. No impacts from container handling would occur as a result of the construction or operation of the proposed Project. Therefore container-handling facilities are not discussed in this section.

The LADWP Marine Tank Farm site handles and stores gas oils. Based on the Material Safety Data Sheet (MSDS) provided by Valero, the gas oils have flashpoints above 140 degrees (F) and are not considered a hazardous commodity for flammability. However, the MSDS information states that raw gas oil has a National Fire Protection Association (NFPA) health hazard rating of 4, based on the presence of hydrogen sulfide, potentially requiring a toxic vapor cloud footprint assessment. The MSDS indicates that 1.2% (by weight) of the raw gas oil contains hydrogen sulfide (Cornwell pers. comm. 2008a, 2008b). However, this is not in the form of free hydrogen sulfide molecules. Rather, the hydrogen sulfide, which is commonly present in crude and gas oils is bound to the hydrocarbon molecules and will not readily evaporate as a hydrogen sulfide gas cloud from a pool of gas oil (Cornwell, pers. comm. 2008a, 2008b). Therefore, due to the low concentration of hydrogen sulfide in the raw gas oil (1.2%) and the fact that hydrogen sulfide is bound to the hydrocarbon and would not generate a hydrogen sulfide gas in such a concentration sufficient enough to cause a health hazard, no toxic vapor cloud footprint is required (Cornwell, pers. comm. 2008a, 2008b). As such, no hazard footprints are required for the storage and handling of gas oils at the LADWP Marine Tank Farm site and they are therefore not discussed in this section.

3.7.4.1.2 Upset Due to Terrorism

Analysis of risk of upset is based primarily on potential frequencies of occurrence for various events and upset conditions as established by historical data. The climate of the world today has added an additional unknown factor for consideration, i.e., terrorism. There are limited data available to indicate the likelihood of a terrorist attack aimed at the Port or the proposed Project; therefore, the probability component

of the analysis described above contains a considerable amount of uncertainty. Nonetheless, this fact does not invalidate the analysis contained herein. Terrorism can be viewed as a potential trigger that could initiate events described in this section such as hazardous materials release and/or explosion. The potential impact of those events, once triggered by whatever means, would remain as described herein.

3.7.4.1.3 Crude Pipeline Hazard Scenarios

Pipeline Ruptures: A pipeline rupture is defined as a spill greater than 100 bbls (42 gallons equals 1 bbls) of existing crude pipelines. Ruptures have significantly lower frequency rates and higher volumes of spills than *leaks*.

Likely causes of ruptures are earthquakes, corrosion, and third-party damage. The full rupture scenario assumes a total rupture of a pipeline, resulting in drainage of the pipeline content between the two closest valves.

The frequency of a *release* (leak or rupture) is primarily a function of the construction of the pipeline, the maintenance and operational practices, and third-party damage. The volume of the subsequent release is a function of the training of the operators as well as the design, construction, and maintenance of the leak detection system. (Pacific L.A. Marine Terminal LLC Crude Oil Terminal Draft SEIS/SEIR April 2008).

Pipeline Leaks. Pipeline leaks (spills less than 100 bbls) are similar to ruptures described above, except that they address smaller sized releases from the pipeline. This distinction has been made between leaks and ruptures to account for the different failure frequencies that exist between ruptures and leaks. Pipeline leaks are most commonly the result of corrosion, erosion, or third-party damage to the pipeline.

3.7.4.1.4 Harbor Generating Station

The HGS includes two liquid bulk storage sites, with three storage tanks, thathandle and store diesel oils. One is at the HGS, located west of Fries Avenue; the other is located at Fries Avenue and A Street, north of the Peaker Units. The methodology for analyzing the impacts of these two storage sites includes the postulated accidents and assumes the spilling of diesel oil into the diked area and a subsequent ignition of the pool area. The injury exposure level of 1,600 bpu per hour per square foot was used to determine the footprint associated with radiant heat from a diesel spill and ignition in the diked area.

HGS also includes the storage of aqueous ammonia. A risk management analysis was conducted by Quest Consultants, Inc., and Port Planning to determine the offsite consequences of a release of aqueous ammonia from the existing HGS and its relationship to the proposed Project (Appendix G-1). Quest performed consequence modeling for two postulated cases based on the probability scenarios using EPA's

RMP Offsite Consequence Analysis Guidance for toxic releases and explosions and Quest's own consequence modeling software, CANARY. The consequence modeling calculated the downwind dispersion of the ammonia vapors released during the two postulated cases and identified the footprint of the ammonia vapors.The two postulated accidents at the facility are:

- a hose failure during transfer operations from a tank truck to the storage tanks; and
- spillage of aqueous ammonia at the storage tank site covering the impoundment area.

These two postulated accidents are considered possible but unlikely. The first postulated accident assumed a hose failure during transfer operations resulting in a spill of not more than 200 gallons. The transfer site contains a concrete pad area of approximately 1,000 square feet, which drains to a sump. Due to the sloped sides of the concrete containment area, the 200 gallon spill would cover approximately 1/3rd of the concrete pad, resulting in a vapor-producing area of approximately 325 square feet. This is a reasonable postulated accident for a truck transfer operation due to pressure change alarm systems on the delivery trucks and a closed loop internal valve system on the trucks that allow for the automatic shut off of transfer operations should a hose rupture occur.

The endpoints for the ammonia exposure are similar to those used in SCAQMD's EIR for the Peaker Plant project. EPA RMP guidance was used to determine the endpoint of explosions and to estimate the toxic impact of potential aqueous ammonia releases. The distance that has to be traversed from the center of the upset event to reach the endpoint was calculated for each case. This distance represents the maximum separation required to reach the edge of the critical zone of the impact. The edge of the critical zone is the outer limit of potentially serious injuries. For aqueous ammonia, the EPA endpoint for exposure is the distance from the spill that is required to reduce the ammonia concentration to 200 ppm. Furthermore, the EPA has identified that for toxic compounds, such as ammonia, the Emergency Response Planning Guidelines (ERPG) (AIHA/ORC 1998 in SCAQMD 2001) assign these compounds ERPG Level II status, which is defined as:

> The maximum airborne concentration (i.e., 200 ppm for ammonia) **below** which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action.

Therefore, the toxic endpoint of 200 ppm for aqueous ammonia was used to determine the area of impact associated with the two postulated aqueous ammonia accidents at the HGS for the proposed Project.

The two postulated accidents analyzed by Quest Consulting Inc., for the proposed project differ significantly from that postulated in the 2001 SCAQMD's EIR. That document assumed an unconfined ammonia spill of the entire capacity of the tanker truck (5,000 gallons). Such a spill would create a pool area of approximately 20,300 square feet. It is unreasonable to assume such an accident occurring at the HGS, as it

would require a catastrophic failure of the delivery truck tank. Additionally, this accident did not consider the containment area, which drains to a sump, thereby limiting the area that would be producing vapors. Therefore, SCAQMD's scenarios are considered remote and highly unlikely, and were not considered as part of the proposed Project analysis due to the speculative nature of such occurrences. However, the proposed Project analysis contained herein and the 2001 SCAQMD EIR used the same ammonia concentration threshold of 200 ppm per the Emergency Response Planning Guidelines (EPRG-2). The results of the consequence modeling as it relates to the proposed Project are further discussed under Impacts RISK-1b, and RISK-5 below.

Probability of Upset Events

Pipeline Failure Rates

While pipelines have historically had one of the lowest failure rates of any mode of transportation, there is still some level of risk that a pipeline could leak or rupture. In order to estimate the probability of such an event, historical data for operating liquid pipelines have been used to estimate the probability of a leak or rupture for the existing pipeline system. Historically, spills from pipelines have been attributed to a number of different causes, including corrosion, defects in material or welding, damage from third-party interference, natural hazards such as earthquakes or landslides, and operational errors.

Information on the number and causes of pipeline spills in the U.S. greater than 50 barrels in size is available from the DOT Office of Pipeline Security (OPS). These data were obtained for spills from 1985 to 2000. Information is available from the OPS for crude oil pipelines only, as well as for all liquid pipelines. In the years since 1985, crude oil made up 47 to 51% of the liquid spilled from pipelines, and petroleum products made up 47 to 55% of the total spilled. The primary causes of incidents with the crude oil pipelines have been corrosion (between 26 and 60% of the failures) and outside force damage or third-party damage (between 14 and 42% of the total failures).

The California State Fire Marshal publishes an analysis of leak information from the 7,800 miles of hazardous liquid pipelines within California for the years 1981 through 1990 (CSFM 1993). This study enables pipeline failure rates to be adjusted based on variables such as pipeline age, diameter, operating temperature, material of construction and coating type, corrosion protection type, inspection schedule, leak detection system, as well as spill cause. The study found that external corrosion was the major cause of pipeline leaks, causing about 59% of spills, followed by third-party damage at 20%. Older pipelines and those that operate at higher temperatures had significantly higher failure rates. As the OPS pipeline data are only for larger releases, the CSFM report has been used in this analysis.

Fire Hazards

Crude oil fire hazards strongly depend on the type or blend of crude oil being shipped through the pipeline and the conditions at the spill site. Fire hazards associated with light and heavy crude oils are quite different, and the same oil type and volume could cause drastically different consequences based on site conditions. Heavy crude oil mainly consists of heavy hydrocarbon components with low flammability, and there is some risk associated with the ignition of spilled oil and the resulting fire. While a crude oil fire could theoretically occur at any place where a spill occurs, the occurrence of a heavy crude oil fire is likely to be limited to the pump stations or areas where a significant ignition source can be found.

For fire hazards, the concern is intensity of thermal radiation and its effects on public health and safety. Data on the exposure time necessary to reach pain thresholds indicates that relatively high thermal radiation levels can be tolerated without significant pain or injury. Therefore, there would usually be sufficient time for people to escape the immediate area of the fire before significant physical injury is suffered.

Historic statistics demonstrate that while serious injury and/or death are rare in pipeline incidents, both have occurred and continue to pose a potential risk to human health and public safety. The DOT OPS database indicates that, from 1985 to September 2004, 1 fatality and 28 injuries resulted from 1,487 recorded crude oil pipeline incidents in the U.S. From 1968 to 1984, crude oil pipeline incidents resulted in 8 fatalities and 12 injuries. Furthermore, the California Office of the State Fire Marshall California Incident Reporting System (CIRS) reported that between 2003 and 2007 there were two fires caused by the property use of pipeline, powerline, or other utility right of way (http://osfm.fire.ca.gov/cairs/cairs_nfirsreports.php).

3.7.4.1.5 Analytical Framework

According to the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006), the determination of significance for emergency preparedness and human health hazards would be made on a case-by-case basis, considering the following factors:

- regulatory framework for emergency preparedness and the health hazard(s);
- degree to which the project may require a new, or interfere with an existing, emergency response or evacuation plan and the severity of the consequences;
- degree to which project design will reduce the frequency or severity of a potential accidental release of a hazardous substance or explosion;
- probable frequency and severity of consequences to people or property as a result of a potential accidental release of a hazardous substance or explosion;
- probable frequency and severity of consequences to people from exposure to health hazard(s); and

- degree to which the project design would reduce the frequency of exposure or severity of consequences of exposure to health hazard(s).

3.7.4.2 Thresholds of Significance

The proposed Project would have a significant impact related to emergency preparedness and the release of hazardous material(s) if it would:

RISK-1: Not comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development;

RISK-2: Substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death;

RISK-3: Substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action; and,

RISK-4: Substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.

RISK-5: Introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.

3.7.4.3 Impacts and Mitigation

3.7.4.3.1 Construction Impacts

Impact RISK-1a: Construction of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.

The construction of the proposed Project would potentially result in a conflict with applicable safety and security regulations and policies guiding the development within the Port if safety and security regulations are not followed during:

- general construction throughout the proposed project area during Phase I and Phase II,
- the decommission of the LADWP Marine Tanks during Phase I,
- construction adjacent to the Harbor Generating Station, and

- future relocation of the Marine Tank Farm to a feasible site such as the Olympic Tank site.

These proposed project components are evaluated for their consistency with the applicable regulations and policies guiding development within the Port below.

General Construction in the Proposed Project Area Phase I and Phase II

As discussed in Section 3.7.3, several regulations cover the construction that would occur in the proposed Project: RCRA, Hazardous and Solid Waste Act (HSWA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Cal. Code Reg. Titles 22 and 26, and the California Hazardous Waste Control Law. These would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction. Implementing increased inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential hazardous materials releases during demolition and construction. Potential releases of hazardous substances during demolition and/or construction would be addressed through EPCRA, which is administered in California by SERC and the Hazardous Material Release Response Plans and Inventory Law.

In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. These regulations must be adhered to during design and construction of the proposed Project.

Standard Best Management Practices (BMPs) would also be used during construction and demolition activities to minimize runoff of contaminants and air pollutants, in compliance with the State General Permit for Stormwater Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and the project-specific Stormwater Pollution Prevention Plan (SWPPP) (see Section 3.14, "Water Quality, Sediments, and Oceanography," for more information). Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the *Development Best Management Practices Handbook* (City of Los Angeles 2004a), and the *LAHD Sustainable Construction Guidelines* (LAHD 2008). During construction, the contractor would employ management controls to minimize potential impacts presented by the use of hazardous materials during the construction phase of the proposed project. These controls include: (1) developing required management plans, e.g., a Spill Prevention, Control, and Countermeasure (SPCC) Plan; (2) secondary containment; (3) separate storage of incompatible materials; and (4) proper training of personnel.

In addition, construction personnel would be trained in safety and defensive emergency response procedures. Construction personnel would also receive hazardous-waste-related training that focuses on recognition of potentially hazardous materials that may be encountered during subsurface excavations for proposed structures. If such hazardous material is suspected, contingency procedures would be followed to protect worker safety and public health. All vehicles and construction equipment would be inspected to ensure that no fluids are leaking (e.g., oil, hydraulic fluid, lubricants, or brake fluid) and that all fuels and fluids are stored in proper, clearly labeled containers. Hazardous materials that must be disposed of would be disposed of as hazardous waste in accordance with the appropriate regulations for storage, transportation, and disposal of hazardous waste.

Furthermore, prior to construction, a Solid Waste Management Plan per state regulations would be prepared and approved. During construction, the onsite management and offsite disposal procedures for solid waste would be adhered to as defined in the Solid Waste Management Plan for the proposed project. Waste would be stockpiled temporarily before disposal off site. Hazardous wastes generated during construction would be collected in hazardous waste accumulation containers near the point of generation and moved daily to the construction contractor's 90-day hazardous waste storage area on site. The accumulated waste would be delivered to or collected by an authorized waste management facility.

Decommissioning of LADWP Marine Tanks

Phase I of the proposed Project includes the removal of the three LADWP Marine tanks and associated petroleum pipelines located at 130 W. A Street. There would be a number of proposed project elements constructed under Phase I of the proposed Project that would be operational before or during the removal of the LADWP Marine Tanks. The proposed project elements that would be operational near the Marine Tanks include:

- the pedestrian bridge to the east of the tanks connecting the intersection of Harry Bridges and Avalon Boulevards to the waterfront
- the southern part of the elevated park/land bridge
- the commercial uses
- the restaurant
- the observation tower
- the waterfront promenade

The contents of the tanks and associated pipelines would be drained through the oil pipe distribution system prior to demolition and/or removal. Any petroleum product remaining in the system after this would be residual, and would be removed as contaminated waste, not as cargo. The removal of the LADWP Marine tanks and associated onsite petroleum piping would include the submittal of a work plan to the California State Fire Marshall (CSFM) and other applicable agencies, as appropriate. The onsite piping to be removed would be drained of all fluids, cleaned, flushed, and then capped. The off-site petroleum pipeline infrastructure along Fries and Water

Streets would not be removed, drained, or altered under the proposed Project. Materials from the tanks and the piping would be characterized for disposal and disposed of at an appropriately certified hazardous waste facility. Testing would occur prior to the demolition of the tanks and the removal of the pipelines associated with the tanks and prior the removal. Should contamination be found, appropriate remediation would occur prior to or concurrent with construction, under approval of the appropriate oversight agency. (See Appendix F, Ninyo & Moore's technical study, for additional details regarding the abandonment and removal of the tanks.) The removal of the tanks and associated pipelines would be required to comply with all state and federal regulations discussed above under general construction.

Construction Adjacent to the Harbor Generating Station

Under the proposed Project, there would be no physical changes made to either HGS or the Peaker Units. Construction traffic would be planned for in accordance with the Work Area Traffic Control Handbook (WATCH) to coordinate with LAFD, LAPD, and Port Police prior to commencement of construction activities. This manual will identify alternative response routes, ensuring continuous adequate emergency vehicular access and staging of construction would take place on site. No impacts related to a conflict with existing safety or security plans or policies would occur.

Olympic Tank Site

The proposed Project includes the potential use of the Olympic Tank site by LADWP and Valero after the demolition and removal of the existing LADWP Marine Tanks in Phase II. The use of the Olympic Tank site would require modification and potential construction to allow for use by LADWP and/or Valero. This modification and/or construction would be required to follow all state and federal regulations related to the handling, storage, and use of hazardous facilities described above under the general construction. A separate CEQA review would be needed to further evaluate the use of the Olympic Tank site prior to any modification and/or construction.

Impact Determination

Construction and demolition for the proposed Project would involve the handling and use of hazardous materials. However, the consequences of construction-related spills are generally reduced in comparison to other accidental spills and releases because the amount of hazardous material released during a construction-related spill is small; volume in any single piece of construction equipment is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Construction-related spills of hazardous materials are not uncommon, but the enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies would minimize the potential for an accidental release of petroleum products and/or hazardous materials or explosions during construction.

Additionally, the demolition and removal of the three LADWP Marine Tanks and associated pipelines would comply with all appropriate safety state and federal regulations and would include the submittal of a work plan to the CSFM and other

applicable agencies, as appropriate. The demolition of the tanks and associated pipelines would not violate the PMP RMP, as these liquid bulk fuel tanks are not defined as hazardous under the PMP RMP and supporting documents. Therefore, the demolition and removal of the tanks during the operation of Phase I proposed project elements would comply with the PMP RMP. See Section 3.7.4.1.4 and Impacts RISK-1b and RISK-5 for additional discussion of the operational analysis of the proposed Project under the PMP RMP.

Proper adherence to the WATCH Manual requirements and the submittal of a construction traffic control plan as well as approval of an onsite staging area would ensure no impact would occur on safety and security regulations and policies from the proposed Project's proximity to the Harbor Generating Station or Peaker Units.

Finally, the modification and/or construction associated with the Olympic Tank site would also be required to follow all applicable state and federal regulations; however, additional CEQA analysis would be conducted prior to any modification and/or construction on this site.

Therefore, because construction of the proposed Project would comply with applicable security and safety regulations and/or Port policies guiding Port development, construction impacts under threshold RISK-1 would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-2a: Construction of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the Port of Los Angeles' Homeland Security Division, LAPD, LAFD, and USCG. The proposed project construction and demolition activities would be subject to emergency response and evacuation systems implemented by the LAPD and LAFD. Prior to commencement of construction/demolition activities, standard protocol would be followed, and all plans would be reviewed by LAFD to ensure adequate emergency access is maintained throughout the process.

During construction and/or demolition activities, as required by the municipal fire code, LAFD would require that adequate vehicular access to the proposed project area be provided and maintained. This would be ensured and enforced via the construction traffic control plan (i.e., Watch Manual) required for the proposed

Project (for further discussion of the construction traffic control plan, refer to Section 3.11, "Transportation and Circulation—Ground and Marine," Impact TC-1a and Mitigation Measure TC-1).

Additionally, LAFD would be responsible for waterside first response in the event of an emergency. The USCG, Port Police, and LAPD would also support LAFD in the event of a waterside emergency.

Impact Determination

Proposed project contractors would be required to adhere to all Homeland Security, LAPD, and LAFD emergency response and evacuation regulations discussed in the existing setting section above in Section 3.7.2.4, "Existing Public Emergency Services," ensuring compliance with existing emergency response plans. Therefore, construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Construction Impact RISK-2a would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-3a: Construction of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.

The proposed Project could result in a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action during the following activities:

- general construction throughout the proposed project area Phase I and Phase II, and,
- the decommissioning of the LADWP Marine Tanks Phase I.

These project components are evaluated below for their ability to substantially increase the likelihood of sensitive receptors being exposed to a significant health hazard through a spill, release, or explosion due to a terrorist action during construction. Elements of Phase I would be completed by 2013, which would bring sensitive receptors to the proposed project site during on-going construction activities for the late Phase I and Phase II construction.

General Construction in the Proposed Project Area Phase I and Phase II

Construction and demolition activities for the proposed Project would involve the handling and use of certain amounts of hazardous materials including vehicle fuels and other flammable chemicals. The potential consequence of a terrorist action on such activities would mainly concern relatively small potential targets such as construction vehicles and elements undergoing construction. Fuel volume in any single piece of construction equipment is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less. The enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies (i.e., LAPD, Port Police, LAFD, LAHD), would minimize the potential for a spill, release, or explosion of hazardous materials due to a terrorist action. Furthermore, the enforcement of these standards would reduce the impact should a spill, release, or explosion of hazardous material occur due to a terrorist action.

Some elements of Phase I would be complete while construction of late Phase I and Phase II elements would be ongoing. Sensitive receptors, such as Phase I park patrons, near the LADWP Marine Tank Farm or general construction activities would experience obtrusive noise and odors. However, risk associated with the general construction activities would be minimal as potential targets for terrorist actions would have very little effect (e.g. damage, harm, or high profile status) if such an event were to occur during the construction of industrial buildings or the park. One element, the observation tower, can be speculatively stated as being a higher profile target, but its relative small scale and limited capacity would substantially reduce its damage effect as a terrorist target. Consequences associated with a terrorist attack during general construction would be low, and impacts related to the vulnerability of the proposed Project during construction and consequences of having sensitive receptors on site during construction activities would be negligible because the damage and general effect would be limited. Impacts related to the likelihood of sensitive receptors being exposed to a significant health hazard through a spill, release, or explosion due to a terrorist action during general construction during Phase I and Phase II would be less than significant.

Decommissioning of LADWP Marine Tanks

Phase I of the proposed Project specifically includes the removal of the three LADWP Marine Tanks and associated petroleum pipelines. As mentioned above, there would be a number of proposed project elements constructed under Phase I that would be operational during the removal of the LADWP Marine Tanks (e.g., the pedestrian bridge, the southern part of the land bridge, the observation tower, and the waterfront promenade). These features would bring sensitive receptors (recreational visitors) to the waterfront and in close proximity to the operation and the demolition and removal of the LADWP Marine Tanks and associated pipelines.

Only the vulnerability of the Port and the consequences of a terrorist action (i.e., releases of hazardous materials) can be evaluated. The vulnerability of the proposed Project during Phase I when certain elements of the proposed Project would operate in close proximity to the operation and then demolition and removal of the LADWP Marine Tanks can and would be reduced by implementing security measures. For

example, as part of Port-wide security measures, enhanced security in the area such as expanding the Port's waterside camera system to increase security along the waterfront promenade and the operation of the Port Police substation in Wilmington would reduce the vulnerability of the proposed Project in Phase I. Furthermore, the expected consequences (i.e., release of hazardous material) of a terrorist action can also be reduced by certain measures, such as emergency response preparations and BMPs during construction of the proposed Project. All emergency response plans discussed in Section 3.7.2.4, "Existing Public Emergency Services," would be implemented during the construction of the proposed Project. Additionally, The enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies (i.e., LAPD, Port Police, LAFD, LAHD), would minimize the potential for a spill, release, or explosion of hazardous materials due to a terrorist action. Finally, the consequences of a hazardous spill, release, or explosion due to a terrorist action are related to the amount of the hazardous material present. The LADWP Marine Tanks and associated onsite pipelines would be drained prior to demolition and removal, minimizing the amount of material that could be released, spilled, or exploded during a terrorist act. Therefore, the LADWP Marine Tanks would not be at full capacity for the entire duration of Phase I of the proposed Project, and consequences of a hazardous spill, release, or explosion would not be substantially increased through the construction of the proposed Project.

Impact Determination

The construction of the proposed Project would comply with applicable security and safety regulations discussed under RISK-1a and above under Section 3.7.2.5, "Homeland Security of the Port," and Section 3.7.3, "Applicable Regulations," and/or Port policies guiding Port development, reducing the vulnerability of construction activities to terrorist actions. Therefore, construction and/or demolition activities would not result in an increase in vulnerability or consequence of a terrorist action leading to a greater likelihood of a spill, release, or explosion of hazardous material(s). Impact RISK-3a, related to a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action, would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-4a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.

The following components of the proposed Project could result in hazardous material impacts on work personnel or sensitive receptors:

- general construction throughout the proposed project area during Phase I and Phase II,
- demolition of existing buildings,
- decommissioning of the LADWP Marine Tanks during Phase I,
- existing gas and oil pipelines, and,
- Olympic Tank site (Phase II).

General Construction

Potential short-term hazards include construction activities that involve the transport of fuels, lubricating fluids, solvents, and other potentially hazardous material. Additionally, construction equipment could spill oil, gas, or fluids during operation or refueling, resulting in potential health and safety impacts on construction personnel and others.

Although construction-related spills of hazardous materials are not uncommon, the potential consequences of such accidents are generally small due to the localized, short-term nature of the releases. The volume of the spills would be relatively small due to the fact that the volume in any single vehicle is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Additionally, quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to a Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI). BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Divisions 4 and 5; Chapter 6, Article 4) would also govern construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials would limit the potential adverse impacts of contamination to a relatively small area. As such, all hazardous materials used during construction of the proposed Project would be used and stored in compliance with applicable state and federal requirements. The following plans/requirements are incorporated into the proposed Project:

- Standard BMPs would also be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Stormwater Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and the project-specific SWPPP (see Section 3.14, “Water

Quality, Sediments, and Oceanography," for more information). Furthermore, in accordance with federal, state, and local regulations discussed in the Applicable Regulations section, the following actions would be implemented during demolition and construction to prevent spills from occurring and to minimize impacts in the event that they do occur:

- All spills would be cleaned up quickly, and all workers would be adequately trained to recognize the hazards associated with such spills.
- An SPCC Plan for the project site would be prepared in accordance with federal and state regulations. This plan must be prepared if petroleum products are stored on site in aboveground storage tanks with a capacity that equals or exceeds 55 gallons for a single tank or equals or exceeds 1,320 gallons aggregate for more than one tank. The SPCC Plan must be prepared before the delivery of petroleum products to the site. The SPCC Plan would include information on spill response procedures and fuel storage.
- Material Safety Data Sheets (MSDSs) for each chemical used during construction would be kept on site. Construction employees would be informed of the location and content of the MSDSs, as required by OSHA's Hazard Communication Standard, Title 29 of the Code of Federal Regulations (CFR) Section 1910.1200.
- In case of an accident, LAFD would be notified as the first responder. All other federal, state, and local notification requirements would be followed for any release that exceeds the reportable quantity or threatens to have a significant impact.
- The proposed project would comply with all transportation requirements for hazardous materials on state highways. These requirements apply to both hazardous materials coming onto the site and hazardous wastes leaving the site. All vehicles and construction equipment would be inspected to ensure that there are no leaking fluids (e.g., oil, hydraulic, lubricant, or brake fluid) and that all fuels and fluids are stored in proper, labeled containers. Any observation of spills, leaking fluids, or improperly stored fluids would trigger the issuance of a stop work notice until the problem is resolved, including the removal of any soil contaminated by vehicle fluids. The proposed Project would comply with all transportation requirements for hazardous materials on state highways. These requirements apply to hazardous materials coming onto the site and hazardous wastes leaving the site.

Removal of Existing Buildings

The construction of the proposed Project includes the removal of several industrial and commercial buildings located within the proposed project area. A list of all buildings or structures proposed for removal is provided in Table 2-2 and 2-3 of Chapter 2, "Project Description." These include a single, temporary (mobile) structure located on the southeast corner of C Street and Marine Avenue, measuring 60 by 24 feet; the Dockside Machine & Ship Repair buildings totaling 10,297square feet; 18,500 square feet of buildings and accessory structures associated with the LADWP Marine Tank Farm; the Catalina Freight Building, measuring approximately 30,000 square feet; the National Polytechnic College of Science Hyperbaric Chamber

Building, measuring approximately 2,600 square feet; and National Polytechnic College of Science Welding Pier, measuring approximately 1,800 square feet.

The potential for hazardous materials spills, releases, or explosions during the demolition and/or removal of these buildings would be present. However, the decommissioning of these sites would require the adherence to all standards and regulations discussed above and under RISK-1b below (i.e., EPCRA, LAFD regulations, DTSC, SCAQMD, and other state and federal regulations and guidelines) governing the decommissioning and remediation of hazardous materials and release of air contaminants during demolition. Additionally, the decommissioning would include remediation efforts to remove the known or suspected hazardous groundwater and soil contamination at the site. For a full discussion of the existing hazardous groundwater and soil contamination at these sites, please refer to Section 3.6, "Groundwater and Soils."

The existing buildings could contain lead based paint and asbestos, which could be released upon demolition. There are existing regulations and requirements for demolition buildings that could potentially contain lead based paint or asbestos (i.e.: SCAQMD Rule 1403—Asbestos Emissions from Demolition/Renovation Activities). The proposed Project would be required to abide by the following per local and state regulations:

- Prior to demolition of the site, the project applicant would retain a qualified engineer/ geologist to assess the building to be demolished to determine the presence, or lack, of PCB-containing materials (Polychlorinated Biphenyls), ACMs (Asbestos Containing Material), and LBP (Lead Based Paint) per State law. Should it be deemed necessary, remediation would be implemented in accordance with the recommendations of these assessments and in compliance with agency regulations. The following measures would occur as part of testing and demolition of the structure on site:
- Structural materials would be tested for potentially hazardous materials through a State-certified laboratory.
- Documentation would include a description of field procedures, tabulations of analytical results, and maps of sample locations. An evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the handling and removal of potentially hazardous substances would be provided.
- Removal of ACM and LBP would be conducted by ACM- and LBP-certified removal contractors and trained workers. Appropriate dust monitoring would occur in conjunction with ACM and LBP removal activities.
- PCB-containing light ballasts and other PCB-containing materials found on site would be removed by a hazardous materials removal contractor.
- The project applicant would prepare a site Health and Safety Plan for work involving the removal of ACM-, LBP-, and PCB-containing materials.
- The disposal process would include transport by a State-certified hazardous material hauler to a State-certified disposal or recycling facility licensed to accept and treat hazardous waste generated by demolition of the on-site structure.

Decommissioning of LADWP Marine Tanks

The decommissioning and demolition of the LADWP Marine Tanks and associated pipeline would begin in June 2012 and is expected to take approximately one year. There is a potential for hazardous materials spills, releases, or explosions during the decommissioning and removal of these storage tanks. The tanks would be removed and decommissioned under the proposed Project, and the site would be evaluated for groundwater and soil contamination and would undergo remediation if needed.

The contents of the tanks and associated pipelines would be drained through the oil pipe distribution system prior to demolition and/or removal. Any petroleum product remaining in the system after this would be residual, and would be removed as contaminated waste, not as cargo. The removal of the tanks and associated petroleum piping would include the submittal of a work plan to the California State Fire Marshall (CSFM) and other applicable agencies, as appropriate. The piping to be removed would be drained of all fluids, cleaned, flushed, and then capped. Materials from the tanks and the piping would be characterized for disposal and disposed of at an appropriately certified hazardous waste facility. Testing would occur prior to the demolition of the tanks and the removal of the pipelines associated with the tanks and prior the removal. Should contamination be found, appropriate remediation would occur prior to or concurrent with construction, under approval of the appropriate oversight agency. (See Appendix H, Ninyo & Moore's technical study, for additional details regarding the abandonment and removal of the tanks.). The removal of the tanks and associated pipelines would be required to comply with all state and federal regulations discussed above under general construction.

There is potential for hazardous materials spills, releases, or explosions during the decommissioning of the LADWP Marine Tanks. However, the decommissioning would require adherence to EPCRA, DTSC, Cal-OSHA, LACFD regulations, and other state and federal regulations and guidelines governing the decommissioning and remediation of hazardous materials. These agencies and regulations would provide oversight and prevention techniques. See Section 3.6, "Groundwater and Soils," for a full discussion of the regulations governing existing ground and soil contamination in the proposed project area and for a discussion of potential groundwater and soil contamination at the LADWP Marine Tank site.

Existing gas and petroleum pipelines

There are a number of existing petroleum pipelines and gas lines that run along Water Street and Fries Avenue. The proposed Project would not remove, alter, or otherwise change these existing gas and petroleum pipelines. The proposed Project would be designed and constructed around the existing gas and petroleum pipelines.

Olympic Tank Site

The proposed Project includes the potential use of the Olympic Tank site by LADWP and Valero after the demolition and removal of the existing LADWP Marine Tanks to replace their lost storage capacity. The use of the Olympic Tank site would require modification and potential construction to allow for use by LADWP and/or

Valero. Any of these activities at the Olympic Tank site would likely use normal construction methods and therefore would require the handling, storage, and use of some small amounts of hazardous materials. The consequences of construction-related spills are generally reduced in comparison to other accidental spills and releases because the amount of hazardous material released during a construction-related spill is small, volume in any single piece of construction equipment is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Construction-related spills of hazardous materials are not uncommon, but the enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies would minimize the potential for an accidental release of petroleum products and/or hazardous materials or explosions during construction (as discussed under RISK-1a).

Additionally, the use of the Olympic Tank site would be further evaluated under a separate CEQA process prior to any modification and/or construction. Therefore, any larger quantities of hazardous materials that may need to be handled, used, or stored during the modification and/or construction at the Olympic Tank site would be evaluated at that time.

Impact Determination

General construction and demolition activities for the proposed Project would not involve the handling of significant amounts of hazardous materials beyond those needed for construction vehicle operations and typical construction activities. Furthermore, implementation of construction and demolition standards, including BMPs, and compliance with the state and federal requirements for the transport, handling, and storage of any hazardous materials during construction and demolition phases, as described in RISK-1a, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during the construction/demolition activities. Therefore, general construction would not result in substantially increasing the likelihood of an accidental spill, release, or explosion of hazardous materials as a result of modifications related to the proposed Project.

The demolition of any existing buildings would require adherence to EPCRA, LAFD regulations, DTSC, and Cal/OSHA and other state and federal regulations and guidelines governing the decommissioning of buildings potentially containing asbestos and lead, as well as regulating the handling, storage, and use of hazardous materials during the demolition of the existing buildings. Therefore, the demolition of existing buildings would not result in substantially increasing the likelihood of an accidental spill, release, or explosion of hazardous materials as a result of modifications related to the proposed Project.

The demolition and removal of the LADWP Marine Tanks and associated pipelines would occur as described above. The abandonment and removal of the LADWP Marine Tanks and associated pipelines could result in a spill, release, or explosion. Due to such a large quantity of liquid bulk material being removed, impacts associated with decommissioning would be significant if appropriate cleanup and disposal measures were not adhered to. However, the removal of the tanks and associated petroleum piping would require the submittal of a work plan to the CSFM

and other applicable agencies, as appropriate. The onsite piping associated with the LADWP Marine Tanks to be removed would be drained of all fluids, cleaned, flushed, and then capped. Materials from the tanks and the onsite piping would be characterized for disposal and disposed of at an appropriately certified hazardous waste facility. Testing would occur prior to the demolition of the tanks and the removal of the onsite pipelines associated with the tanks and prior to their removal. Should contamination be found, appropriate remediation would occur prior to or concurrent with construction, under approval of the appropriate oversight agency. Therefore, the regulations controlling the decommissioning of the LADWP Marine Tanks and associated onsite pipelines would reduce the consequences and likelihood of a spill, explosion, or release of hazardous materials associated with the tanks; and the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous materials.

The existing gas and greater petroleum pipeline infrastructure of the Port along Fries and Water Streets would not be altered, removed, or relocated under the proposed Project. There are existing utility plans which identify the location of the existing pipelines. Although third party damage is a variable when determining the frequency of pipeline ruptures and leaks, the proposed Project would be subject to BMPs of construction, while using existing utility plans to carefully plan out excavation activities. This would substantially reduce the possibility to the point of such an incident being highly unlikely. Therefore, the construction of the proposed Project would not impact the existing pipelines, and impacts would be less than significant.

The activities at the Olympic Tank site would likely involve the handling, storage, and use of small amounts of hazardous materials. Construction-related spills of hazardous materials are not uncommon, but the enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies would minimize the potential for an accidental release of petroleum products and/or hazardous materials or explosions during construction (as discussed under RISK-1a above). Additionally, the use of the Olympic Tank site would be further evaluated under a separate environmental process prior to any modification and/or construction. Therefore, under the proposed Project the Olympic Tank site would not result in a substantial increase in the likelihood of an accidental spill, release, or explosion of hazardous materials as a result of the proposed project–related modifications.

Therefore, construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications. Impacts would be less than significant. **.**

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.7.4.3.2 Operational Impacts

Impact RISK-1b: Operation of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.

The following components of the proposed Project could be affected by the applicable safety and security regulations or risk assessment policies guiding the development of the Port:

- public elements of the proposed Project (observation tower, commercial, promenade, land bridge, etc.),
- Light Industrial and Commercial uses,
- decommissioning of the LADWP Marine Tanks (Phase I),
- Olympic Tank site (Phase II), and
- HGS.

These proposed project components are evaluated for their consistency with the applicable regulations and policies guiding development within the Port below.

Public Elements

All public elements of the proposed Project would comply with the applicable safety and security regulations and policies guiding the development of the Port. Proposed project operations at the waterfront promenade, observation tower, new and replacement viewing piers, and the small floating docks would include safety measures in accordance with existing regulations to ensure there is no risk to health and safety. Improvements to the streetscape and pedestrian amenities within the Avalon Development District and the closure of Avalon Boulevard south of A Street would improve pedestrian safety by providing expanded pedestrian rights-of-way and slowing traffic. Broad Avenue would carry through traffic to the waterfront and would be isolated from the park and recreational users. Establishment of the California Coastal Trail would create a safe multi-use path along Harry Bridges Boulevard, John S. Gibson Boulevard, and Front Street, and would buffer pedestrians and cyclists from traffic and rail operations.

Light Industrial and Commercial Uses

The proposed Project would include the redevelopment and operation of 150,000 square feet of light industrial space and 70,000 square feet of commercial space. The commercial uses would likely use small amounts of materials that could be considered hazardous, such as cleaning supplies and bleach, in the normal course of operation. These businesses would be required to follow all local, state, and federal regulations regarding the use, storage, and handling of these hazardous

materials. These regulations are enforced by agencies such as LAFD, OSHA, CalEPA, and EPA. The quantities that these businesses would use would be relatively small, as most cleaning supplies do not come in anything larger than a 50 gallon drum, and therefore any accidental spill, release or explosion would be short-term and localized. The use, handling, and storage of the supplies would be controlled by a number of local, state, and federal agencies including, among others, the LAFD, CalEPA, Cal/OSHA, and EPA.

The light industrial development could also use hazardous materials, such as those described above under the commercial uses. However, the light industrial uses could also use larger amounts of hazardous materials and a wider variety of hazardous materials than simply related to cleaning. All light industrial development would be further evaluated through a separate environmental process prior to the approval of the specific project. At that time, the proposed amount and type of hazardous material the light industrial use would use would be disclosed, and the hazardous material would be analyzed further in relation to the existing baseline.

Decommissioning of LADWP Marine Tanks

The LADWP Marine Tanks would be decommissioned under the proposed Project. However, the decommissioning would begin in 2012. Between 2009 and 2012 construction of the Phase I portion of the land bridge and the improvements to allow for the 58,000 square foot retail/commercial use would occur. The Phase I land bridge would be in operation prior to the demolition of the LADWP Marine Tanks and the 58,000 square foot of retail/commercial use in Area B could be in operation prior to the demolition.

The PMP RMP and supporting documents identify hazardous materials as materials with a flashpoint below 140°F. Since none of the three LADWP Marine Tanks contain materials defined as "hazardous" by the PMP RMP (i.e., the materials have flashpoints above 140°F) these tanks do not have a hazardous footprint and are not governed by policies of the PMP RMP.

Olympic Tank Site

The Olympic Tank site is approximately 1.5 miles from the land bridge, pedestrian bridge, waterfront promenade, and other public amenities of the proposed Project. It is in an area of existing industrial uses and is surrounded by industrial uses. Since the Olympic Tank site would be used to replace the lost storage capacity of LADWP and Valero under the proposed Project, the same materials (fuel oil) would be stored at the Olympic Tank site. Since these materials have a flashpoint above 140°F it would not be defined as hazardous by the PMP RMP and therefore would not be governed by the policies of the PMP RMP (see Section 3.7.2.2.1 for greater detail regarding materials stored at the LADWP Marine Tank Farm). However, the operation and maintenance of these tanks would be required to follow the state and federal regulations described under Section 3.7.3, "Applicable Regulations," for the handling, transport, storage, and use of hazardous bulk materials. Furthermore, activities at the Olympic Tank site would be evaluated under a separate CEQA process prior to those activities occurring.

Harbor Generating Station

A risk analysis was conducted pursuant to the Port's Risk Management Plan using CANARY and the EPA RMP Offsite Consequence Analysis Guidance for toxic releases and explosions due to the close proximity of the HGS and Peaker units to the proposed Project and the diesel and aqueous ammonia that the HGS stores on site. The analysis addressed the storage of diesel oil as diesel oil No. 2 at the two storage tank locations and each tank's capacity to generate a radiant heat footprint (Appendix G-1). The analysis also addressed the storage of aqueous ammonia, since it is capable of producing a toxic vapor cloud (Appendix G-1). The analysis of aqueous ammonia included the modeling of two postulated cases: a hose failure during truck transfer operations or the spillage of aqueous ammonia at the HGS storage tank site. The analysis used the toxic endpoint of 200 ppm for aqueous ammonia to define the area of impact associated with both of these two postulated aqueous ammonia cases.

For the diesel storage tanks, the radiant heat footprint generated by the analysis does not overlap any portion of the proposed project site (Appendix G-1). Under both postulated cases depicting a release of aqueous ammonia, a toxic vapor cloud is generated. However, the footprint of the toxic vapor cloud incorporating the toxic endpoint of 200 ppm generated by the two postulated cases does not overlap with the proposed project site. Please refer to Section 3.7.4.1.4 and Impact RISK-5 below for further discussion of the proposed Project and the HGS.

Impact Determination

The operation of the proposed Project would comply with applicable safety and security requirements regarding the public amenities and the commercial and light industrial uses. Light industrial uses that use large quantities or specific types of hazardous materials would be further analyzed prior to the approval of the project. The close proximity of the demolition and removal of the LADWP Marine Tanks during the operation of Phase I public elements would not result in a conflict with the PMP RMP or supporting documents, since the materials stored in the LADWP Marine Tank site are not considered hazardous per the PMP RMP and supporting documents. Furthermore, impacts associated with the decommissioning of the LADWP Marine Tanks would ultimately be beneficial to the entire area as it would remove an industrial use from the area.

Finally, the hazardous footprint of the liquid bulk storage diesel tanks and the footprint of the toxic endpoint of aqueous ammonia do not overlap with the proposed project site. Therefore, the location of the proposed project site and the HGS is consistent with provision of the Port's Risk Management Plan. Please see Impact RISK-5 for additional impact analysis associated with the HGS. Therefore, operation of the proposed Project would comply with applicable safety and security regulations, and policies guiding development within the Port.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact RISK-2b: Operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.

The operation of the proposed Project could substantially interfere with the following existing emergency response or evacuation plans, including the following:

- LAHD's Emergency Operations and Organization Manual (September 2006);
- Tsunami Response Plan Annex of the Emergency Operations and Organization Manual (September 2007);
- Hazardous Materials Annex of the Emergency Department Master Plan and Procedures (December 1993);
- LAHD's Emergency Procedures Plan (July 2000); and
- LAHD's evacuation plans.

Port Emergency and Evacuation Plans

The operation of the proposed Project is designed specifically to increase public access to the waterfront; improve pedestrian connectivity from Wilmington to the waterfront; and enhance automobile, truck, and rail transportation within and around the immediate area of the Port. The proposed Project seeks to achieve these goals by improving existing infrastructure and providing new infrastructure facilities, providing waterfront linkages and pedestrian enhancements, and providing increased development and redevelopment opportunities in the Avalon Development District and Avalon Waterfront District. It incorporates many elements that would attract visitors and additional tenants, including:

- improvements at the Avalon Waterfront District, including a waterfront promenade with 12,000 square feet of restaurant development, a 200-foot-tall observation tower, and a 10-acre landscaped bridge and pedestrian "water" bridge providing the Wilmington Community safe access to the waterfront;
- infrastructure improvements and enhancements within the Avalon Development District to allow for the potential development of up to 150,000 square feet of industrial uses and up to 58,000 square feet of commercial retail/Mercado uses, a 1-acre park located on the vacated Railroad Green, and adaptive reuse of the historic 14,500-square-foot Bekins Storage property for a Waterfront Red Car Museum;
- transportation linkages, enhancements, and improvements including vacation of Avalon Boulevard south of A Street, realignment and continuation of Broad

Avenue to the waterfront, and realignment of Water Street to increase usable area at the waterfront; and

- extension of the Waterfront Red Car Line and continuation of the California Coastal Trail along Avalon Boulevard to Swinford Street.

As identified above, the following emergency plans apply to the Port area:

- LAHD's Emergency Operations and Organization Manual (September 2006);
- Tsunami Response Plan Annex of the Emergency Operations and Organization Manual (September 2007);
- Hazardous Materials Annex of the Emergency Department Master Plan and Procedures (December 1993);
- LAHD's Emergency Procedures Plan (July 2000); and
- LAHD's evacuation plans.

The City of Los Angeles' LAHD Emergency Operations and Organization Manual, the Tsunami Response Plan Annex, and the Hazardous Materials Annex provide general emergency response guidance to all City departments, including LAHD. LAHD is responsible for following this guidance in the event of an emergency. Furthermore, LAPD, LAFD, and the Port Police would be able to provide adequate emergency response services during operation of the proposed Project (see Section 3.13, "Public Services," for more information regarding police and fire response capabilities). The proposed project components would also be subject to emergency response and evacuation systems implemented by LAFD. LAFD would review all plans to ensure that adequate access to the proposed project vicinity is maintained. Therefore, the proposed Project would not substantially interfere with the existing LAHD Manual, Tsunami Response Plan, or Hazardous Materials Annex.

The Homeland Security Division for the Port maintains control of LAHD's Emergency Procedures Plan and is responsible for the current update of the plan. This plan is designed to provide overall guidance on how the department responds to general emergencies, including guidance for LAHD employees. It is meant to identify procedures and organize operations during general emergencies at locations where LAHD employees work. The proposed Project does not actually include any specific locations for LAHD employees to work. Since the LAHD Emergency Procedures Plan is related to work locations, it is not applicable to the elements identified in the proposed Project.

Tenants of the Port are required to have their own emergency management plans. Therefore, all new tenants under the proposed Project would be required to have unique emergency response plans (Malin pers. comm. 2008b). These requirements and the adequacy of the tenant emergency plans would be enforced by LAFD, the Port Police, the Homeland Security Division of the Port, and the USCG. Therefore, the proposed Project would not substantially interfere with existing emergency response plans for the existing tenants of the proposed Project but would require new emergency responses plans for new tenants.

Port evacuation plans are maintained and managed by the Area Maritime Security Evacuation Committee (AMSEC) and apply to all areas covered by the Ports of Los Angeles and Long Beach, which include the proposed project area. These plans are being revised and are updated on an as-needed basis by AMSEC. Additionally, LAHD is currently developing an Emergency Notification System that would support Port evacuation plans. Port Police is responsible for implementing the evacuation plans. Because these plans contain sensitive security material, they are not available to the general public (Malin pers. comm. 2008a).

Impact Determination

Although the proposed Project is designed to bring new visitors to the waterfront area, the current emergency preparedness plans would accommodate the proposed Project. The project would realign Water Street between Fries Avenue and Avalon Boulevard, and would close the connection between Avalon Boulevard north of Broad Avenue and Avalon Boulevard south of Broad Avenue. This does not materially change the access patterns to and from the site, but may require changes to some specific plans that are already in place. Additionally, the water bridge provides an additional pedestrian ingress and egress to the waterfront over the railroad tracks. When the land bridge is complete (after demolition of the DWP tanks), it would provide still another pedestrian link and a new route for emergency vehicles over the railroad tracks. Additionally, any new tenant would be required to implement and follow its own emergency management plans, which would be enforced by LAHD and LAFD. Furthermore, LAHD is in the process of updating its evacuation plan and establishing an Emergency Notification System, which would include the proposed project area.

Therefore, the operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency response or evacuation plan. Impact RISK-2b would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-3b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.

The following proposed project components are sources of hazardous materials within the proposed project area during its operation and therefore could pose a risk of accidental spill, release, or explosion of hazardous materials due to a terrorist action:

- Public elements, and
- LADWP Marine Tanks during Phase I (prior to removal in 2012).

These proposed project components are individually evaluated below as to whether they would substantially increase the likelihood of accidental hazardous material releases, spills, or explosions due to a terrorist act.

As discussed previously in Section 3.7.2.5, "Homeland Security of the Port," the risk of terrorism can be generally defined by the combination of three factors:

- threat of a terrorist action (which includes the likelihood of action),
- vulnerability of a particular facility to a terrorist action, and
- consequence(s) of a terrorist action.

There are limited data available to indicate how likely or unlikely a terrorist action aimed at the Port or the proposed Project would be, and therefore the probability component of a risk analysis of terrorism cannot be evaluated accurately without a considerable amount of uncertainty. However, simply because the likelihood of a terrorist action cannot be quantified, that does not mean that the threat does not exist. In fact, the possibility of a terrorist action against the Port exists because of its maritime operations, substantial cargo operations, and the existing cruise facilities and cruise vessels.

Public Elements

The proposed Project would increase the number of public amenities in the Port and would bring more visitors to the Wilmington Waterfront, as stated in the proposed Project objectives. However, increasing the number of public amenities (i.e., the observation tower and land bridge) and recreational opportunities (i.e., waterfront promenade and CCT) would not appreciably change the likelihood of a terrorist action at the Port, since the likelihood of a terrorist action is dependent on the motivation and decision-making of a terrorist organization and LAHD has no control over these factors. Therefore, the likelihood of a terrorist action would remain a possibility for the proposed Project, just as it does under existing conditions at the Port.

LADWP Marine Tanks (Phase I)

Phase I of the proposed Project specifically includes the removal of the three LADWP Marine Tanks and associated petroleum pipelines. There would be a number of proposed project elements constructed under Phase I of the proposed Project that would be operational during the removal of the LADWP Marine Tanks (e.g., the pedestrian bridge, the southern part of the land bridge, the observation tower, and the waterfront promenade). These features would bring residents and visitors to the waterfront and place them in close proximity to the operation of and then the demolition and removal of the LADWP Marine Tanks and associated pipelines. Additionally, these features could be seen as higher profile targets for

potential terrorist action, when compared to the surrounding land uses (i.e., light and heavy industrial and vacant lots). However, as described above, the threat of a terrorist action is driven by factors which LAHD cannot control (i.e., decision making of the terrorist organization); therefore, the threat of the terrorist action cannot be directly affected by activities in the Port. Thus, the operation of the proposed Project cannot directly influence the threat or likelihood of a terrorist action.

The remaining two components related to the risk of terrorism—vulnerability and consequences—can be qualitatively defined and evaluated within the context of a release, spill, or explosion of hazardous materials.

The vulnerability of Port activities to terrorist actions can be described within the context of the procedures and policies in place to specifically safeguard the Port, cruise terminals, shipping terminals, businesses, and visitor uses against a terrorist action that are in place to specifically discourage or avert a terrorist action (discussed above in Section 3.7.2.5, "Homeland Security of the Port"). The proposed Project would comply with all existing applicable security and safety regulations, which are fully enforceable by the Port. The vulnerability of the proposed Project during Phase II (specifically when certain elements of the proposed Project would operate in close proximity to the operation and then demolition and removal of the LADWP Marine Tanks) can and would be reduced by implementing security measures to reduce vulnerability as well. For example, as part of Port-wide security measures, enhanced security in the area, such as expanding the Port's waterside camera system to increase security along the waterfront promenade and the operation of the Port Police substation in Wilmington, would reduce the vulnerability of the proposed Project. Therefore, the operation of the proposed Project would not substantially increase or contribute to the vulnerability of a terrorist action on the proposed project site or at adjacent land uses.

The environmental consequences of a terrorist action, including threat to human health arising from the release, explosion, or spill of hazardous materials, would remain relatively the same for the proposed Project when compared to the existing conditions. However, the expected consequences of a terrorist action can also be reduced by certain measures, such as emergency response preparations and BMPs during construction of the proposed Project. All emergency response plans discussed in Section 3.7.2.4, "Existing Public Emergency Services," would be implemented during the construction of the proposed Project. Additionally, the enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies (i.e., LAPD, Port Police, LAFD, LAHD), would minimize the potential for a spill, release, or explosion of hazardous materials due to a terrorist action. Finally, the consequences of a hazardous spill, release, or explosion due to a terrorist action are related to the amount of the hazardous material present. The LADWP Marine Tanks and associated pipelines would be drained prior to demolition and removal, minimizing the amount of material that could be released, spilled, or exploded during a terrorist act. Therefore, the LADWP Marine Tanks would not be at full capacity for the entire duration of Phase II of the proposed Project, and consequences of a hazardous spill, release, or explosion would not be substantially increased through the operation of the proposed Project. Once the LADWP Marine Tanks are fully

decommissioned, there would be a reduction of consequences, since the hazardous material would no longer exist.

Thus, the proposed Project would reduce the vulnerability of an attack by implementing the security measures discussed above, which would reduce the consequences of a release, spill, or explosion of hazardous materials. Furthermore, any hazardous materials at the proposed project site would be stored subject to the applicable state and federal laws and in accordance with the LACFD; these laws are designed to, first, prevent hazardous materials spills, releases, and explosions; and, second, reduce the consequences of a hazardous material spill, release, or explosion.

Impact Determination

Although the proposed Project would increase the number of visitors to the area, it would not ultimately change the vulnerability of proposed project area or the seriousness of the consequences from the existing baseline. The environmental consequences of a terrorist action, including threats to human health arising from the action and from the release, explosion, or spill of hazardous materials, would not substantially change.

Therefore, operation of the proposed Project would not result in a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action. Impact RISK-3b would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-4b: Operation of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.

The following proposed project components are sources of hazardous materials within the proposed project area during its operation and therefore could pose a risk of accidental spill, release, or explosion of hazardous materials:

- Avalon Development District

The following are existing uses that would continue operating adjacent to the proposed project elements during their construction and operation:

- LADWP Marine Tank site during Phase I (prior to removal in 2012), and

- existing gas and petroleum pipelines.

These proposed project components are individually evaluated below as to whether they would substantially increase the likelihood of accidental hazardous material releases, spills, or explosions.

Avalon Development District

The proposed Project would include the infrastructure improvements and enhancements within the Avalon Development District, including the potential development of up to 150,000 square feet of industrial uses (assessed programmatically), development of up to 58,000 square feet of commercial retail/Mercado uses (assessed programmatically), a 1-acre park located on the vacated Railroad Green, and adaptive reuse of the historic 14,500-square-foot Bekins Storage property for a Waterfront Red Car Museum. The operation of the Avalon Development District under the proposed Project would not include handling, transporting, or storing hazardous materials or hazardous wastes at the program level, but individual development proposals would be evaluated under CEQA, and state and federal hazardous material laws would apply.

The existing commercial uses in the vicinity of the Avalon Development District use small amounts of materials that could be considered hazardous in the normal course of operation. These businesses are currently required to comply with all local, state, and federal regulations regarding the use, storage, and handling of these hazardous materials. Regulations are enforced by agencies such as LACFD, OSHA, DTSC, and EPA. The operation of the newly planned structures associated with the proposed Project would also use similar hazardous materials during the normal course of business and would be required to comply with local, state, and federal regulations on the use, handling, and storage of these materials. Enforcement of these regulations would be performed by LACFD, OSHA, DTSC, and EPA.

LADWP Marine Tank Site during Phase I

The LADWP Marine Tanks and associated pipelines would be decommissioned under the proposed Project. However, the decommissioning would begin in 2012. Between 2009 and 2012 construction of the Phase I portion of the land bridge and the improvements to allow for the 58,000 square foot retail/commercial uses would occur. The Phase I land bridge would be in operation prior to the demolition of the LADWP Marine Tanks, and the 58,000 square foot of retail/commercial uses could be in operation prior to the demolition.

The PMP RMP and supporting documents identify hazardous materials as materials with a flashpoint below 140°F. Since none of the three LADWP Marine Tanks contain materials defined as “hazardous” by the PMP RMP (i.e., the products have flashpoints above 140°F) these tanks do not have a hazardous footprint and are not governed by policies of the PMP RMP (see Section 3.7.2.2.1 for greater detail regarding materials stored at the LADWP Marine Tank Farm).

However, failures at the oil tank farm(s) could include tank ruptures or leaks, and piping and equipment (e.g., pumps) leaks or failures. In the majority of cases, tank failure does not represent a hazardous scenario because the tank dike would contain the entire volume of the tank. Hazardous consequences would follow only if the dike is damaged (e.g., due to an external event such as an earthquake or a deliberate attack), with a subsequent release into the environment, or if the oil spill is followed by fire with thermal radiation effects.

If a petroleum product spill were to catch fire, there could be a threat to public safety through thermal radiation effects. Petroleum products that could pose an explosion hazard are characterized by a low flash point (i.e., below 140°F). However, the products stored in the LADWP Marine Tanks have flashpoints above 140°F and therefore are not considered to be explosion hazards. In addition, the use of floating roof tanks and Best Available Control Technologies (BACTs) at the LADWP Marine tanks would eliminate the tank vapor space. All but a residual amount of vapors would remain, which, in turn, would substantially reduce the potential for a large flammable vapor cloud and subsequent explosion.

Based on the fact that the products stored at the LADWP Marine Tank site are not considered hazardous per the PMP RMP, impacts from radiant heat from a fire, flammable gas from a release without a fire, blast overpressure from an explosion, flying debris from an explosion, and toxic gas from a release are considered less than significant in Phase I of the proposed Project.

Once the LADWP Marine Tanks and associated pipelines have been fully decommissioned, there would no longer be any potential for accidental release, spill, or explosion of hazardous materials on this site.

Existing Gas and Petroleum Pipelines

The existing gas and petroleum pipelines are owned and operated by various companies. These companies are responsible for the upkeep and maintenance of the pipelines per the federal and state regulations discussed in Section 3.7.3, "Applicable Regulations." These regulations include:

- the DOT Hazardous Material Regulations that include all aspects of hazardous materials packaging, handling, and transportation including Parts 195 regarding liquids by pipelines;
- oversight by the Pipeline Hazardous Materials Safety Administration acting through the Office of Pipeline Safety under DOT; and
- the California Pipeline Safety Act of 1981, which outlines the more stringent requirements than those of the federal government for the testing, monitoring, and maintenance of pipelines in California.

The proposed Project would not alter, remove, or relocate any of the existing gas or petroleum pipelines.

Impact Determination

The proposed project modifications to the existing area would not substantially increase the likelihood of an accidental hazardous material spill, release, or explosion involving people or property. The existing facilities would continue to comply with state and federal regulations regarding the use, storage, and handling of hazardous materials. Although commercial and industrial land use square footage could potentially increase under the proposed Project, it is anticipated that daily use of hazardous materials would not change substantially from baseline conditions. Because the companies that would occupy the buildings are unknown at this time, future environmental review would consider and evaluate individual projects as they are proposed. However, all businesses operating within the proposed project boundaries would be required to comply with all applicable regulations for any hazardous material used, stored, transported, or disposed of during project operation. Any accidental spill, release, or explosion would be short-term and localized due to the enforcement of these regulations. Therefore, the new industrial development in the Avalon Development District would not result in a substantial increase of the likelihood of a hazardous materials spill, release, or explosion due to proposed project modifications.

The removal of the LADWP Marine Tanks and associated pipelines from the proposed project area would remove hazardous materials from the area. Remediation of the site would ensure future land uses are not contaminated. The removal of these industrial uses and associated soil remediation would result in a reduction of the likelihood of an accidental hazardous material spill, release, or explosion in the area. However, some proposed project elements would be in operation prior to the removal of the Marine Tank Farm. Because flash points are above 140°F impacts would be less than significant during this time. Therefore, the removal of the LADWP Marine Tanks and associated onsite pipelines would not result in a substantial increase in the likelihood of hazardous materials spills, releases, or explosions.

Finally, the existing gas and greater Port-wide petroleum pipeline infrastructure along Fries and Water Streets would remain in their current location. Pipelines have historically had one of the lowest failure rates, and leaks are caused primarily by corrosion, according to the CSFM report. However, leaks would generally not threaten the proposed Project, nor would the proposed Project substantially increase the existing pipeline infrastructure to cause leaks. Therefore, the primary concerns with accidental releases of a pipeline are associated with ruptures or spills that might jeopardize the public using the proposed Project. The existing pipelines would be subject to all federal and state regulations in place that are meant to minimize the frequency and duration of release of hazardous substances, and reduce the amount should a release occur. The existing pipelines would continue to be regularly tested for structural integrity, and should a problem develop or be detected, the owner and operator would be responsible for fixing and/or replacing the defective length of pipeline.

For fire hazards, the concern is intensity of thermal radiation and its effects on public health and safety. Data on the exposure time necessary to reach pain thresholds indicates that relatively high thermal radiation levels can be tolerated without

significant pain or injury. Therefore, there would usually be sufficient time for people to escape the immediate area of the fire before significant physical injury is suffered. Although there have been serious injuries and/or death involved in pipeline incidents, historic statistics demonstrate that serious injury and/or death are rare in pipeline incidents. Additionally, California only reported two fires caused by pipelines, powerlines, or other utilities rights-of-way between 2003 and 2006, which is a relatively low level of incident. Furthermore, the existing pipelines would continue to be regulated under the federal and state laws intended to minimize and limit the frequency and duration of pipeline fires. Therefore, the proposed Project would not substantially increase the likelihood of an accidental pipeline fire associated with proposed project modifications.

The proposed Project would not result in a substantial increase in the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications. Impact RISK-4b would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-5: Operation of the proposed Project would not introduce the general public to hazard(s) defined by the EPA and Port RMP associated with offsite facilities.

As discussed under RISK-4a and -4b above, the proposed project modifications to the existing area would not substantially increase the likelihood of an accidental hazardous material spill, release, or explosion involving people or property for onsite facilities.

The proposed project components, however, would be located within close proximity to the following offsite existing facility:

- HGS

The proposed Project and this offsite facility are evaluated below as to whether the proposed project would introduce the general public to hazards defined by the EPA and the Port's Risk Management Plan.

Harbor Generating Station

The risk management analysis completed for the proposed Project assessed the storage of diesel oil and aqueous ammonia at the HGS. As discussed in Section 3.7.4.1.4 and RISK-1b above, the analysis of the liquid bulk diesel storage tanks determined that the radiant heat footprints generated from the two sites do not

overlap any portion of the proposed project area (Appendix G-1). Also, as discussed in RISK-1b above, the risk management analysis assessed two postulated aqueous ammonia accidents at HGS. The toxic endpoint of 200 ppm for aqueous ammonia was used to define the area of impact associated with both of these two postulated aqueous ammonia accidents. Under both cases, a toxic vapor cloud is generated. However, the toxic vapor cloud does not overlap with the proposed project area (Appendix G-1).

Impact Determination

Since the hazard footprints generated by the analysis of the liquid bulk diesel storage tanks do not overlap with any portion of the proposed Project area (Appendix G-1) the liquid bulk diesel storage tanks would not introduce the general public to hazard(s) defined by the Port's Risk Management Plan. Furthermore, the hazardous footprints of the ammonia storage tanks analyzed under two postulated cases, which are defined by the area of impact with a toxic endpoint for aqueous ammonia at or below 200 ppm, do not include the proposed project site (Appendix G-1). Therefore, the proposed Project would not introduce the general public to hazard(s) defined by the EPA. Thus, the proposed Project would not introduce the general public to hazard(s) defined by the EPA or Port's Risk Management Plan, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.7.4.3.3 Summary of Impact Determinations

Table 3.7-2 summarizes the impact determinations of the proposed Project related to hazards and hazardous materials, as described in the detailed discussion in Sections 3.7.4.3.1 and 3.7.4.3.2 above. Identified impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the conclusions of the technical reports.

For each type of impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.7-2: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials			
Construction			
RISK-1a: Construction of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.	Less than significant	No mitigation is required	Less than significant
RISK-2a: Construction of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required	Less than significant
RISK-3a: Construction of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.	Less than significant	No mitigation is required	Less than significant
RISK-4a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications**.**	Less than significant	No mitigation is required.	Less than significant
Operations			
RISK-1b: Operation of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
RISK-2b: Operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required	Less than significant
RISK-3b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.	Less than significant	No mitigation is required	Less than significant
RISK-4b: Operation of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.	Less than significant	No mitigation is required	Less than significant
RISK-5: Operation of the proposed Project would not introduce the general public to hazard(s) defined by the EPA and Port RMP associated with offsite facilities.	Less than significant	No mitigation is required	Less than significant

3.7.4.4 Mitigation Monitoring

No significant adverse impacts from hazards and hazardous materials would occur as a result of the proposed Project; therefore, no mitigation is required.

3.7.5 Significant Unavoidable Impacts

No significant unavoidable impacts on Hazards and Hazardous Materials would occur during construction or operation of the proposed Project.

3.8

LAND USE AND PLANNING

3.8.1 Introduction

This section describes the existing environmental and regulatory settings for land use and planning, analyzes the potential impacts on land use and planning that would result from the implementation of the proposed Project, and determines the significance of those impacts.

Land use and planning issues refer to the compatibility of the physical land uses of a project with adjacent or surrounding land uses, as well as a project's consistency with plans and policies that have regulatory jurisdiction over the project. This section describes existing land uses that could be affected by the proposed Project, and the proposed Project's compliance with land use plans, policies, and ordinances of the City of Los Angeles, regional planning and regulatory agencies, and the LAHD.

3.8.2 Environmental Setting

The proposed project site is at the southern end of the City of Los Angeles within the boundaries of the Port of Los Angeles and the Wilmington community of the City of Los Angeles. The proposed project site also adjoins the greater Wilmington and San Pedro communities.

The three primary regulatory land use documents for the proposed Project are:

- the Port of Los Angeles Plan, part of the General Plan of the City of Los Angeles,
- the Wilmington-Harbor City Community Plan (CP), also part of the General Plan of the City of Los Angeles, and,
- the Port Master Plan (PMP), serving as the Local Coastal Program/Plan.

Additionally, the City of Los Angeles Municipal Code establishes the zoning within the proposed project area. Each of the plans is described in more detail below in Sections 3.8.3.2.2, 3.8.3.2.3, and 3.8.3.2.5, respectively. Due to San Pedro's proximity to the proposed project area including the proposed Waterfront Red Car Line and CCT, the San Pedro Community Plan is described in more detail below in Section 3.8.3.2.4.

The proposed project site spans two City of Los Angeles General Plan Community Plan Areas—the Port of Los Angeles Plan area, and the Wilmington-Harbor City Community Plan Area (Wilmington-Harbor CPA).

The Port Master Plan (PMP) and the Port Plan divide the Port into nine planning areas, each of which are intended to accommodate different water and land uses. The majority of the proposed project site (Avalon Development District and the Avalon Waterfront District) is located within Planning Area 5 (Wilmington District) of the Port and the southern portion of the Wilmington-Harbor City CPA. The Waterfront Red Car Line extension and multi-use CCT, proposed along Harry Bridges Boulevard, John S. Gibson Boulevard, and Front Street is located within Planning Area 4 (West Basin) and Planning Area 3 (West Turning Basin). The Waterfront Red Car Line extension and multi-use CCT borders the San Pedro Community Plan Area (San Pedro CPA).

3.8.2.1 Existing Land Uses

3.8.2.1.1 Port of Los Angeles

The LAHD administers the Port of Los Angeles, which includes 28 miles of waterfront and 7,500 acres of land and water area. LAHD leases property for automobile, container, omni (mixed-use), lumber, cruise ship, liquid and dry bulk terminals, and commercial fishing facilities. Port facilities include slips for 3,700 pleasure craft, sport fishing boats, and charter vessels, as well as community facilities, including a waterfront youth center, the Cabrillo Aquarium, and the Maritime Museum.

Major Port activities include commercial shipping and transfer of containerized cargo, liquid bulk cargo, breakbulk, and dry bulk cargo; commercial fishing; recreation; and tourism.

Port Planning Area 5—The Wilmington District

Planning Area 5, The Wilmington District (PA 5) surrounds the northerly terminus of the Main Channel. It comprises the harbor lands adjacent to the community of Wilmington including Berths 133–200A, which include an area of land known as the Consolidated Slip. The community of Wilmington, located north of the Port, is generally characterized by

residential, general and community commercial uses, public facilities, and neighborhood commercial, limited and light industry, with heavy industry to the northeast and west.

Port-related light and heavy industrial operations occupy Port lands south of C Street and Harry Bridges Boulevard. The Wilmington District is characterized by tall cranes lining the edge of the Port's basins and channels, numerous shipping containers stacked four or five high, tractor trailers on Harry Bridges Boulevard in Wilmington, and train traffic paralleling Harry Bridges Boulevard that serves the Port's cargo terminals. Due to active cargo handling activities, the waterfront is inaccessible to the public, with the exception of limited access to the water's edge at Banning's Landing Community Center at the north end of Slip 5.

Port Planning Area 4—The West Basin

Planning Area 4, the West Basin (PA 4) includes the northwestern portion of the Port adjacent to the communities of Wilmington and San Pedro. To the north, the West Basin is bordered by Harry Bridges Boulevard. Active railroad lines follow the Harry Bridges Boulevard alignment bordering the West Basin, with trackage entering the West Basin marine terminals at several locations.

Facilities east of the West Basin include Slip 1, Mormon Island (consisting primarily of marine oil terminals and a breakbulk terminal), and the Department of Water and Power's Harbor Generating Station.

Bordering the West Basin to the west and northwest is John S. Gibson Boulevard, the Harbor (110) Freeway, and refinery facilities operated by Conoco Phillips, which occupies Berths 148–151 in the West Basin. West of the Harbor Freeway, in San Pedro, is an industrial district along Gaffey Street, with residential neighborhoods farther to the west.

The West Basin is bordered on the southwest by Pacific Avenue, Front Street, the Terminal Island (47) Freeway, and Knoll Hill, which has one residence, a temporary baseball field, and a temporary community dog park at the base of the hill on the south side. West of Knoll Hill is the Harbor (110) Freeway terminus at Gaffey Street, San Pedro's commercial center, and single- and multi-family residential neighborhoods.

The West Basin is characterized by primarily container use, with some liquid bulk facilities along the southern edge at Berths 118–120.

Port Planning Area 3—West Turning Basin

Planning Area 3, the West Turning Basin (PA 3) includes the north to western portion of the Port adjacent to the community of San Pedro. To the

north, this planning area is bordered by PA 4. John S. Gibson Boulevard and the 110 freeway run along the western boundary of the West Turning Basin, as does Pacific Street, Front Street, and Harbor Boulevard. This planning area extends from Berth 115 in the north to Berth 87 in the south and is bisected by the Vincent Thomas Bridge. To the north of the bridge there are several industrial uses, including liquid bulk, shipyard operations, and a lumber facility. To the south of the bridge are Slip No. 93 and the cruise terminals and cruise parking, as well as the Catalina air-sea terminal.

3.8.2.1.2 Wilmington Community

The Wilmington community is north of PAs 4 and 5, covering approximately 6,400 net acres. The community's land use is primarily low- to low-medium–density residential; commercial uses concentrated near the transit corridors of Pacific Coast Highway, Anaheim Street, and Avalon Boulevard; and industrial uses (City of Los Angeles 1999). The Wilmington-Harbor City CP Summary of Land Use indicates that Wilmington is comprised of 28.6% Residential and 31.4% Industrial. Therefore, Wilmington is characterized by slightly more industrial uses.

The light industrial and commercial area east of Lagoon Avenue and northeast of the project site consists of small one- and two-story professional office, light industrial, and warehouse buildings with activities catering to Port operations. Many small businesses occupy the area and may require truck delivery traffic. East of Broad Avenue, the Wilmington Industrial Park is a 232-acre designated redevelopment area, which currently contains a mix of privately owned industrial businesses and some office structures, scattered residential units, oil extraction facilities, auto salvage yards, and some derelict streets and alleys. This area is described in further detail below in Section 3.8.2.1.3.

Olympic Tank Farm Site

The Olympic Tank Farm Site is located in the Wilmington community. It is an existing liquid bulk storage tank facility located 1.5 miles northeast of the proposed project site on the southeastern corner of Alameda and Robidoux Streets. The tank farm is characterized by nine existing liquid bulk storage tanks. The land is void of natural vegetation and is located in a heavy industrial area with surrounding heavy and light industrial uses (see Figure 2-12 in Chapter 2, "Project Description").

3.8.2.1.3 Redevelopment Areas in the Proposed Project Vicinity

The redevelopment project areas described below are located near the proposed project site and have been established to address blighted

conditions. These areas are located outside the LAHD jurisdiction and are subject to land use controls in the City's General Plan and applicable Redevelopment Plans.

Three redevelopment areas are within the general vicinity of the proposed Project: the Los Angeles Harbor Industrial Center Redevelopment Project Area, which includes the Wilmington Industrial Park CRA, and the Pacific Corridor and Beacon Street Redevelopment Project areas in San Pedro. These redevelopment areas are not within the proposed project boundary.

The Los Angeles Harbor Industrial Center Redevelopment Project is a 232-acre area roughly bordered by Anaheim Street on the north, Broad Street on the west, and Harry Bridges Boulevard/Alameda Street on the south and east. The project was established in 1974 and was last amended in 1994. The area it encompasses was characterized by physical and economic blight due to a variety of factors: oil extraction activities; unimproved streets and alleys; junk strewn over vacant land; and an incompatible and unhealthy mix of industrial buildings, residential dwellings, oil extraction equipment, rusting oil storage tanks, automobiles, junk-yards, and boat construction and storage yards. Hindering development were the small, residential-sized parcels held in scattered ownership coupled with a complicated overlay of multiple petroleum rights; environmental deficiencies, such as soil toxins; railroad rights-of-way; and obsolete utility and public improvement systems (CRA/LA 2005).

The 693-acre Pacific Corridor Redevelopment Project Area, established in 2002, extends from the south side of Knoll Hill and is generally bordered by Capital Drive on the north, Gaffey Drive on the west, 22nd Street on the south, and Harbor Boulevard on the east. The project includes development/rehabilitation of commercial/retail uses, a "welcome park," a transit center, additional parking, residential uses, formation of an Arts District, and provision of business incentives and other strategies. Historically, Pacific Avenue served as the main commercial street for the San Pedro community in the downtown area. More recently, however, it became an economically stagnant area with many empty storefronts and high incidents of crime and graffiti. Construction of the Gaffey Street offramp from the 110 Freeway further exacerbated the decline by redirecting customers elsewhere (CRA/LA 2002).

The Beacon Street Redevelopment Project is an approximately 60-acre project area generally located between Harbor Boulevard on the east, Centre and Mesa Streets on the west, Second and Third Streets on the north, and Fifth and Seventh Streets on the south. The redevelopment plan was adopted by the City Council in April 1969 and has been amended numerous times, most recently in December 2006. The plan goals include elimination of blight and production of housing for low- to moderate-income families, changes in land use to facilitate water-oriented development, provision of new public facilities, and employment opportunities.

3.8.2.2 Existing Land Uses within the Proposed Project Area

There is generally a mix of uses in PA 5 within the proposed project area including the waterfront, community buildings, and warehouses. PA 5 includes Slip 5 and the waterfront, the Banning's Landing Community Center, the National Polytechnic College of Science, and Catalina Freight at Berth 184. The only facilities in PA 4 within the proposed project area are the public right-of-way at Harry Bridges and John S. Gibson Boulevards. The only facilities in PA 3 within the proposed project area are the public right-of-way at John S. Gibson Boulevard, Pacific Street, and Front Street.

Generally the proposed project area within the Wilmington community is characterized by vacant lots, warehouses, and industrial uses. A large portion of the proposed project area is owned by the Los Angeles Department of Water and Power (LADWP). This property includes three LADWP-owned bulk fuel storage tanks.

There are a number of historical buildings within the proposed project area, most of which are outside the project development footprint. For further discussion of these refer to Chapter 3.4, "Cultural Resources." Existing non-historical land uses within the proposed project area that are part of the Wilmington community are listed and described in Table 3.8-1; existing historical land uses are described in Table 3.8-2.

Table 3.8-1. Existing Non-Historical Land Uses in the Proposed Project Area within Wilmington Community

Location	*Existing Uses*	*Building or Parcel Square Footage*
South of Harry Bridges, North of A Street, between Avalon Boulevard and Marine Avenue	Private Buildings	41,260
South of Harry Bridges, North of A Street, between Avalon Boulevard and Marine Avenue	DWP-Owned Vacant Lots	48,930
Southeast Corner of C Street and Marine Avenue	Police Trailer	1,440
North of Harry Bridges, South of C Street, West of Broad Avenue, and East of Lagoon Avenue	All Vacant POLA-Owned Property	325,540
South of Harry Bridges, North of A Street, between Avalon Boulevard and Marine Avenue	All Vacant POLA-Owned Property	47,490
South of A Street	DWP Storage Tanks	117,930

Location	*Existing Uses*	*Building or Parcel Square Footage*
South of A Street	DWP Storage Tank Supporting Buildings	18,500
North of Harry Bridges Boulevard between Lagoon and Island Avenues	Wilmington Sills Center	18,000
West side of Marine Avenue between Harry Bridges Boulevard and C Street	Marine Technical Services	16,000

1

2 **Table 3.8-2.** Existing Historical Land Uses in the Proposed Project Area within Wilmington
3 Community

Name	*Location*	*Source*	*Date Status Determined and/or Statement of Significance*
Masonic Temple	221–227 North Avalon Boulevard	Los Angeles Historic Cultural Monument No. 342	Declared January 22, 1988
Wilmington Iron Works	432 West C Street	HRG Survey (2006)	"The Wilmington Iron Works building is a good example of the small industrial buildings erected around the Wilmington Waterfront during the early decades of the twentieth century. It is representative of the increasingly diversified industrial economy surrounding the harbor area during its development into an important national and international port."
Bekins Storage Property	245 North Fries Avenue and 312–316 West C Street	Jones & Stokes Survey (2007a)	"The Bekins building at 245 North Fries Avenue is a unique example of storage warehousing built in Los Angeles during the early years of the 20th century. The multi-story structure retains considerable integrity and evokes the historic period of significance from when it was built. Located adjacent to the Pacific Electric tracks along North Fries Avenue, the warehouse still reflects the character of the neighboring structures used for warehousing and light industry, and its historic use has remained essentially the same. The structure has undergone minimal interior alterations and virtually no exterior alterations. The integrity of design, location, workmanship, and feeling of this building make it eligible for consideration for the California Register under Criterion 3 as well as a Los Angeles Historic-Cultural Monument."
233 N. Avalon	233 North Avalon Boulevard	HRG Survey (2006)	"233 North Avalon is a rare example of multi-unit residential buildings from the early

Name	*Location*	*Source*	*Date Status Determined and/or Statement of Significance*
Boulevard			decades of the twentieth century. This building most likely provided housing for local workers and merchant seamen. Further research of this property may reveal additional information on the social history and housing of Waterfront workers."
236 N. Avalon Boulevard	236 North Avalon Boulevard	HRG Survey (2006)	"One of Avalon Boulevard's few remaining mixed-use buildings from the early decades of the twentieth century."
Historic Brick Paving	200 Block of South Avalon Boulevard	HRG Survey (2006)	"Remnants of historic brick street paving can be found along the 200 block of South Avalon Boulevard. More research is necessary to properly date these artifacts, but they most likely date from the late nineteenth century or earlier."
Coastal Recovery Center	117 Harry Bridges Boulevard	HRG Survey (2006)	"A good example of an industrial building from the early decades of the twentieth century, the structure exemplifies the size, scale, and design of the utilitarian port infrastructure."

3.8.3 Applicable Regulations

State, regional, and local governments provide regulatory guidance for land use decisions. No federal land use planning regulations are applicable to the proposed Project. Land use plans and policy documents set forth regulations pertaining to allowed development. For a description of applicable regulations associated with historical structures, please refer to Section 3.4, "Cultural Resources." Project-related plans are discussed below.

3.8.3.1 State

3.8.3.1.1 Los Angeles Tidelands Trust Grant

The State of California granted the submerged lands and tidelands comprising the Port in trust to the City of Los Angeles in 1929 by statute, commonly referred to as the "Los Angeles Tidelands Trust Grant" (Chapter 651, Statutes of 1929, as amended). The Grant provides that the submerged lands and tidelands be used in connection with, or for the promotion and accommodation of, commerce, navigation, and fishery, and that any harbor constructed on the lands always remain a public harbor for all purposes of commerce and navigation. Subsequent amendments to the Los Angeles Tidelands Trust Grant broadened uses of the tidelands to include commercial

and industrial buildings, public buildings, public parks, convention centers, playgrounds, small harbors, restaurants, motels, hotels, and the protection of wildlife habitats and open space.

The State Lands Commission (SLC) has oversight responsibility for all submerged lands and tidelands. With respect to submerged lands and tidelands that have been granted in trust to municipalities, the SLC is authorized to ensure that all revenues received from trust lands and trust assets are expended only for those uses and purposes consistent with the public trust for commerce, navigation and fisheries, and the applicable statutory grant (PRC Section 6306.)

3.8.3.1.2 California Coastal Act of 1976

The California Coastal Act of 1976 (Coastal Act; PRC §30000 et seq.) was enacted to establish policies and guidelines that provide direction for the conservation and development of the California coastline. The Coastal Act established the California Coastal Commission and created a state and local government partnership to ensure that public concerns regarding coastal development are addressed. The following are the basic goals of the state for the coastal zone:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources, conservation principles, and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone. (PRC Div 20 30001.5.)

The Coastal Act also influences Port operations, and the California Coastal Commission has made a series of recommendations for its implementation. The Commission has been charged to protect regional, state, and national interests in assuring the maintenance of the long-term productivity and economic vitality of coastal resources necessary for the well being of the people of the state; to avoid long-term costs to the public and a diminished quality of life resulting from the misuse of coastal resources; and to provide

continued state coastal planning and management through the state coastal commission (PRC 30004).

The California Coastal Commission is responsible for assisting in the preparation, review, and certification of Local Coastal Programs/Local Coastal Plans (LCPs). The LCPs are developed by municipalities for that portion of their jurisdiction that falls within the coastal zone. Following certification of the LCP, regulatory responsibility is then delegated to the local jurisdiction. The PMP acts as the LCP for the Port of Los Angeles, as described in Section 3.8.3.2.5 below.

Chapter 8 of the Coastal Act establishes specific planning and regulatory procedures for California's "commercial ports" (defined as the ports of San Diego, Los Angeles, Long Beach, and Hueneme). The Act requires that a coastal development permit be obtained from the Coastal Commission for certain development within these ports. However, a commercial port is granted the authority to issue its own coastal development permits once it completes a master plan certified by the Coastal Commission.

The standards for master plans, contained in Chapter 8 of the Coastal Act, require environmental protection while expressing a preference for port-dependent projects. Additionally, Section 30700 establishes the number and locations of California ports. This section of the Act encourages existing ports to modernize and construct necessary facilities within their boundaries in order to minimize or eliminate the necessity for future dredging to create new ports. The logic behind this process is that it is environmentally and economically preferable to locate major shipping terminals and other existing maritime facilities in the major ports rather than creating new ports in new areas of the state. Each commercial port in California has a certified port master plan that identifies acceptable development uses. If a port desires to conduct or permit developments that are not included in the approved port master plan, the port must apply to the Coastal Commission for either a coastal permit or an amendment to the master plan.

3.8.3.2 Regional and Local Plans and Programs

3.8.3.2.1 Southern California Association of Governments (SCAG) Regional Comprehensive Plan

The SCAG Regional Comprehensive Plan (RCP) integrates SCAG's planning policy for land use and housing, solid waste, energy, air quality, open space and habitat, economy and education, water, transportation, security and emergency preparedness, and finance. The RCP is built around the Compass Growth Vision and 2% Strategy adopted by the Regional Council in April 2004, which are based on four key principles: mobility—

getting where we want to go; livability—creating positive communities; prosperity—long-term health for the region; and sustainability—preserving natural surroundings. SCAG is mandated by the federal government to draw up a Regional Transportation Plan (RTP) every four years to address the region's transportation needs. On May 8, 2008, SCAG's Regional Council adopted the *Final 2008 Regional Transportation Plan (RTP): Making the Connections*.

The proposed Project is regionally significant per CEQA Guidelines (Section 15206) because it would improve approximately 60 acres along the Avalon Development District and the Avalon Waterfront District, a portion of which is located with the Coastal Zone. The SCAG policies and principles discussed below may be applicable to the proposed Project, and the consistency between these policies and principles are discussed under Impact LU-2 later in this chapter:

Consistency with Regional Comprehensive Plan and Guide (RCPG) Policies

3.01 The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.

3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.

Growth Management Chapter (GMC) Policies Related to the Regional Comprehensive Plan and Guide Goal to Improve the Regional Standard of Living

3.04 Encourage local jurisdictions' efforts to achieve a balance between the types of jobs they seek to attract and housing prices

3.05 Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.

3.06 Support public education efforts regarding the costs of various alternative types of growth and development.

3.09 Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.

3.10 Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.

Growth Management Chapter (GMC) Policies Related to the Regional Comprehensive Plan and Guide Goal to Improve Regional Quality of Life

3.11 Support provisions and incentives created by local jurisdictions to attract housing growth in job-rich subregions and job growth in housing-rich subregions.

3.12 Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.

3.13 Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.

3.14 Support local plans to increase density of future development located at strategic points along the commuter rail, transit systems, and activity centers.

3.15 Support local jurisdictions' strategies to establish mixed-use clusters and other transit-oriented developments around transit stations and along transit corridors.

3.16 Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.

3.17 Support and encourage settlement patterns, which contain a range of urban densities.

3.18 Encourage planned development in locations least likely to cause environmental impact.

3.19 Support policies and actions that preserve open space areas identified in local, state and federal plans.

3.20 Support protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.

3.21 Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archeological sites.

3.22 Discourage development or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.

3.23 Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.

Growth Management Chapter Policies Related to the Regional Comprehensive Plan and Guide Goal to Provide Social, Political, and Cultural Equity

3.27 Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide equality to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.

Air Quality Chapter Policies from the Regional Comprehensive Plan and Guide Goal

5.07 Determine specific programs and associated action needed (e.g.: indirect source rules enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.

5.11 Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional, and local) consider air quality, land use, transportation, and economic relationship to ensure consistency and minimize conflicts.

Open Space and Conservation Chapter Policies from the Regional Comprehensive Plan and Guide

9.01 Provide adequate land resources to meet the outdoor recreation needs of the present and future residents of the region.

9.02 Increase the accessibility to open space lands for outdoor recreation.

9.03 Promote self-sustaining regional recreation resources and facilities.

9.04 Maintain open space for adequate protection to lives and properties against natural and manmade hazards.

9.05 Minimize potentially hazardous developments in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipments.

9.08 Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species including wetlands.

Water Quality Chapter Recommendations and Policy Options Policies from the Regional Comprehensive Plan and Guide Goal

11.02 Encourage "watershed management" programs and strategies, recognizing the primary role of local governments in such efforts.

11.07 Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.

Regional Transportation Plan Goals

RTP G1 Maximizing mobility and accessibility for all people and goods in the region.

RTP G2 Ensure travel safety and reliability for all people and goods in the region.

RTP G3 Preserve and ensure sustainable regional transportation system.

RTP G4 Maximize the productivity of our transportation system.

RTP G5 Protect the environment, improve air quality and promote energy efficiency.

RTP G6 Encourage land use and growth patterns that complement our transportation investments and improve the cost-effectiveness of expenditures.

Growth Visioning of the SCAG Compass Growth Visioning Plan

Principle 1: Improve mobility for all residents

GVP 1.1 Encourage transportation investments and land use decisions that are mutually supportive.

GVP 1.2 Locate new housing near existing jobs and new jobs near existing housing.

GVP 1.3 Encourage transit-oriented development.

GVP 1.4 Promote a variety of travel choices.

Principle 2: Foster livability in all communities

GVP 2.1 Promote infill development and redevelopment to revitalize existing communities.

GVP 2.2 Promote developments, which provide a mix of uses.

GVP 2.3 Promote "people scaled" walkable communities.

GVP 2.4 Support the preservation of stable, single-family neighborhoods.

Principle 3: Enable prosperity for all people

GVP 3.1 Provide, in each community, a variety of housing types to meet the housing needs of all income levels.

GVP 3.2 Support educational opportunities that promote balanced growth.

GVP 3.3 Ensure environmental justice regardless of race, ethnicity or income class.

GVP 3.4 Support local and state fiscal policies that encourage balanced growth.

GVP 3.5 Encourage civic engagement.

Principle 4: Promote sustainability for future generations

GVP 4.1 Preserve rural, agricultural, recreational, and environmentally sensitive areas.

GVP 4.2 Focus development in urban centers and existing cities.

GVP 4.3 Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution, and significantly reduce waste.

GVP 4.4 Utilize "green" development techniques.

3.8.3.2.2 General Plan of the City of Los Angeles

California state law (Government Code Section 65300) requires that each city prepare and adopt a comprehensive, long-term plan for its future development. This general plan must contain seven elements, including land use, circulation, housing, conservation, open space, noise, and safety. In addition to these, state law permits cities to include optional elements in their general plans, thereby providing local governments with the flexibility to address the specific needs and unique character of their jurisdictions. California state law also requires that the day-to-day decisions of a city follow logically from and be consistent with the general plan. More specifically, Government Code Sections 65860, 66473.5, and 65647.4 require that zoning ordinances, subdivision, and parcel map approvals be consistent with the general plan.

The General Plan of the City of Los Angeles is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City of Los Angeles. The Plan is a dynamic document consisting of 11 elements, which include10 Citywide elements (Air Quality, Conservation, Historic Preservation and Cultural Resources, Housing, Infrastructure Systems, Noise, Open Space, Public Facilities and Services, Safety, and Transportation) and the Land Use Element, also known as the Community Plan, for each of the City's 35 Community Planning Areas, as well as plans for the Port of Los Angeles and Los Angeles International Airport.

General Plan Framework Element

The City of Los Angeles General Plan Framework Element, adopted December 1996 (re-adopted August 2001), is a strategy for long-term growth that creates a Citywide context in which to guide updates of the Community Plan and Citywide elements. The General Plan Framework Element responds to state and federal mandates to plan for the future. The Framework Element does not mandate or encourage growth. Because population forecasts are estimates about the future and not an exact science, it is possible that population growth as estimated may not occur: it may be less or it may be more. The City of Los Angeles uses population forecasts provided by SCAG to plan for long-term growth.

The General Plan Framework Element sets forth a Citywide comprehensive long-range growth strategy. It defines Citywide policies that will be implemented through subsequent amendments of the City's community plans, zoning ordinances, and other pertinent programs. The General Plan Framework Element includes seven areas for policies, including:

- Land Use
- Housing

- Urban Form and Neighborhood Design
- Open Space and Conservation
- Economic Development
- Transportation
- Infrastructure and Public Services

The General Plan Framework Element contains policies that are intended to maintain the City of Los Angeles's cultural and natural diversity. The Framework Element refines adopted City policy and is intended to update "Concept Los Angeles," the central theme of which is to preserve single-family neighborhoods by focusing any growth away from such neighborhoods and into centers. While the Framework Element incorporates a diagram that depicts the generalized distribution of centers, districts, and mixed-use boulevards throughout the City, it does not convey or affect entitlements for any property. Specific land use designations are determined by the community plans. The General Plan Framework Element provides guidelines for future updates of the City's community plans. It does not supersede the more detailed community or specific plans.

Applicable areas of the Framework Element to the proposed Project (further discussed in Impact LU-2 below) include:

- Open Space and Conservation
- Economic Development
- Transportation

Port of Los Angeles Plan

The Port of Los Angeles Plan (LAHD 1992: PT-1 through PT-4, plus subsequent amendments) is part of the City of Los Angeles General Plan Land Use Element, which is intended to serve as the official 20-year guide to the continued development and operation of the Port, and is consistent with the PMP. The Port of Los Angeles Plan's primary purposes are to:

- promote an arrangement of land and water uses, circulation, and services that contribute to the economic, social, and physical health, safety, welfare, and convenience of the Port, within the larger context of the City;
- guide the development, betterment, and change within the Port to meet existing and anticipated needs and conditions;
- contribute to a safe and healthful environment;
- balance growth and stability;

- reflect economic potentialities and limitations, land and water developments, and other trends; and
- protect investment to the extent reasonable and feasible.

The Port of Los Angeles Plan designates the northern and western portions of the Port, including the area of the proposed Project, as Commercial/Industrial land uses, which are further classified as General/Bulk Cargo and Port-related Commercial/Industrial Uses/Non-Hazardous uses. General Cargo includes container, breakbulk, neo-bulk, and passenger facilities. Commercial uses include restaurants and tourist attractions (i.e., Ports O'Call), offices, retail facilities, and related uses. Industrial uses include light manufacturing/maritime-related industrial activities, ocean-resource industries, and related uses.

The Port of Los Angeles Plan contains the following objectives and policies applicable to the proposed Project:

Port of Los Angeles Plan Objectives

Objective 1. To maintain the Port of Los Angeles as an important local, regional and national resource and to promote and accommodate the orderly and continued development of the Port so as to meet the needs of foreign and domestic waterborne commerce, navigation, the commercial fishing industry and public recreational users.

Objective 2. To establish standards and criteria for the long-range orderly expansion and development of the Port by the eventual aggregation of major functional and compatible land and water uses under a system of preferences that will result in the segregation of related Port facilities and operations into functional areas.

Objective 3. To coordinate the development of the Port of Los Angeles and the development of adjacent communities as set forth in the community plans for San Pedro and Wilmington-Harbor City; the development of the neighboring Port of Long Beach; and the redevelopment plans for the Beacon Street area in San Pedro and the Los Angeles Harbor Industrial Center in Wilmington.

Objective 4. To assure priority for water and coastal dependent development within the Port, while maintaining and, where feasible, enhancing, the coastal zone environmental and public views of and access to coastal resources.

Objective 5. To permit the LAHD to have the flexibility to adequately respond in its development processes to the pressures and demands placed upon it by:

a. Changing technologies in the ocean and land movement of waterborne commerce

b. Changing patterns in the commodity mix and form of waterborne commerce

c. Changing developments in the Port of Long Beach and the surrounding residential and industrial areas adjacent to and affected by the Port

d. Changes in law and regulations affecting the environmental and economic uses of the Port

e. Changes in other U.S. ports affecting the Port's competitive position

Objective 7. To promote efficient transportation routes within the Port consistent with external systems, to connect employment, waterborne commerce, commercial and recreational areas.

Objective 9. To minimize conflicts between vehicular, pedestrian, railroad and harbor-oriented industrial traffic, tourist and recreational traffic and commuter traffic patterns within the Port.

Objective 12. To stimulate employment opportunities for workers residing in adjacent communities, such as San Pedro and Wilmington.

Applicable Port of Los Angeles Plan Policies

Policy 5. When a facility project involving a change in either land or water use is proposed for those areas in the Port which are adjacent or contiguous to residential, commercial or industrial areas in the surrounding communities, an analysis of the location, design effect and operation of the proposed facility shall be made to ensure the compatibility of such a Port facility with the provisions of the Risk Management Plan and with existing and/or planned uses in adjacent areas.

Policy 6. The highest priority for any water or land area use within the jurisdiction of the LAHD shall be for developments that are completely dependent on harbor water areas and/or harbor land areas for their operations.

Policy 7. Decisions to undertake individual and specific development projects shall be based on considerations of alternative locations and designs to minimize environmental impacts.

Policy 8. In designing and constructing facilities in upland and waterfront areas for public recreation, including boating facilities and marinas, adequate public access shall be provided.

Policy 11. It shall be long-range Port development policy to have facilities used for the storage or transfer of hazardous liquid and hazardous dry bulk cargoes that are inappropriately located, phased out, and relocated to more appropriate sites in areas relatively remote from adjacent communities. Such policy shall be subject to the following

criteria: (1) changes in economic conditions that affect types of commodities traded in waterfront commerce; (2) the economic life of existing facilities handing or storing hazardous cargoes; and (3) precautions deemed necessary to maintain national security.

Policy 12. Adequate fire and hazard protection facilities and equipment, which meet with the approval of the City of Los Angeles Fire Department, shall be provided in accordance with the Risk Management Plan.

Policy 13. Road, rail and access systems within the Port and connecting links with road, rail and access systems outside of the Port shall be located and designed to provide necessary, convenient and safe access to and from land and water areas consistent with the long-term preferred uses for the Port and consistent with the applicable elements of the Los Angeles General Plan and the Local Coastal Program.

Policy 14. Programs designed to improve or modify roadway circulation in the Port shall be developed, in part, to eliminate: hazardous situations caused by inadequately protected rail/highway crossings; dual use of streets (by rails in the pavement); service and other roads crisscrossing the tracks; and random use of land areas by both highway and rail movement.

Policy 16. Location, design, construction and operation of all new or expanded development projects under the LAHD's jurisdiction shall be based on the latest safety standards appropriate to the intended facility.

Policy 18. Port development projects shall be consistent with the specific provisions of this Plan, the certified PMP, the California Coastal Act of 1976 and other applicable federal, state, county and municipal laws and regulatory requirements.

Policy 19. The following long-range preferred water and land uses shall guide future Port development:

Area 5 Wilmington District: Non-hazardous liquid and non-hazardous dry bulk cargo (within the parameters of Policy no. 11), general cargo, commercial fishing operations, and Port-related commercial and industrial uses.

Area 4 West Basin: Non-hazardous general cargo operations and Port-related industrial uses.

Area 3 West Turning Basin: Non-hazardous general cargo operations, commercial shipping and other heavy commercial and industrial uses.

Policy 20. Since the Port provides an ideal environment for educational purposes such as oceanographic and marine research, the development of educational and research facilities shall be appropriate institutional uses in land or water areas of the harbor where they will not interfere with other Port-dependent preferred uses.

Port of Los Angeles Plan Programs

The Port Plan also identifies programs to further ensure the continued development and operation of the Port. The programs most relevant to the proposed project site are outlined below.

Risk Management

- Implementation of the Port Risk Management Plan, an element of the PMP.
- Relocation of hazardous and/or incompatible facilities to sites that do not result in a risk exposure to high-density populations in accordance with the provisions of the Risk Management Plan.

General Plan Land Use Designations and Zoning

As discussed above, the Port of Los Angeles Plan is a part of the City of Los Angeles General Plan and is intended to promote an arrangement of land and water uses, adequate circulation, and public services that will encourage and contribute to the economic, social, and physical health, safety, welfare, and convenience of the Port within the larger framework of the City. The Port of Los Angeles Plan defines the same PAs as those defined within the PMP. The location of the PAs and the proposed Project are identified in Figure 3.8-1. The General Plan land use categories for PA 5, PA 4, and PA 3 are general and bulk cargo uses and non-hazardous Port-related commercial and industrial uses.

Most of the Port is zoned [Q]M2 (Qualified Light Industrial) or [Q]M3 (Qualified Heavy Industrial) by the City of Los Angeles Zoning Ordinance as depicted by Figure 3.8-1. The zoning designation for the majority of the land within the proposed project area was changed, by ordinance, from its original designation. These changes, reflected by a [Q], have brought Port zoning into consistency with the General Plan, as mandated by state law Government Code 65860(d). The city council approved the AB 283 Citywide General Plan and Zoning Consistency Program, which establishes permanent qualified conditions that prohibit incompatible land uses within the Port and adjoining communities. Zoning for the proposed project site areas has been designated as [Q]M2 and [Q]M3. The following are allowed uses in the proposed project area by planning area.

Planning Area 5 Zoning—North Wilmington District 5A[Q]M3

- **General Cargo**—container terminals; passenger terminals; break bulk terminals; neo-bulk terminals handling cargos such as automobiles, lumber, and similar products.
- **Support**—warehouses; open and enclosed storage facilities; marine oil service stations; marine services including diving and water taxi services;

marine research facilities; and public facilities including fire stations, utility systems, and customs houses.

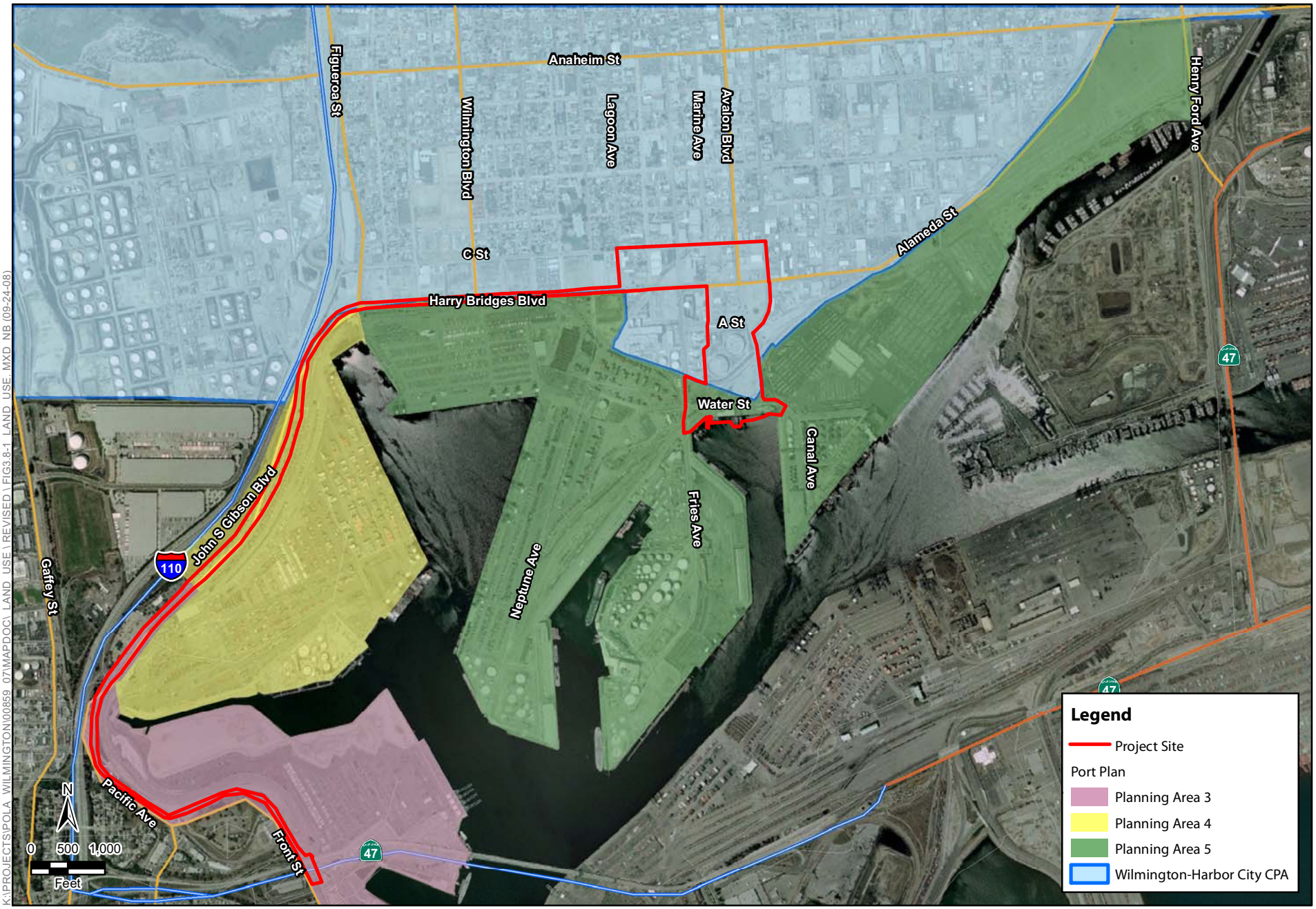
- **Commercial**—businesses and professional offices; restaurants; boat sales, boat rentals, and boat services; retail services uses including boat supply, marine hardware, and retail/service uses permitted in the C1.5 zone; and tourist attractions and incidental specialty commercial uses.
- **Commercial Fishing**—commercial fishing docks, berthing areas, and fish markets (wholesale and retail)
- **Industrial**—fabrications uses including boat/ship building and repair yards, and any uses permitted in the MR2 zone.
- **Recreation**—marinas and related uses including offices, club houses, launching ramps, boat building and repair, dry boat storage, and sport fishing.

Planning Area 4 Zoning —West Basin 4[Q]M3

- **General Cargo**—container terminals; passenger terminals; breakbulk terminals; neo-bulk terminals handling cargos such as automobiles, lumber, and similar products.
- **Support**—warehouses; open and enclosed storage facilities; marine oil service stations; marine services including diving and water taxi services; marine research facilities; and public facilities including fire stations, utility systems, and customs houses.
- **Industrial**—fabrications uses including boat/ship building and repair yards. and any uses permitted in the MR2 zone.

Planning Area 3 Zoning —West Turning Basin 3[Q]M3

- **General Cargo**—passenger terminals; breakbulk terminals; neo-bulk terminals handling cargoes such as automobiles, lumber, and similar products.
- **Support**—warehouses; open and enclosed storage facilities; marine oil service stations; marine services including diving and water taxi services; marine research facilities; and public facilities including fire stations, utility systems, and customs houses.
- **Commercial—**Business or professional offices, restaurants, boat sales, retail and service uses permitted in the C1.5 zone; tourist attractions and incidental specialty commercial uses.
- **Industrial**—fabrication uses including boat/ship building and repair yards; and any use permitted in the MR2 zone.



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SOURCE: ESRI USA Imagery (2006), Port of Los Angeles (2008)

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Figure 3.8-1
Port Planning Areas
Wilmington Waterfront Development Project

3.8.3.2.3 Wilmington-Harbor City Community Plan

The Wilmington-Harbor City Community Plan (CP) is part of the City of Los Angeles General Plan. It consists of a plan and a land use map. The CP states the objectives, policies, and programs of the Wilmington-Harbor City CPA. The CP map outlines the arrangement and intensities of land uses, the street system, and the location and characteristics of public service facilities (City of Los Angeles 1999).

Portions of the proposed project area lie within the Wilmington-Harbor CPA. All land currently north of Water Street within the proposed project area is within the jurisdiction of the Wilmington-Harbor CPA.

The Wilmington-Harbor CPA is generally bounded by Sepulveda Boulevard, Normandie Avenue, Lomita Boulevard, the Los Angeles City Boundary, the Los Angeles Harbor, Harry Bridges Boulevard, John S. Gibson Boulevard, Taper Avenue, and Western Avenue (City of Los Angeles 1999)).

The overall purpose of the Wilmington-Harbor City CP is to set forth goals to maintain the community's individuality by:

- preserving and enhancing the positive characteristics of existing residential neighborhoods while providing a variety of compatible new housing opportunities;
- improving the function, design, and economic vitality of the commercial corridors and industrial areas;
- maximizing the development opportunities around the future transit system while minimizing any adverse impacts; and
- planning the remaining commercial and industrial development opportunity sites for needed job producing uses that improve the economic and physical condition of the Wilmington-Harbor city CPA.

The Wilmington-Harbor City CP designates three of the most important commercial areas that serve as focal points in the Wilmington community as identified Community Centers; the commercial area at the foot of Avalon Boulevard, where the proposed Project would be located, is identified as one of these important commercial centers. This commercial area includes the commercially zoned land east and west of Avalon Boulevard, including Broad Avenue, from Harry Bridges Boulevard and south to the Port of Los Angeles. The Wilmington-Harbor City CP identifies that the Wilmington community has had a long-standing desire to have a marine-oriented commercial area developed on this site, which adjoins Slip No. 5 of the Los Angeles Harbor and is the community's most convenient and direct access to the waterfront . The Banning's Landing area is the Wilmington community's most direct access to the waterfront, and has the potential to become a commercial and recreational center; therefore, the Wilmington-Harbor City CP recognizes the potential of the commercial area at the foot of Avalon

Boulevard as well as its continued importance to the community (City of Los Angeles 1999).

There are several goals, objectives, and policies outlined in the Wilmington-Harbor City CP that apply to the proposed project area. The proposed Project's consistency with the following policies and goals are discussed under Impact LU-2 later in this chapter:

Goal 2: A strong and competitive commercial sector which best serves the needs of the community through maximum efficiency and accessibility while preserving the unique commercial and cultural character of the community.

Objective 2-1 To conserve, strengthen and encourage investment in all commercial districts.

Policy 2-1.3 Support commercial and/or recreational development at the foot of Avalon Boulevard as a focus for revitalization efforts, in coordination with Port development activities.

Goal 3: Provide sufficient land for a variety of industrial uses with maximum employment opportunities which are safe for the environment and the work force and which have minimal adverse impact on adjacent residential uses.

Objective 3-1 To provide locations for future industrial development and employment which are convenient to transportation facilities and compatible with surrounding land uses.

Policy 3-1.4 Land use compatibility should be achieved by including environmental protection standards and health and safety requirements in the design and operation of industrial facilities, including the measures identified.

Objective 3-2 To retain industrial lands for industrial use to maintain and expand the industrial employment base for the community residents.

Policy 3-2.1 Protect areas designated for industry and proposed for MR restricted zoning classification on the Plan map from unrelated commercial and other non-industrial uses, and upgrade such areas with high quality industrial development that is compatible with adjacent land uses.

Goal 4: Adequate recreation and park facilities which meet the needs of the residents in the plan area.

Objective 4-2 To provide facilities for specialized recreational needs within the Community with consideration given to utilizing existing public lands such as flood control channels, utility easements, or Department of Water and Power Property.

Policy 4-2.1 Program: Portions of the abandoned railroad right-of-way in east Wilmington has been developed as parkland. The plan encourages their continued maintenance, and the upgrading and expansion of these parks where possible.

Objective 4-4 To expand and improve local parks throughout the Plan area on an accelerated basis, as funds and land becomes available.

Objective 4-5 To ensure the accessibility, security, and safety of parks by their users, particularly families with children and senior citizens.

Goal 19: Maintenance of the coastal zone within Wilmington in an environmentally-sensitive manner, to allow maximum use for public access and recreational activities, as well as by other coastal-dependant activities, in accordance with the policies of the California Coastal Act of 1976.

Objective 19-1 To implement the policies of the California Coastal Act of 1976 in the areas of Wilmington designated within the Coastal Zone, allowing for maximum opportunities for public access and recreational/educational activities, and to encourage coastal-dependant activities and to encourage coastal-dependent activities and facilities to locate in the Coastal Zone.

Policy 19-1.5 Provide public access and viewing areas for the public enjoyment and education of the Coastal Zone environment, including access to and viewing of recreational and industrial activities in the Port of Los Angeles consistent with public safety, efficient Port operations and the California Coastal Act.

Policy Program: The Wilmington-Harbor City CP identifies the area bounded by C Street on the north, Broad Avenue on the east, Fries Avenue on the west, and the Port of Los Angeles on the south, including the commercial area and the foot of Avalon Boulevard, as a special study area for improved integration and linkage of Port activities with the Wilmington community. Allowance by variance for additional building height may be considered for developments which provide public viewing of the harbor (e.g.; restaurants, observation decks, etc.).

Wilmington-Harbor City Community Plan Relationship to the Port of Los Angeles

The Wilmington-Harbor City CP seeks to coordinate Port-related land use development and the circulation system with those adjoining areas by providing adequate buffers and transitional uses between the Wilmington community and the Port. The CP seeks to better integrate the planning and development of Wilmington with the Port in order to help stimulate the revitalization and rehabilitation and provide opportunities for community access to recreational waterfront activities. Therefore, the Plan identifies several goals related to the Port of Los Angeles. The consistency between the proposed Project and the following goals are discussed under Impact LU-2 later in this chapter:

Goal 18: Coordinate the development of the Port of Los Angeles with surrounding communities to improve the efficiency and operational

capabilities of the Port to better serve the economic needs of Los Angeles and the region, while minimizing adverse environmental impacts to neighboring communities from Port-Related activities.

Objective 18-1 To coordinate the future development of the Port with all adopted City Plans, the Wilmington Industrial Park Redevelopment Project and the Enterprise Zone.

Objective 18-2 To continue to develop and operate the Port of Los Angeles to provide economic, employment, and recreational benefits to neighboring communities.

Policy 18-2.1 The Port should continue to provide employment opportunities for workers residing in the Wilmington-Harbor City communities.

Policy 18-2.2 The Port should commit resources toward providing public amenities (commercial, recreational and service-oriented) that will benefit the Wilmington community, consistent with the State Tidelands Grant, the California Coastal Act of 1976 and the City Charter.

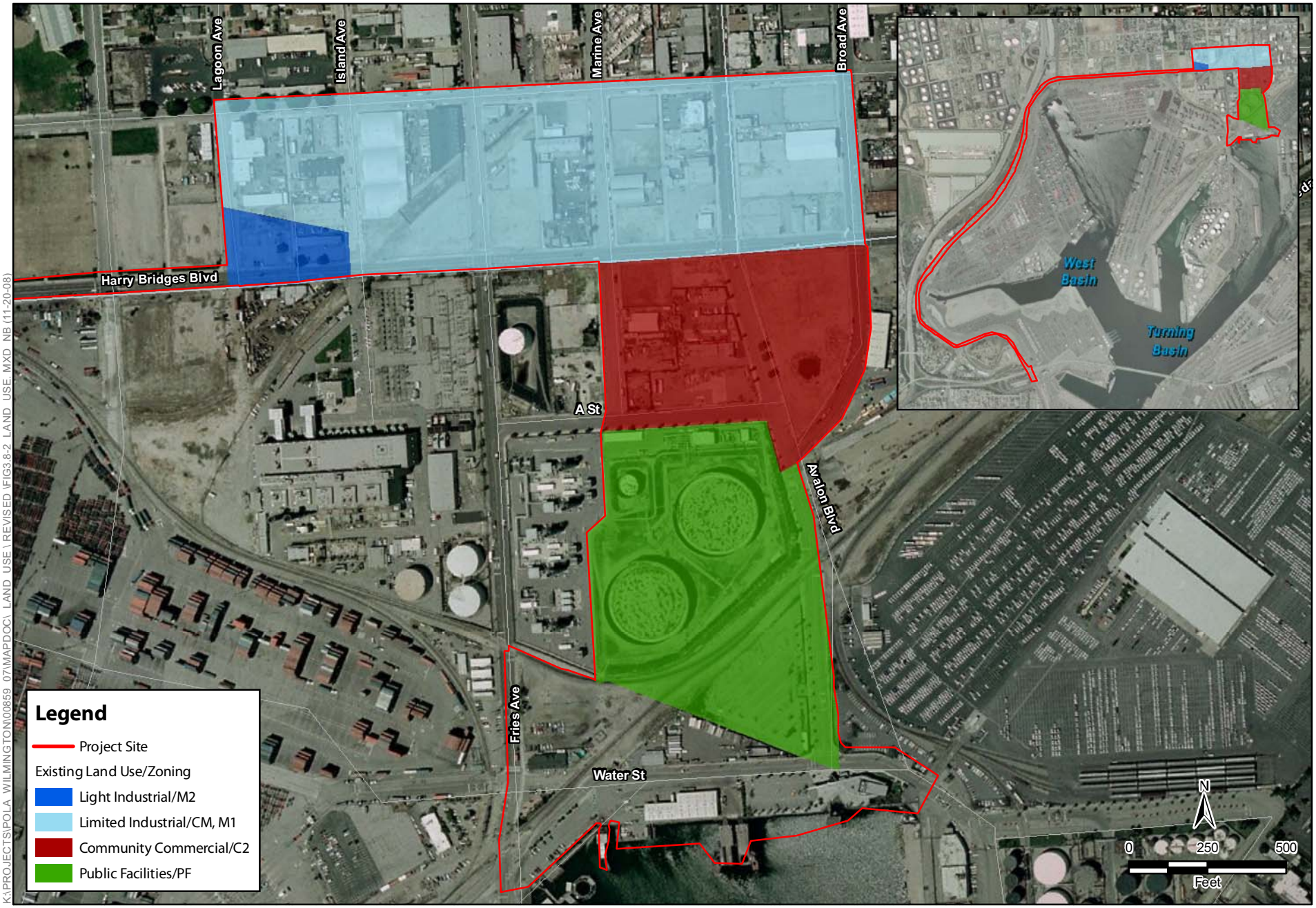
Objective 18-3 To assure that Port programs for land acquisition and circulation improvements will be compatible with and beneficial in reducing environmental impacts to surrounding communities caused by Port-related activities, as well as beneficial to the Port.

Wilmington-Harbor City Community Plan Land Use Designations Relationship to Los Angeles Municipal Code Zones

As discussed above, the Wilmington-Harbor City CP is a part of the City of Los Angeles General Plan and is intended to promote an arrangement of land and water uses, circulation, and services that will encourage and contribute to the economic, social, and physical health, safety, welfare, and convenience of the Wilmington-Harbor City area within the larger framework of the City of Los Angeles. The Wilmington-Harbor City CP defines the following general land use designation for the Olympic Tank Farm site: Heavy Manufacturing. The Wilmington-Harbor City CP defines the following general land use designations for the proposed project area: Community Commercial, Limited Industrial, Light Industrial, and Public Facilities (City of Los Angeles, Department of City Planning 2006). Figure 3.8-2 identifies the land uses of the proposed project area for the Wilmington-Harbor City CP.

The Wilmington-Harbor City CP provides general land use recommendations, and does allow the following zones within the designated land uses of the proposed project area:

- C2: Commercial
- C4: Commercial



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006)

Figure 3.8-2
Existing Wilmington-Harbor City Land Use Designations/Zoning
Wilmington Waterfront Development Project

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- CR: Limited Commercial
- CM: Commercial Manufacturing
- M1: Limited Industrial
- M2: Light Industrial
- MR2: Restricted Light Industrial
- PF: Public Facilities
- RAS3: Residential/Service Accessory

Of the nine zones allowed within the designated land uses of the Wilmington Harbor CP, five currently exist and are identified within the proposed project area by the Los Angeles Municipal Code. These five zones include:

- C2: Commercial
- CM: Commercial Manufacturing
- M1: Limited Industrial
- M2: Light Industrial
- PF: Public Facilities

The purposes and definitions of these existing zones are described in further detail below.

Community Commercial: Existing Zoning

Section 12.14 of the Municipal Code provides the definition and uses of the C2 zone. Specifically it identifies that any uses permitted in the C1 (Limited Commercial zone) and C1.5 (Limited Commercial zone) are allowed in C2. Therefore, uses permitted in the C2 zone include but are not limited to: restaurants; feed and fuel stores; carpenter shops; bakeries; bookstores; drugstores; and park, playground or recreational or community centers operated by a private entity. Furthermore, any use permitted in the C2 zone, provided that all regulations and limitations of said C2 Commercial zone are complied with, are allowed in the C4 Commercial zone. These uses include all the above-mentioned uses with certain exclusions associated that may be allowed in C1, 1.5, or 2 Commercial zones. Examples of these exclusions include, but are not limited to: shooting galleries, skating rinks, billiard or pool halls, and bowling alleys.

Limited Industrial: Existing Zoning

Section 12.17.1 of the Municipal Code identifies the definition and uses of the CM Commercial Manufacturing zone. In this zone, any uses permitted in

the C2 zone, provided that such uses are conducted in full compliance with all of the regulations of the zone, are allowed. Furthermore, this section prohibits certain uses in the area; examples include but are not limited to: churches, childcare facilities, and schools. Industries that produce goods are generally allowed in this area (e.g., assembly of electrical appliances).

Section 12.17.6 of the Municipal Code provides the definition and uses of M1: Limited Industrial zone. Any uses permitted in the MR1 zone (Restricted Industrial zone) are also permitted in M1. Any commercial uses permitted in the C2 zone (except sanitariums and hospitals) provided that these uses are conducted in accordance with all building enclosure and fence enclosure limitations of the C2 zone are permitted in the M1 zone.

Light Industrial: Existing Zoning

Section 12.19 of the Municipal Code defines the uses of the M2—Light Industrial zone. This zone allows for any uses permitted in the M1 or MR2 zone, whether conducted within or without a building or enclosed area. However, it does exclude uses, including but not limited to the following: buildings permitted in an R zone, buildings containing dwelling units or guest rooms, storage of abandoned automobiles, open air sale of merchandise, concrete or cement products manufactured in the open, and open storage of materials and equipment, Uses specifically allowed under the M2 zone include, but are not limited to: junk yard, processing of second-hand furniture, processing of second-hand boxes, crates, barrels, drums, and automobile dismantling yard.

Public Facilities: Existing Zoning

Section 12.04.09 of the Municipal Code defines the purpose of the PF (Public Facilities) zone. It is the purpose of the PF zone to provide regulations for the use and development of publicly owned land in order to implement the City's adopted General Plan. These regulations cover the circulation and service systems designations in the City's adopted district and community plans, and other relevant General Plan elements, including circulation, public recreation, and service systems.

Figure 3.8-2 identifies the land use and zoning for the proposed Project within the Wilmington-Harbor City CP. Table 3.8-3 identifies the land uses identified in the Wilmington-Harbor CP and the zoning allowed in each land use.

Table 3.8-3. Zoning in the Proposed Project Area

Proposed Project within Wilmington CP	*Wilmington CP Existing Land Use*	*Wilmington CP Existing Zoning*	
Avalon Development District: (Area A)	Light Industrial	M2 Light Industrial	
	Limited Industrial	CM Commercial Manufacture	M1 Limited Industrial
Avalon Development District: (Area B)	Community Commercial	C2 Commercial	
	Public Facilities	PF Public Facilities	
Sources: City of Los Angeles, Department of City Planning 2006; 2008.			

3.8.3.2.4 San Pedro Community Plan

The San Pedro community is located immediately adjacent to the proposed project area and shares John S. Gibson Boulevard and Front Street as a boundary with the Wilmington Community Plan. The San Pedro Community Plan area is generally bounded on the north by Taper Avenue; on the east by John Gibson Boulevard, Harbor Boulevard, the West Channel of the Port, and Cabrillo Beach; on the south by the Pacific Ocean; and on the west by Los Angeles (the City of Rancho Palos Verdes).

The San Pedro Community Plan (City of Los Angeles 1999) sets forth goals and objectives to maintain the community's individuality by:

- preserving and enhancing the positive characteristics of existing residential neighborhoods while providing a variety of compatible new housing opportunities;
- improving the function, design, and economic vitality of the commercial corridors and industrial areas;
- preserving and enhancing the positive characteristics of existing uses that provide the foundation for community identity, such as scale, height, bulk, setbacks, and appearance; and
- planning the remaining commercial and industrial development opportunity sites for needed job producing uses that improve the economic and physical condition of the San Pedro Community Plan Area.

The proposed project site only shares a common boundary with the San Pedro community. Therefore, the proposed Project's proximity to the San Pedro community implicates only certain goals and policies of the San Pedro CP, as discussed below.

Relationship to the Port of Los Angeles

The San Pedro CP recognizes that the primary function of the harbor is to promote "commerce, navigation, and fisheries," with a secondary emphasis on providing water-oriented recreational opportunities. The San Pedro CP seeks to coordinate harbor-related land uses and circulation system with those of adjoining areas by providing adequate buffers and transitional uses between the harbor and the rest of the community. Toward this end, the San Pedro CP makes the following recommendations for consideration by the Harbor Commission, State Coastal Commission, and other decision-making bodies having jurisdiction over the Port:

Goal 19: Coordinate the development of the Port of Los Angeles with surrounding communities to improve the efficiency and operational capabilities of the Port to better serve the economic needs of Los Angeles and the region, while minimizing adverse environmental impacts to neighboring communities from Port-related activities.

> **Objective 19-1** To recognize the Port of Los Angeles as a regional resource and the predominant influence on the economic well-being of the Community and to promote its continued development as to meet the needs of the fishing industry, recreational users, the handling of passengers and cargo, with special emphasis on the accommodation of increasingly larger ships.

3.8.3.2.5 Port of Los Angeles Master Plan

Intended as a guide for development within the Port, the PMP was certified in 1979 and was most recently revised in January 2006 (LAHD 2006). The PMP was approved by the Board of Harbor Commissioners and certified by the California Coastal Commission. The PMP preceded the Port Plan, and divides the Port into nine individual planning areas. The PMP identifies ten major land uses that are allowed within the Port:

1. General Cargo—includes container, unit, breakbulk, neo-bulk, and passenger facilities
2. Liquid Bulk—comprised of crude oil, petroleum products, petrochemical products, and chemicals and allied products
3. Other Liquid Bulk—molasses, animal oils, fats, vegetable oils

4. Dry Bulk—metallic ores, nonmetallic minerals, coal, chemicals, primary metal products, etc.
5. Commercial Fishing—includes docks, fish canneries, fish waste treatment facilities, fish markets, and commercial fishing berthing areas
6. Recreational—water-oriented parks, marinas and related facilities, small craft launching ramps, museums, youth camping and water oriented facilities, public beaches, and public fishing piers
7. Industrial—shipbuilding/yard/repair facilities, light manufacturing/industrial activities, and ocean resource–oriented industries
8. Institutional—uses that pertain to lands either owned or leased by institutional activities of federal, state, and city governments
9. Commercial—restaurants, tourist attractions, office facilities, and retail facilities
10. Other—vacant land, proposed acquisitions, rights-of-way for rail, utilities, roads, and areas not designated for specific short-term use

The proposed project site is primarily located in one PA, PA 5 (Wilmington District), and the Waterfront Red Car Line and pedestrian corridor of the proposed Project skirt the boundaries of PA 4 (West Basin) and PA 3 (West Turning Basin). The locations of these three PAs are depicted in Figure 3.8-1. The land use classifications for the proposed project site planning areas are as follows:

PA 5 (Wilmington District)

- 1—General Cargo
- 2—Liquid Bulk
- 3—Other Liquid Bulk
- 4—Dry Bulk
- 5—Commercial Fishing
- 7—Industrial
- 8—Institutional
- 10—Other

PA 4 (West Basin)

- 1—General Cargo
- 2—Liquid Bulk
- 7—Industrial
- 10—Other

PA 3 (West Turning Basin)

1—General Cargo

2—Liquid Bulk

7—Industrial

8—Institutional

9—Commercial

10—Other

The short-term plan for PA 5 is oriented to continuing to integrate the many diverse activities in this PA. Waterfront areas are allocated primarily for general cargo and marine oil terminals. Changes in major land uses are not anticipated in the long-range plan for this PA.

The short-term plan for PA 4 is for continued use for container operations. The long-range plan is to develop PA 4 into a major container complex and to relocate the existing petroleum storage tanks and berths to PA 9.

The short-term plan for PA 3 is oriented toward cargo handling, heavy industrial, and commercial land uses. Potentially, a major general cargo terminal for container and breakbulk operations, a marine oil terminal, a major shipyard, commercial air and sea service to Catalina Island, and/or a floating restaurant would be appropriate for this planning area. The long-range plan is make this area available for commercial shipping or industrial uses.

3.8.3.2.6 Port of Los Angeles Strategic Plan 2006–2011

The Port of Los Angeles Strategic Plan, released in May of 2007, will be used to improve the performance of the Port and to outline the Port's direction and priorities (LAHD 2007). The Strategic Plan has 11 objectives, each with initiatives/action items that respond to the Strategic Plan's Mission, "To be the world's premier port in planning, design, construction, and to promote a "grow green" philosophy, while embracing evolving technology and meeting our fiduciary responsibilities while promoting global trade."

Strategic Plan Objectives relevant to the proposed Project include the following:

- Ensure the Port maintains and efficiently manages a diversity of cargo and land uses; maximize land use compatibility and minimize land use costs.
- Define and address infrastructure requirements needed to support safe, environmentally friendly, and efficient goods movement throughout the region.

- Transform the Port of Los Angeles into the greenest port in the world by raising environmental standards and enhancing public health.
- Strengthen relations with local community members through meaningful interaction and community focused programs.
- Realize the potential of the diversity of L.A.'s population by expanding opportunity and inclusion. Develop more and higher quality jobs.

3.8.3.2.7 Port of Los Angeles Sustainability Plan

The development of the Port of Los Angeles Sustainability Plan is in response to the Mayoral initialized Executive Directive No. 10, Sustainable Practices in the City of Los Angeles, passed in June of 2007. "This directive sets forth his vision to transform Los Angeles into the most sustainable large city in the country and includes goals in the areas of energy and water, procurement, contracting, waste diversion, non-toxic product selection, air quality, training, and public outreach"(LAHD 2008a). Thirty-two of the Port's current environmental programs already meet, in varying degrees, all the goals of the Executive Directive. However, there are identified areas of improvement, specifically in the area of employee training and public outreach. The Port of Los Angeles Sustainability Plan is still in progress and, because of its draft status, will not be analyzed in detail per each applicable policy for consistency in regards to the proposed Project. However, the proposed Project's consistency with the multiple current environmental programs and policies of the Port, discussed in further detail below, would ensure that efforts for consistency with the future goals and policies of the Port of Los Angeles Sustainability Plan are included within the proposed Project.

3.8.3.2.8 Green Building Policy

On August 27, 2003, the Board of Harbor Commissioner approved the LAHD's Environmental Management Policy, which includes guidelines on implementation of Leadership in Energy and Environmental Design (LEED) certification and standards for new and existing building construction and/or renovation.

The LEED Green Building Rating System is voluntary, consensus-based, and market-driven, and is based on existing, proven technology that evaluates environmental performance in five categories:

- Sustainable Site Planning
- Improving Energy Efficiency
- Conserving Materials and Resources
- Embracing Indoor Environmental Quality

- Safeguarding Water

Points are earned for goals accomplished in each category, and the certification level for a building is acquired by the total amount of points. There are four LEED certification levels: Certified (23–32 points), Silver (33–38 points), Gold (39–51 points), and Platinum (52–69 points).

Specifically, the City of Los Angeles adopted the policy that all new City buildings of 7,500 square feet or more should be designed, whenever possible, to meet the LEED Certified level. The Port has taken this policy further, and under the jurisdiction of the Harbor Department, all construction must meet the following (NC = New Construction):

- New Construction (e.g., office buildings) 7,500 square feet or greater, without compromising functionality, will be designed to a minimum level of LEED NC Gold.
- New Construction (e.g., marine utilitarian buildings such as equipment maintenance), without compromising functionality, will be designed to a minimum level of LEED NC Silver.
- Existing Buildings of 7,500 square feet or greater will be inventoried as evaluated for their applicability to the LEED Existing Building Standards. Priority for certification will be determined by building operation and maintenance procedures.
- All other buildings will be designed or constructed to meet the highest achievable LEED standard to the extent feasible for the building's purpose.
- In addition, all Port buildings will include solar power to the maximum extent feasible, as well as incorporation of the best available technology for energy and water efficiency.

A sustainability staff has been created to continuously evaluate and advance the Port's sustainability practices, as well as develop green guidelines and sustainable strategies.

3.8.3.2.9 Clean Air Action Plan

The Port, in conjunction with the Port of Long Beach and with guidance from SCAQMD, CARB, and EPA, has developed the Ports Clean Air Action Plan (CAAP), which was approved by the Los Angeles and Long Beach Boards of Harbor Commissioners on November 20, 2006. The CAAP focuses on reducing diesel particulate matter (DPM), NO_X, and SO_X within the Port boundaries, with two main goals: (1) to reduce Port-related air emissions in the interest of public health, and (2) to disconnect cargo growth from emissions increases. The CAAP includes near-term measures implemented largely through the CEQA/NEPA process and new leases at both ports.

The CAAP consists of the following standards:

1. San Pedro Bay Standards
   - Reduce public health risk from toxic air contaminants associated with port-related mobile sources to acceptable levels.
   - Prevent port-related violations of the state and federal ambient air quality standards at air quality monitoring stations at both ports.
   - Reduce criteria pollutant emissions to the levels that will assure that port-related sources contribute their "fair share" to enable the South Coast Air Basin to attain state and federal ambient air quality standards.
2. Project-Specific Standards
   - Projects must meet the 10 in 1,000,000 excess cancer risk threshold, as determined by health risk assessments conducted during CEQA review and implemented through required NEPA/CEQA mitigations associated with lease negotiations. Projects that exceed the AQMD CEQA significance thresholds for criteria pollutants must implement the maximum available controls and feasible mitigations for any emissions increases.
3. Source Specific Performance Standards
   - These standards include a series of measures that will be implemented through port lease requirements, tariffs, incentives, and the NEPA/CEQA environmental review process.
   - Compliance with the Project Specific Standards may require that an individual terminal go beyond the Source Specific Performance Standards or advance the date of compliance with those performance standards.
   - The Source Specific Performance Standards are targeted at the following five source categories of mobile equipment and vessels that are part of port-related goods movement: (1) heavy-duty vehicles/trucks, (2) ocean-going vessels, (3) cargo handling equipment, (4) harbor craft, and (5) railroad locomotives.

The proposed Project includes air quality control measures outlined in the CAAP, both as mitigation that would be imposed via permits and lease provisions and as standard measures that would be implemented through lease agreements with other agencies and business entities, and Port contracting policies.

3.8.4 Impact Analysis

3.8.4.1 Methodology

This analysis evaluates the consistency or compliance of the proposed Project and associated infrastructure improvements with relevant land use documents and regulations. The proposed project area spans from Slip No. 5 at the waterfront to C Street in the north and Broad Avenue in the east to Lagoon Avenue in the west. Also included in the analysis is the programmatic assessment of the Waterfront Red Car Line, which covers an area from Avalon Boulevard in the east to Swinford Street in the southwest.

The land use analysis addresses the potential for the creation of physical incompatibilities between the proposed Project and adjacent land uses or activities and determines whether any identified incompatibilities would result in physical impacts on the environment. To this end, the analysis evaluates the extent to which off-site land uses may be affected by physical interruption or disruption, and the extent to which other environmental impacts are also land use impacts. Additionally, this analysis evaluates the potential for proposed project activities to affect physical conditions in surrounding communities.

The land use impact analysis is based on the IS/NOP's determination of potentially significant issues, and issues identified by reviewing agencies, organizations, or individuals commenting on the IS/NOP that made a fair argument that the issue was potentially significant (Appendix A).

The IS/NOP determined that the proposed Project would have less-than-significant impacts on the following land use issue; therefore, it will not be discussed in the land use impact analysis below:

- physically divide an established community

The proposed Project would not displace existing community uses, nor would it physically divide an established neighborhood because the proposed Project is located along the edge of existing neighborhoods.

3.8.4.2 Thresholds of Significance

The following criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and are the basis for determining the significance of impacts associated with land use consistency and compatibility resulting from physical changes associated with the proposed Project. The following factors are used to determine significance for land use consistency and compatibility:

LU-1: The proposed Project would be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site, which would result in an adverse physical effect on the environment.

LU-2: The proposed Project would be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment.

3.8.4.3 Impacts and Mitigation

The proposed project area is located within the jurisdiction of three existing land use plans:

- Port of Los Angeles Plan, which is an element of the City of Los Angeles General Plan (described above in Section 3.8.3.2.2.)
- Wilmington-Harbor City CP, which is an element of the City of Los Angeles General Plan (described above in Section 3.8.3.2.3), and,
- Port Master Plan, which serves as the LCP (described above in Section 3.8.3.2.5).

The proposed Project is also subject to the City of Los Angeles zoning code.

Because the Port Plan and Wilmington-Harbor City CP share a common boundary, changes to the Port Plan jurisdictional boundary result in correlated changes to the Wilmington-Harbor City CP jurisdictional boundary. The proposed Project would include a General Plan Amendment to modify the existing jurisdictional boundaries of the Wilmington-Harbor City CP and the Port of Los Angeles plans and would add a Port Plan land use designation (i.e., recreation) to areas formerly designated under the Wilmington-Harbor City CP as commercial.

The Port Plan would be amended to extend the Port Plan jurisdictional boundary from its current location at Water Street north to Harry Bridges Boulevard. The jurisdictional Port Plan boundary relocation would *add* all the area between Broad Avenue to the east and Marine Avenue to the west. Figure 3.8-3 depicts the existing jurisdictional boundary of the Port of Los Angeles Plan and the Wilmington-Harbor City CP, and Figure 3.8-4 depicts the changes to the jurisdictional boundaries of these two plans.

The Port Plan existing land use designation of General/Bulk Cargo & Commercial/Industrial Uses non-hazardous in PA 5 would be amended to include the Recreation land use designation in the areas south of Harry Bridges Boulevard not currently designated as Public Facility. This would address Triangle Park as well as the waterfront promenade and land bridge

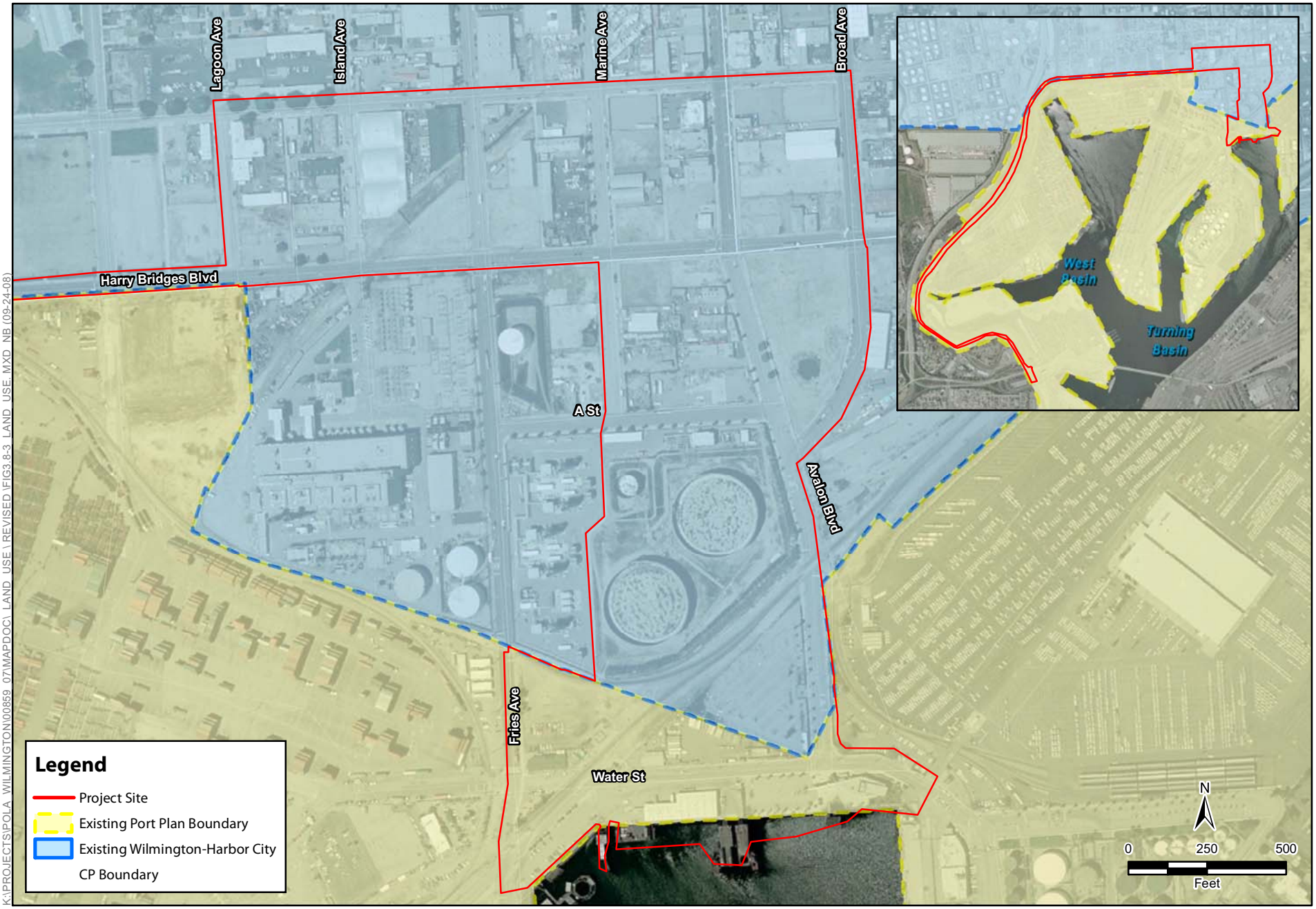
areas. An amendment of the existing zoning 5A[Q]M3 in PA 5 would be required to allow for parks (recreation) consistent with the Tidelands Trust.

Due to the changes proposed to the Port Plan, the Wilmington-Harbor City CP would be amended to relocate the Wilmington-Harbor City jurisdictional boundary from its current southernmost location near Water Street north to Harry Bridges Boulevard and would retract the jurisdictional boundary to the east of Broad Avenue and to the west of Marine Avenue. The relocation of the jurisdictional boundary would effectively *remove* the area in between Broad Avenue and Marine Avenue from the jurisdiction of the Wilmington-Harbor City CP. The HGS and peaker plants would remain within the Wilmington-Harbor City CP jurisdiction, as would all the existing Light and Limited Industrial land uses north of Harry Bridges Boulevard. The proposed Project could include the development of this area north of Harry Bridges Boulevard (Area A) with up to 150,000 square feet of light industrial uses as currently zoned in Area A.

In addition to the two community plan jurisdictional boundary changes, the proposed Project would amend the Port Master Plan to extend the PMP jurisdictional boundary from its current location along Water Street north to Harry Bridges Boulevard. The jurisdictional boundary would *add* all area between Broad Avenue and Marine Avenue. Therefore, the relocation of the PMP boundary would match the relocation of the Port Plan boundary. Figure 3.8-5 depicts the existing jurisdictional boundary of the PMP and the changes to this boundary.

The Port Master Plan would also require an amendment to add Recreation and Commercial land uses to the existing land use designations for PA 5 (General Cargo, Liquid Bulk, Dry Bulk, Commercial Fishing, Industrial, Institutional, Other).

Table 3.8-4 identifies the proposed Project amendments to the three land use plans and corresponding rezones.



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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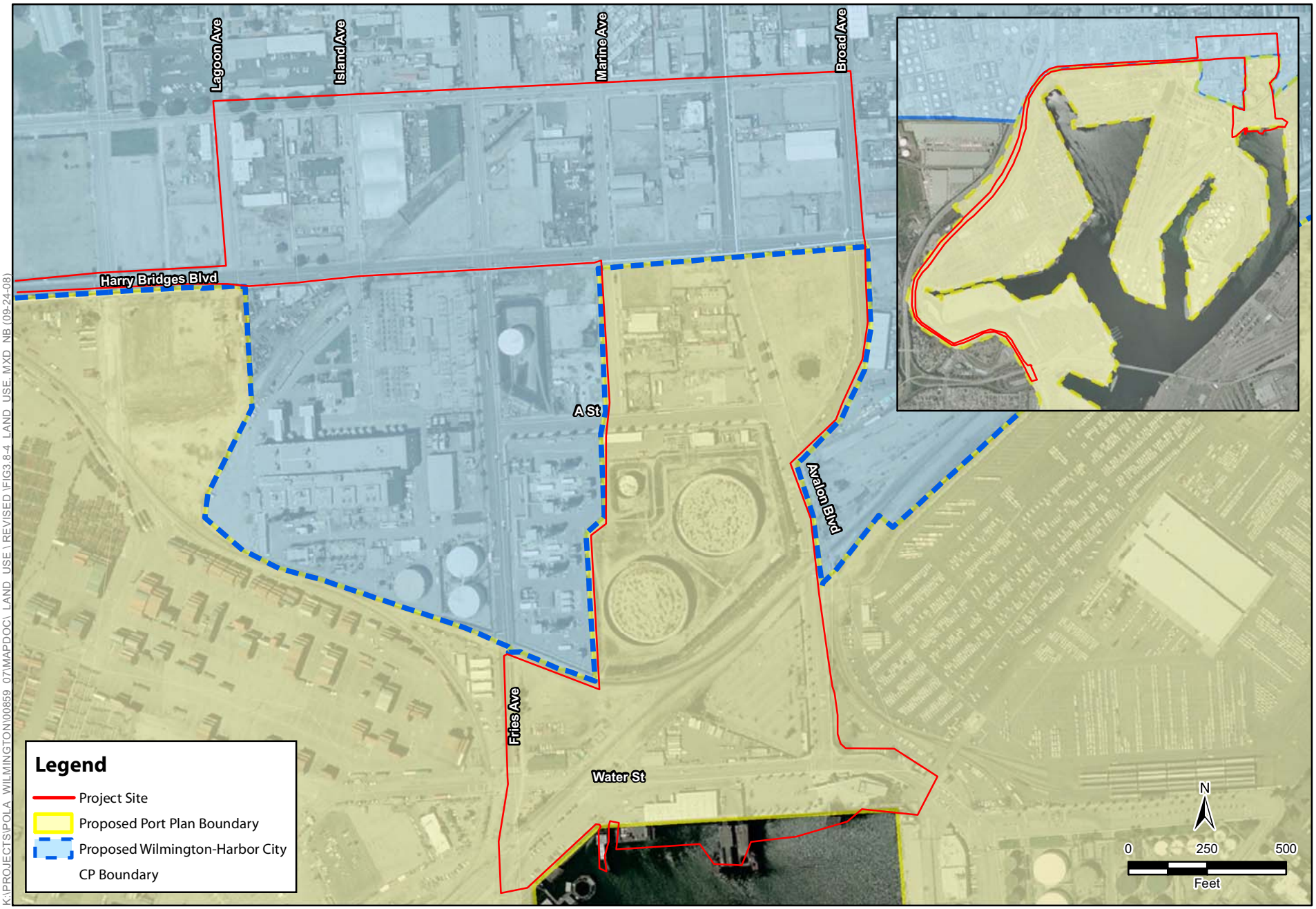
Figure 3.8-3
Existing Port Plan and Wilmington-Harbor City Community Plan Boundaries
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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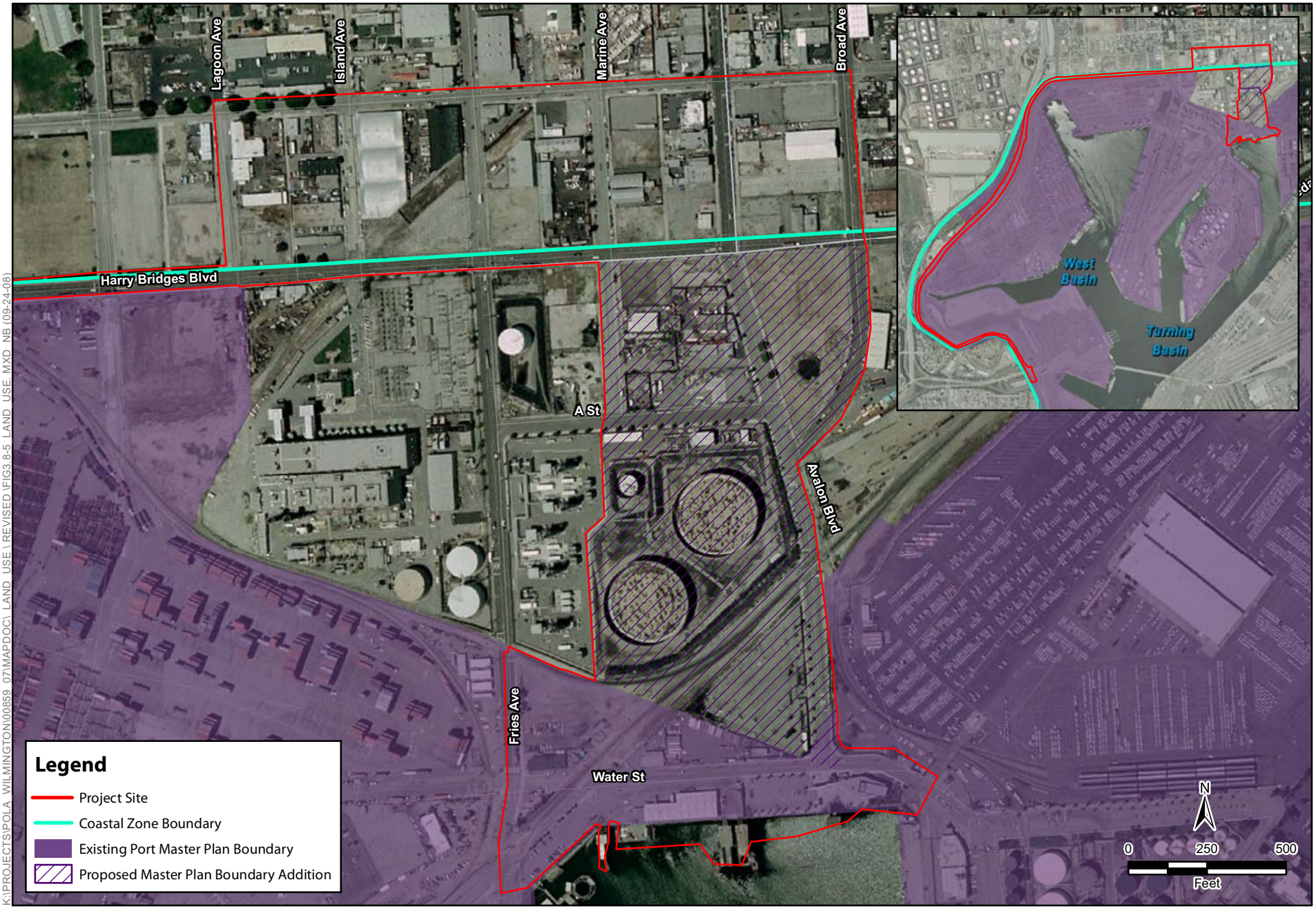
Figure 3.8-4
Proposed Project Jurisdictional Boundary Change to Port Plan and Wilmington-Harbor City Community Plan
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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Figure 3.8-5
Existing Jurisdictional Boundary of Port Master Plan and Proposed Addition
Wilmington Waterfront Development Project

Table 3.8-4. Proposed Project Land Use Actions

Land Use Plan	*Action to Land Use Plan*	*Proposed Project Action*
City of Los Angeles General Plan	Amendment	Downgrade Avalon Boulevard from a collector street to a local street from Harry Bridges Boulevard south to its terminus at Water Street.
Port Plan	Amendment	Extend the jurisdictional boundary from its current boundary at Water Street north to Harry Bridges Boulevard, between Broad Avenue in the east and Marine Avenue in the west (effectively adding all area between Broad Avenue and Marine Avenue and south of Harry Bridges Boulevard to the Port Plan).
Port Plan	Amendment	Amend existing land use designation of General/Bulk Cargo & Commercial/Industrial Uses non-hazardous in PA 5 to add Recreation to include waterfront elements of the proposed Project and to include the Triangle Park site, whose land use designation would be Recreation. .
Wilmington-Harbor City CP	Amendment	Realign the jurisdictional boundary from its current boundary to the north side of Harry Bridges Boulevard, east of Broad Avenue, and west of Marine Avenue (effectively removing all area between Broad Avenue and Marine Avenue and south of Harry Bridges Boulevard from the Wilmington-Harbor City CP). Land use designations of Light Industrial, Community Commercial, and Limited Industrial north of Harry Bridges Boulevard and west of Marine Avenue would remain unchanged and would stay within the Wilmington-Harbor City Community Plan jurisdiction.
Port Master Plan	Amendment	Extend the jurisdictional boundary from its current location along Water Street north to Harry Bridges Boulevard, between Broad Avenue to the east and Marine Avenue to the West, to be consistent with Port Plan (effectively adding all area between Broad Avenue and Marine Avenue and south of Harry Bridges Boulevard).
Port Master Plan	Amendment	Amend Port Master Plan's existing land use designations for PA 5 (General Cargo, Liquid Bulk, Dry Bulk, Commercial Fishing, Industrial, Institutional, Other) to add Recreation and Commercial (non-fishing related) land uses.
Los Angeles Municipal Zoning Code	Zone Change	Amend the Los Angeles Municipal Zoning Code within the previous Port Master Plan boundary to add Recreation, consistent with the Tidelands Trust to accommodate proposed project components (e.g., waterfront promenade, Observation Tower,). The Triangle Park area would be rezoned to Open Space.

Impact LU-1: The proposed Project would be consistent with the adopted land use/density designation in the Community Plan, redevelopment plan, and specific plan for the site.

Avalon Development District (Areas A and B) and Avalon Waterfront District

Redevelopment or Specific Plan Areas

The proposed project site is not located within any redevelopment or specific plan areas, and therefore implementation of such plans is not applicable to the proposed project site. The proposed Project would not affect blighted conditions in surrounding redevelopment project areas. However, the proposed Project could contribute up to 150,000 square feet of additional light industrial uses and up to 70,000 square feet of additional commercial uses to Avalon Development District Area A. This would promote economic development of the Wilmington community and possibly extend to the greater San Pedro and Harbor City areas. Therefore, the proposed Project would complement the two nearby redevelopment areas mentioned in 3.8.2.1.3 by providing additional light industrial and commercial development which would likely add to the job market. (Chapter 7, "Socioeconomics," discusses the proposed Project and the development of jobs.)

Community Plans

Port Plan and Wilmington-Harbor City CP

The proposed project would amend the Wilmington-Harbor City CP to realign the Wilmington-Harbor City CP jurisdictional boundary from its current boundary alignment to Harry Bridges Boulevard east of Broad Avenue and west of Marine Avenue. The Harbor Generating Station site would effectively remain within the Wilmington–Harbor City jurisdiction, as would all light and limited industrial areas north of Harry Bridges Boulevard. Therefore, the existing land use designations and zoning for primarily light and limited industrial uses would remain the same under the proposed Project as they are in the Wilmington-Harbor City CP and the Municipal Zoning Code. The proposed Project would include the development of this area with 150,000 square feet of light industrial uses as currently zoned.

The proposed Project would amend the Port Plan to realign the Port Plan jurisdictional boundary from its current boundary alignment at Water Street north to Harry Bridges Boulevard, effectively adding all area between Broad Avenue and Marine Avenue. This would allow the inclusion of Avalon Development District Area B (south of Harry Bridges and north of A Street proposed with commercial) and the entire Avalon Waterfront District within the Port Plan jurisdiction.

The Port Plan existing land use designation of General/Bulk Cargo & Commercial/Industrial Uses non-hazardous in PA 5 would be amended to include the Recreation land use designation, allowing the waterfront promenade land use. The Avalon Triangle Park site, which is being processed separately as an independent

project will be designated in the Port Plan as Recreation land use. Additionally, the Los Angeles Municipal Zoning Code for the Avalon Triangle Park site will be changed to Open Space. The land use designation changes under the Port Plan and the zone change would make the proposed Project elements (e.g., waterfront promenade and land bridge) consistent with the Port Plan and Municipal Zoning Code. Figure 3.8-6 identifies the land use designation amendments and zoning changes that are part of the proposed Project and that would be approved as part of the proposed Project.

The existing land use and zoning currently identified in the Wilmington–Harbor City CP and Municipal Zoning Code for the LADWP Marine Tank site would remain as Public Facilities after the jurisdictional boundary change to include this area in the Port Plan. Under the proposed Project the LADWP Marine Tank site would generally remain in place during Phase I (2009 to 2015) of the proposed Project, during which a major portion of the land bridge would be constructed and operated. It is anticipated that by 2012, the LADWP Marine Tank site would be dedicated to park and recreation use, and the tanks would be demolished and removed. The existing Public Facilities land use designation and zoning would be consistent with proposed Project land bridge use and by virtue of the boundary change would be incorporated into the Port Plan with its current designation (Public Facilities). Furthermore, the relocation of the Marine Tank Farm liquid bulk storage tanks to the Olympic Tank Farm site, where there are existing liquid bulk storage tanks, would be consistent with the underlying Heavy Industrial land use designation and no changes to the CP land use designation or City zoning would be required.

Additionally, the existing land use and zoning identified in the Wilmington–Harbor City CP and Municipal Zoning code for the block of land located southwest of the intersection of Avalon and Harry Bridges Boulevards (between Avalon Boulevard and Marine Avenue, north of A Street and south of Harry Bridges Boulevard) would remain as Community Commercial (C2) after the jurisdictional boundary change that would effectively include this area in the Port Plan. Under the proposed Project this area would be developed as commercial, such as a Mercado; therefore, the existing Community Commercial land use designation and zoning would be consistent with the proposed Project commercial development. By virtue of the jurisdictional boundary change, this existing land use would be incorporated into the Port Plan as it currently is designated (Community Commercial).

Finally, the existing land use under the Port Plan for PA 5 includes commercial land uses. This existing land use would allow for the proposed 12,000 square foot visitor-serving commercial development (i.e., restaurant) at the waterfront. Therefore, this existing land use would remain as is and would be consistent with the proposed Project.

Although the proposed Project would be consistent with General Plan (via the Port Plan and Wilmington-Harbor City CP) designated land uses and zones, the proposed Project would locate the public within relative close proximity of noise-producing facilities, such as the existing railroads and the existing HGS peaker units. These facilities have the capability of producing noise levels above General Plan land use compatibility thresholds within certain parts of the proposed Project. Therefore, the

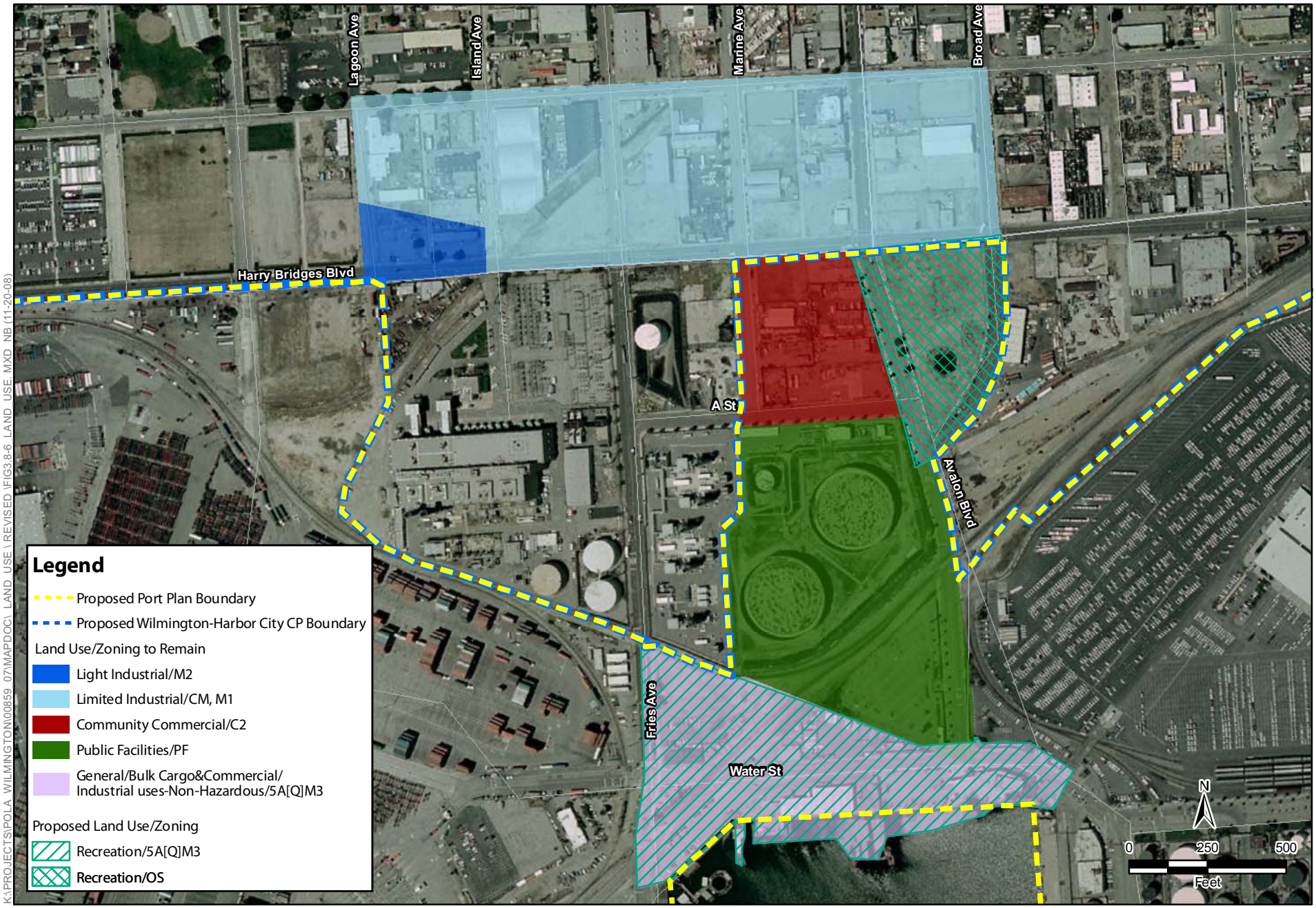
continued operation of the peaker units and the railroads adjacent to the proposed Project would not be consistent with some of the noise thresholds within the Noise Element of General Plan (refer to Section 3.9, "Noise," for more information regarding these existing facilities and noise impacts).

Port Master Plan

The amendment process for the PMP is described in Section 30716 of the California Coastal Act (CCA). The proposed Project would amend the PMP to extend the PMP jurisdictional boundary from its current location along Water Street north to Harry Bridges Boulevard. The jurisdictional boundary relocation would *add* all the area between Broad and Marine Avenues. Therefore, the relocation of the PMP boundary would match the relocation of the Port Plan boundary, thereby making the two boundaries consistent.

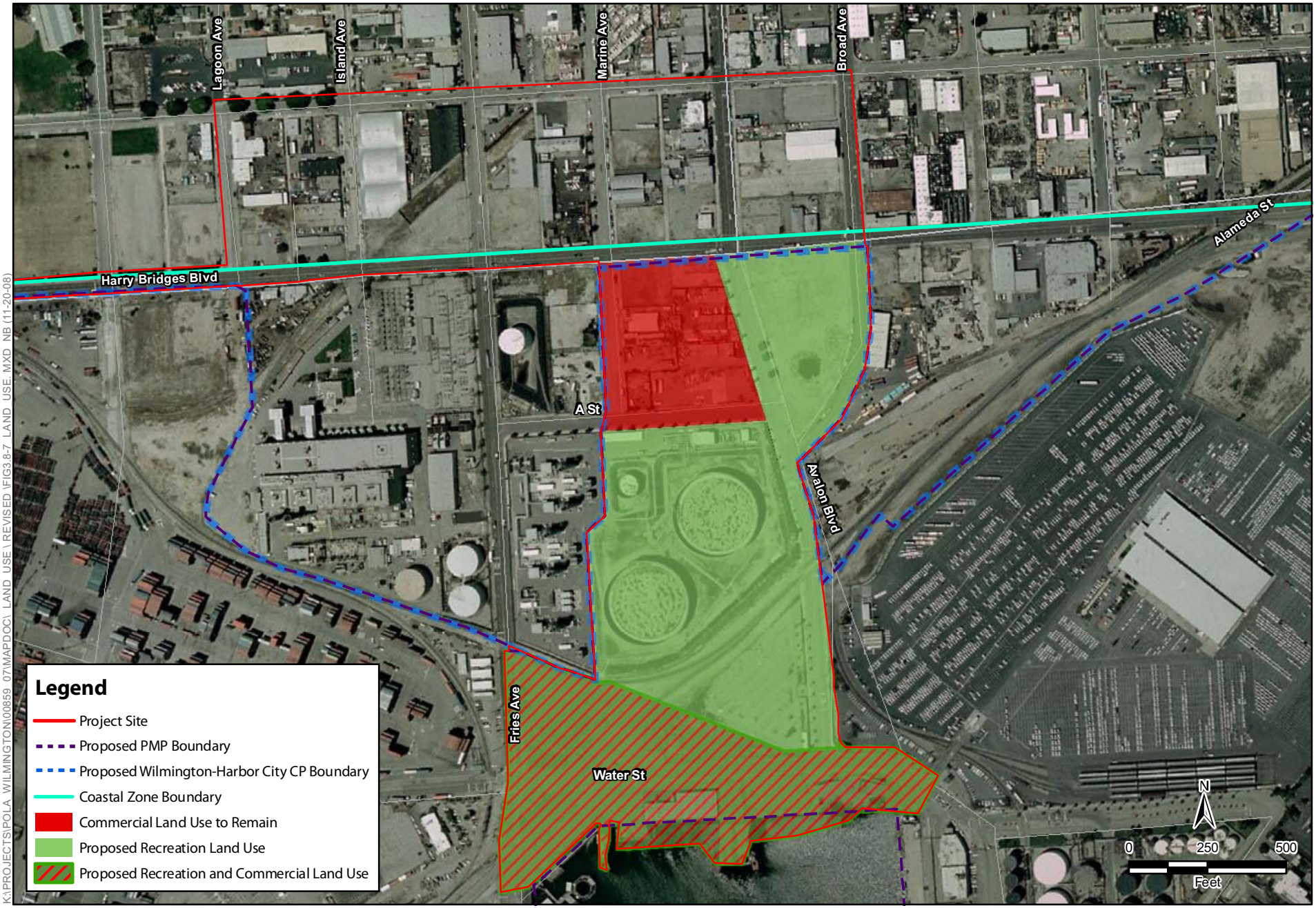
For the area located south of Water Street PMP existing land use designations of General Cargo, Liquid Bulk, Dry Bulk, Commercial Fishing, Industrial, Institutional, and Other in PA 5 would be amended to include parks (Recreation), consistent with the Tidelands Grant guidelines, and Commercial. The area north of Water Street, including the expanded PMP boundary up to Harry Bridges Boulevard would receive a land use designation of Recreation, with the sole exception of the site located north of A Street and west of Avalon Boulevard, which will receive a land use designation of Commercial (which is its current designation under the Wilmington-Harbor City CP and therefore does not include a change of land use designation). The amendments to the land use designations would allow for the construction and operation of the land bridge, waterfront promenade, Observation Tower, visitor-serving commercial use at the waterfront (i.e., restaurant), and would better accommodate park use at the Avalon Triangle Park site (under a separate and individual project). Figure 3.8-7 identifies the land use designation amendments and zoning changes which are part of the proposed Project and would be approved as part of the proposed Project.

Although the proposed Project would be consistent with PMP designated land uses, the proposed Project would be located in an area of predominately industrial uses including the LADWP Marine Tank Farm Site, the peaker plants, and the HGS. The proposed Project would include the operation of a pedestrian walkway, water feature, waterfront promenade, and interim land bridge adjacent to existing LADWP Marine Tank site prior to the removal of those tanks for a temporary period of time (approximately 2011 to 2015). However, the co-location would allow for the full buildout of the proposed Project, including the proposed land bridge, which would occupy the location of the existing LADWP tanks. However, the commodities the LADWP site stores and handles are not considered hazardous since the gas oils have flashpoints above 140°F, and the hydrogen sulfide present in the raw gas oil has chemical properties which would not generate a hydrogen sulfide gas to cause a health hazard. Since these commodities are not considered hazardous, no hazardous footprint analysis is required and the LADWP Marine Tank Farm site is not subject to the provisions of the PMP RMP (refer to Section 3.7, "Hazards and Hazardous Materials," for additional discussion of the LADWP Marine Tank Farm site and the RMP).



SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

Figure 3.8-6
Proposed Project Wilmington-Harbor City CP and Port Plan Land Use/Zoning Change
Wilmington Waterfront Development Project



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SOURCE: ESRI USA Imagery (2006), Wilmington-Harbor Community Plan (2006), Port of Los Angeles (2008)

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Figure 3.8-7
Proposed Port Master Plan Land Use Designations
Wilmington Waterfront Development Project

Under the proposed Project, the HGS peaker plants and HGS main plant would continue operating in its existing location. The proposed interim and final land bridge, pedestrian bridge, and waterfront promenade would operate within the general vicinity of these two facilities. The HGS currently handles, uses, and stores liquid bulk materials which include aqueous ammonia and Diesel No. 2. In addition there are a number of pipelines for aqueous ammonia, as well as a high pressured natural gas pipeline, buried beneath the surface used to support the HGS. The bulk storage components are considered hazardous per the Port's RMP; however, the hazardous footprint analysis conducted per the RMP for the HGS identified that the hazardous footprint of the HGS does not overlap with the proposed Project. Refer to Section 3.7, "Hazards and Hazardous Materials," for additional details regarding HGS operations and the hazardous footprint.

Waterfront Red Car Line and Multi-Use CCT

The Waterfront Red Car Line and CCT would extend west and south from the Avalon Development District and Avalon Waterfront District to the intersection of Swinford Street and Harbor Boulevard. They would both extend through PAs 3 and 4.

Port Plan in Planning Areas 3 and 4

PAs 3 and 4 would not require any amendments to the Port Plan to implement the proposed Project's Waterfront Red Care Line and CCT. These proposed land uses are consistent with the Port Plan.

PMP in Planning Areas 3 and 4

PAs 3 and 4 would not require any amendments to the PMP to implement the proposed Project's Waterfront Red Care Line and CCT. These proposed land uses are consistent with the existing land use designation of "Other" identified in the PMP for these areas.

Impact Determination

Avalon Development District (Area B) and Avalon Waterfront District Discretionary Actions

Discretionary actions of the proposed Project would include an amendment to the General Plan (Port of Los Angeles Plan and Wilmington-Harbor City CP) and PMP to change the jurisdictional boundaries of these plans, resulting in an extension of the Port Plan and PMP boundary, and a reduction of the Wilmington-Harbor City CP boundary. In addition, General Plan and PMP amendments would be required to re-designate land uses that would permit land uses as planned by the proposed Project. These changes would rectify any inconsistencies or incompatibilities with the existing General Plan or PMP. Furthermore, an amendment to the Port's zoning consistency ordinances would be proposed to allow for development of park elements. Finally, the land use and zone designation of the Olympic Tank Farm would remain the same, and the possible relocation of the LADWP tank capacity to

the Olympic Tank site as a feasible relocation site would be consistent with the land use designation (Heavy Manufacturing) and the zoning (Heavy Industrial). Therefore, the proposed Project would be consistent with all land use and zone designations and impacts would be less than significant.

Potential Land Use Inconsistencies: Noise

Although the public would be introduced to noise from existing facilities surrounding the proposed project site that would exceed the General Plan Land Use Compatibility Guidelines, this would not result in an adverse physical environmental impact (refer to Section 3.9, "Noise," for a more thorough discussion of impacts). Generally, rail traffic would not significantly impact the proposed land and pedestrian bridge. The proposed visitor-severing commercial land uses at the waterfront would also not be significantly impacted by the rail traffic located along the existing rail lines. Furthermore, the proposed park and land bridge would be raised above existing grade and the only location that would experience noise levels in excess of the threshold (67 dBA CNEL) is the area at the northern portion of the land bridge where planned grades do not change from the existing grades. Therefore, areas affected by excess noise levels from the peaker plants would be limited to edge locations, and land bridge patrons would be able to move to quieter, interior areas of the park. Since the existing noise-producing facilities would not result in a significant physical noise impact, the land use inconsistency as it relates to existing noise levels is less than significant.

Potential Land Use Inconsistencies: Hazards

The proposed project would be consistent with the RMP for the following reasons:

- The LADWP Marine Tank Farm site does not contain hazardous materials and therefore is not subject to a hazardous footprint analysis or the policies of the RMP.
- The hazardous footprint analysis for aqueous ammonia and Diesel No. 2 at the HGS shows no overlap with the proposed project.

Therefore, the co-location of the interim plan of the proposed Project next to the LADWP Marine Tank Farm site and the co-location of the proposed Project buildout next to HGS would be consistent with the RMP. Furthermore, this co-location would not result in a physical environmental impact. Impacts would be less than significant.

The proposed Project would be consistent with all land use designations, and would not be physically impacted by noise-producing facilities, the LADWP Marine Tank Farm site, or HGS. Therefore, impacts would be less than significant under LU-1.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact LU-2: The proposed Project would be consistent with the General Plan, adopted environmental goals, and policies contained in other applicable plans.

Table 3.8-5 below identifies specific goals/objectives/policies contained within the following land use documents applicable to the proposed Project, indicates whether the goal/policy/objective is consistent with the proposed Project, and includes a discussion of the consistency between the goal/policy/objective and the proposed Project.

- SCAG Regional Plans including the RCP, RTP, and RCPG
- General Plan Framework Element
- Port of Los Angeles Strategic Plan
- Port of Los Angeles Plan (part of the City of Los Angeles General Plan)
- CAAP
- Los Angeles Green Building Policy
- Wilmington-Harbor City CP (part of the City of Los Angeles General Plan)
- San Pedro CP (part of the City of Los Angeles General Plan)

Table 3.8-5. Proposed Project Consistency Analysis

Goal/Objective/Policy	*Consistency Analysis*
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS	
3.01 The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council (RC) in its RTP and RCP and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.	This policy is **not applicable** to the proposed Project. The proposed Project does not include residential units. Therefore, this policy from the Regional Comprehensive Plan and Guide does not apply to the proposed Project.
3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.	The proposed Project is **consistent** with this policy. The proposed Project includes a number of public facilities and expanded utility systems. With the addition of light-industrial businesses and commercial (Retail/Mercado) areas of the proposed Project, there would be an increase in employment opportunities within the Wilmington and surrounding communities. This increase in employment opportunities would also bring increased growth. Upon certification of the EIR, SCAG may use the proposed Project to implement the region's growth policies.
3.04 Encourage local jurisdictions' efforts to achieve a balance between the types of jobs they seek to attract and housing prices.	The proposed Project is **consistent** with this policy. The proposed Project includes the development of 150,000 square feet of light industrial uses and some commercial uses. The proposed project area has been designated by the Wilmington-Harbor City CP as an area that should focus on the revitalization efforts in coordination with the Port Development Activities (Policy 2.1-3). The proposed Project would be directed at supporting the commercial and recreational development at the foot of Avalon Boulevard and would enhance the visibility of the area and provide jobs and recreational amenities the public would want to use. Although the proposed Project does not include housing, those living in the area would have an increased opportunity for jobs and recreational amenities via this proposed Project. Since the Wilmington-Harbor City CP has specifically targeted this area for this type of project, the proposed Project would encourage the local jurisdiction of the Wilmington-Harbor City CP efforts to achieve the jobs they seek to attract.
3.05 Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.	The proposed Project is **consistent** with this policy. The proposed Project includes the infill, development, and enhancement of 150,000 square feet of light industrial use north of Harry Bridges Boulevard. Infrastructure currently exists in this area including roads and utilities needed to support the light industrial uses. The proposed Project would realign and reroute some of the existing utilities to enhance the light

Goal/Objective/Policy	*Consistency Analysis*
	industrial utilization needs.
3.06 Support public education efforts regarding the costs of various alternative types of growth and development.	This policy is **not applicable** to the proposed Project. The proposed Project includes the infill, development, and infrastructure to support up to150,000 square feet of light industrial use north of Harry Bridges Boulevard. Additionally, the proposed Project would provide recreational opportunities in the form of a waterfront promenade and land bridge for open space as well as retail and restaurant uses.
3.09 Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.	This policy is **not applicable** to the proposed Project. As a proprietary and self-supporting department, the Port is not supported by taxes. Instead, revenue is derived from fees for shipping services such as dockage, wharfage, pilotage, storage, property rentals, royalties, and other Port services. Considered a landlord port, the Port of Los Angeles leases its property to tenants who then, in turn, operate their own facilities. The Port is open to support from SCAG to help minimize the cost of infrastructure and public services within the Port.
3.10 Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.	The proposed Project is **consistent** with this policy. The LAHD is a department within the City of Los Angeles, and discretionary permits are reviewed by this department to streamline the process. However, permits are subject to internal review, and all development within the Port is subject to USACE review and approval, as well as review and approval by the City Council, among others. A primary goal of the proposed Project is to ensure that the Port remains vital, responds to future economic goals and needs, and remains competitive.
3.11 Support provisions and incentives created by local jurisdictions to attract housing growth in job-rich subregions and job growth in housing-rich subregions.	The proposed Project is **consistent** with this policy. The Wilmington-Harbor City CP specifically identifies the proposed project area as one that should be developed with job-inducing land uses. Specifically, Policy 2-1.3 of the Wilmington-Harbor City CPA identifies the need for commercial opportunities at the foot of Avalon Boulevard. The proposed Project would support this local provision created by the local jurisdiction as it would provide commercial and industrial land use. The proposed Project would enhance the visual character of the area and improve accessibility to the area, which would support development and revitalization within the Avalon Development District.

Goal/Objective/Policy	*Consistency Analysis*
3.12 Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.	The proposed Project is **consistent** with this policy. Elements of the proposed Project include expanded use of the Waterfront Red Car Line, expanded Promenade, pedestrian "water" bridge, 10-acre land bridge, and multi-modal CCT that aims to encourage alternative modes of transportation and increase access to the water's edge.
3.13 Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.	The proposed Project is **consistent** with this policy. The proposed Project is an infill development project that proposes to redevelop underutilized land within the Port and de-industrialize portions of the Port closest to surrounding communities. Mass transit bus lines currently exist along Avalon Boulevard, but do not extend to the waterfront or the proposed project area. However, the proposed Project supports local plans to infill, redevelop, and enhance an existing urban area.
3.14 Support local plans to increase density of future development located at strategic points along the commuter rail, transit systems, and activity centers.	The proposed Project is **consistent** with this policy. The Wilmington-Harbor City CP is the local plan to increase light industrial, commercial, and recreational development at the foot of Avalon Boulevard. The CP supports commercial and/or recreational development at the foot of Avalon Boulevard and identifies this area as a focus for revitalization efforts, in coordination with Port development activities. The Wilmington-Harbor City CP aims to conserve, strengthen, and encourage investment in all commercial districts, including the area at the foot of Avalon Boulevard. The proposed Project would increase the density of future development in an area that is identified by the local plan as a strategic point or activity center.
3.15 Support local jurisdictions' strategies to establish mixed-use clusters and other transit-oriented developments around transit stations and along transit corridors.	This policy is **not applicable** to the proposed Project. The proposed Project does not include any housing or establish mixed use that would support transit oriented development (TOD). The purpose of the proposed Project is to establish a link between the surrounding community and the waterfront, thereby increasing public access, to provide recreational amenities for the surrounding region, and to provide a modest increase in the light industrial and commercial uses in the area to promote economic growth.
3.16 Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.	The proposed Project is **consistent** with this policy. A primary purpose of the proposed Project is to create gathering areas and public open spaces, centralize commercial and retail uses, and provide opportunities for residents and visitors to enjoy the Port. The proposed project area is a redevelopment area and recycles

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	parcels of land that have been underutilized. The local plan to increase light industrial, commercial, and recreational development at the foot of Avalon Boulevard is the Wilmington-Harbor City CP. It supports commercial and/or recreational development at the foot of Avalon Boulevard and identifies this area as a focus for revitalization efforts, in coordination with Port development activities. The Wilmington-Harbor City CP wants to conserve, strengthen, and encourage investment in all commercial districts, including the area at the foot of Avalon Boulevard. Therefore, the proposed Project is consistent with this policy.
3.17 Support and encourage settlement patterns, which contain a range of urban densities.	The proposed Project is **consistent** with this policy. The proposed Project includes a variety of densities. It generally reduces density and reduces uses south of Harry Bridges Boulevard, while increasing densities and infilling the area north of Harry Bridges Boulevard with light industrial uses.
3.18 Encourage planned development in locations least likely to cause environmental impact.	The proposed Project is **consistent** with this policy. An element of the proposed Project is to de-industrialize portions of the Port and to lessen the environmental impact on and from the Port and on adjacent areas. Additionally, the proposed Project would infill, enhance, and redevelop the already developed and urbanized area north of A Street and north of Harry Bridges Boulevard. Since the proposed Project would occur in an existing urban setting, it would generally reduce the overall environmental impact when compared to developing the proposed Project in a non-existing urban setting.
3.19 Support policies and actions that preserve open space areas identified in local, state and federal plans.	This policy is **not applicable** to the proposed Project. There are no open space areas within the proposed project area that are identified in local, state, and/or federal plans. The proposed project area consists of existing developed and vacant urbanized land.
3.20 Support protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.	This policy is **not applicable** to the proposed Project. There are no vital resources within the proposed project area, including wetlands, groundwater recharge areas, woodlands, or land containing unique and endangered animals. The proposed project area consists of existing developed and vacant industrial land. See Section 3.3, "Biological Resources," and Section 3.14, "Water Quality, Sediments, and Oceanography," for additional discussion of these topics.
3.21 Encourage the implementation of measures aimed at the preservation and protection of recorded and	The proposed Project is **consistent** with this policy.

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unrecorded cultural resources and archeological sites.	The proposed project land use design incorporates elements to safeguard, preserve, and protect recorded and unrecorded cultural resources on site. For additional discussion of these resources and the measures proposed to protect and preserve them, please see Section 3.4, "Cultural Resources."
3.22 Discourage development or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.	The proposed Project is **consistent** with this policy. The proposed Project is not located in an area with steep slopes or high fire or flooding hazards. The proposed Project is located within an area of seismic hazards. Although specific design measures would be implemented to reduce the risk associated with the known seismic hazards, they cannot eliminate the risk. See Section 3.5, "Geology," for further discussion of the seismic hazards in the area and a discussion of the design measures.
3.23 Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.	The proposed Project is **consistent** with this policy. This EIR analyzes impacts related to noise, biological resources, water resources, hazards and hazardous materials, and geology and soils (see relevant sections in this chapter). The Emergency Response Plan was discussed in Section 3.7, "Hazards and Hazardous Materials." Mitigation measures are incorporated where appropriate.
3.27 Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide equality to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.	The proposed Project is **consistent** with this policy. An analysis of Public Services is contained in Section 3.13, "Public Services." An important element of this proposed Project is to encourage use and enjoyment of the Port by all socioeconomic groups and to ensure access for all. The proposed Project would not charge a fee to use the land bridge or Observation Tower.
Air 5.07 Determine specific programs and associated action needed (e.g.: indirect source rules enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.	The proposed Project is **consistent** with this policy. Please refer to Section 3.11, "Transportation and Circulation—Ground and Marine" of this EIR. The proposed Project includes improvements of traffic circulation on Avalon Boulevard, Broad Street, A Street, and Water Street. Additionally, under the proposed Project the Waterfront Red Car Line/CCT would be extended.
Air 5.11 Through the environmental document review process, ensure that plans at all levels of government	The proposed Project is **consistent** with this policy.

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(regional, air basin, county, subregional, and local) consider air quality, land use, transportation, and economic relationship to ensure consistency and minimize conflicts.	Please refer to relevant sections of this EIR, including Section 3.2, "Air Quality and Meteorology," and Section 3.11, "Transportation and Circulation—Ground and Marine." This EIR is part of the environmental document review process and thus provides evidence in support of the environmental document review process that air quality, land use, transportation, and economic relationship would be consistent and minimize conflicts. Additionally, the proposed Project would comply with all other plans/documents. The Air Quality section makes an effort to comply with all AQMD documents/plans such as the Air Quality Management Plan. Traffic, air, and noise all make an effort to comply with SCAGs RTIP/RTP. Noise ordinances and general plan elements are reviewed for consistency. Growth management plans are reviewed for consistency with growth-inducing impacts. Therefore, the proposed Project is consistent with this policy.
Open Space 9.01 Provide adequate land resources to meet the outdoor recreation needs of the present and future residents of the region.	The proposed Project is **consistent** with this policy. The proposed Project would provide surrounding and future residents with additional amounts of outdoor recreation opportunities. The proposed Project would include a 10-acre land bridge that includes landscape and hardscape, as well as pedestrian links and bicycle paths to the waterfront. Additionally, the proposed Project would improve and landscape the 1-acre Railroad Green area within the proposed light-industrial development area to provide further recreational opportunities. Furthermore, the waterfront promenade and docks, which include the proposed observation tower and pedestrian water bridge, would further enhance the recreational uses for all residents in the Wilmington and surrounding communities.
Open Space 9.02 Increase the accessibility to open space lands for outdoor recreation.	The proposed Project is **consistent** with this policy. The proposed Project would include pedestrian walkways, promenades, and linkages to the Wilmington Waterfront increasing its accessibility. Additionally, the proposed pedestrian land and water bridges would provide pedestrian connections for Avalon Boulevard and the Entry Plaza to the water's edge. Furthermore, Avalon Boulevard and Broad Street would be realigned to provide direct access to the promenade and Observation Tower, and adequate parking would be provided.
Open Space 9.03 Promote self-sustaining regional recreation resources and facilities.	The proposed Project is **consistent** with this policy. The proposed Project would be regularly maintained by Port staff. This would include, on a weekly basis, lawn mowing, fountain cleaning, and leaf collection. It would also include graffiti removal when needed. The proposed Project's open space development would include measures to provide self-sustaining landscaping including low-water–demand

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	plants, trees, and shrubs. It would also include trash removal, pavement power washing, and other maintenance activities. This maintenance would be funded by the Port and has already been included as like-items in the budget.
Open Space 9.04 Maintain open space for adequate protection to lives and properties against natural and manmade hazards.	This policy is **not applicable** to the proposed Project. The open space that is part of the proposed Project is not being constructed or generated to protect against wildfires or any other natural disaster.
Open Space 9.05 Minimize potentially hazardous developments in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipments.	The proposed Project is **consistent** with this policy. The proposed Project is not being developed within a hillside or canyon. At no time during construction or operation would the proposed Project be limited to emergency access. The proposed Project would include development that is within a 100-year floodplain, as well as areas that are susceptible to earthquakes, liquefaction, and expansive soils. However, in order to minimize impacts, all development and areas of open space would be built and/or updated to accommodate current county and state building codes for emergency preparedness, as well as including provisions for providing adequate emergency access to all areas of the proposed Project. See Section 3.13, "Public Services," and Section 3.7, "Hazards and Hazardous Materials," for further discussion of issues associated with emergency preparedness and emergency equipment.
Open Space 9.08 Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species including wetlands.	The proposed Project is **consistent** with this policy. The proposed Project would not place development within wetlands or habitats for rare, threatened, or endangered species. The majority of the Project is located within previously disturbed areas—areas containing hardscape. The California least tern and the California brown pelican, listed as endangered species, regularly use the harbor area; however, neither of these species uses the proposed project area or open space for habitat. It is possible, however, that with the development and maintenance of the open-space and park areas within the proposed Project that use of the site by these endangered species would increase.
Water Quality 11.02 Encourage "watershed management" programs and strategies, recognizing the primary role of local governments in such efforts.	This policy is **not applicable** to the proposed Project. The proposed Project includes the infill, development, and enhancement of the Wilmington Waterfront and the Avalon Development District. This area is at the terminus of the watershed that drains into the L.A. River, which ultimately discharges into the Pacific Ocean. The proposed Project is not large enough to encourage watershed management, and its purpose is not intended to establish programs and strategies for watershed management.
Water Quality 11.07 Encourage water reclamation	The proposed Project would be **consistent** with this goal.

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throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.	The proposed Project would incorporate recycled water into landscaping maintenance and water feature operation. Additionally, the proposed Project would include additional water conservation measures, including low-flow faucets and toilets. The reclaimed water would be provided by the Terminal Island Treatment Plant. Therefore, the proposed Project would reduce reliance on imported water.
RTP G1 Maximizing mobility and accessibility for all people and goods in the region.	The proposed Project would be **consistent** with this goal. The proposed Project would incorporate a network of sidewalks, pedestrian crossings, trails, and bridges as well as a promenade to enhance the pedestrian environment. Emphasis would be placed on connecting the Harry Bridges Boulevard buffer with the Wilmington Waterfront, incorporating continuous sidewalks along Lagoon and Broad Avenues, and extending the Waterfront Red Car Line and upgrading its access points for better ridership use and mobility throughout the Port. Additionally, integrating a bicycle lane system and expanded California Coastal Trail to connect to and serve the proposed project area would occur. The proposed Project would connect the waterfront with direct access routes, maximizing mobility and accessibility for people and goods.
RTP G3 Preserve and ensure sustainable regional transportation system.	The proposed Project is **consistent** with this goal. There would be realignment and streetscaping of local road systems that would not have an impact on the sustainability of regional transportation systems. The proposed Project would maintain the regional network for truck and rail circulation while, in some cases, removing, realigning, or merging certain secondary roadways (e.g., Avalon Boulevard, Water Street, Broad Avenue) to enhance functionality. The proposed Project would lead to development of a currently underutilized area, improve traffic circulation, and increase commercial and recreational use. This increase of development would lead to more employment opportunities for the surrounding communities. However, when the proposed project employment contributions are compared to employment at the regional, county, and city levels, the project contribution accounts for less than 0.1% of the total employment. Therefore, as increased employment opportunities would not substantially increase commuter traffic, the increased development within the proposed Project would not induce a significant amount of new growth within the local community or regional area that would affect the regional transportation network.
RTP G4 Maximize the productivity of our transportation system.	The proposed Project is **consistent** with this goal. The proposed Project would include circulation improvements for Avalon Boulevard, Broad Avenue, A Street, and Water Street. These improvements include realignments to create

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	consistent grid patterns, create more direct routes to the waterfront, and create better circulation patterns in the area. These elements would maximize the productivity of the proposed Project's transportation system.
RTP G5 Protect the environment, improve air quality and promote energy efficiency.	The proposed Project is **consistent** with this goal. The proposed Project would implement requirements of the Green Building Policy, the Clean Air Action Plan, and the Sustainability Plan. All efforts would be made to protect those who use the proposed Project from the surrounding industrial environment, while also decreasing the amount of energy used by the project elements by requiring LEED certification levels for new and future buildings. Furthermore, the proposed Project would comply with the existing draft Port-wide sustainable construction guidelines.
RTP G6 Encourage land use and growth patterns that complement our transportation investments.	The proposed Project is **consistent** with this goal. The proposed Project would include land uses which are desired by the surrounding community: commercial (Retail/Mercado), light industrial, and open space. The redevelopment and enhancement of the waterfront and the inclusion of 150,000 square feet of light industrial uses, and 58,000 square feet of Retail/Mercado uses would increase the number of jobs available to surrounding residents and the community of Wilmington and accommodate growth in the area. The circulation improvements to Avalon Boulevard, Broad Street, A Street, and Water Street would improve system connectivity, as well as improve access to areas of recreation and entertainment for the Wilmington community.
GVP 1.1 Encourage transportation investments and land use decisions that are mutually supportive.	The proposed Project is **consistent** with this principle. By the proposed Project's realignment of Avalon Boulevard, and circulation improvements along Broad Street, A Street, and Water street, the proposed Project is encouraging transportation investments related to the commercial (Retail/Mercado), the waterfront promenade, the recreational and open-space parks, and the light-industrial land uses within the proposed project areas.
GVP 1.2 Locate new housing near existing jobs and new jobs near existing housing.	The proposed Project is **consistent** with this principle. Although the proposed Project does not include any housing or mixed-use communities that would be associated with TOD, the redevelopment and enhancement of the waterfront and the inclusion of 150,000 square feet of light industrial uses, and 58,000 square feet of Retail/Mercado uses would increase the number of jobs available to surrounding residents and the community of Wilmington. Therefore, the proposed Project would locate new jobs near existing housing.

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GVP 1.3 Encourage transit-oriented development.	The proposed Project is **consistent** with this principle. Although the proposed Project does not include any housing or mixed-use communities that would be associated with TOD, the proposed Project would include circulation improvements and promenade development that may increase the desire for transit oriented development in the surrounding area. Additionally, the construction and operation of the Waterfront Red Car Line would increase ridership of those people who may live in San Pedro who want to recreate at the waterfront or commute to their jobs north of Harry Bridges Boulevard.
GVP 1.4 Promote a variety of travel choices.	The proposed Project is **consistent** with this principle. The proposed Project would provide many different options for travel. Along with obvious motor vehicle transportation opportunities, the development of the Waterfront Red Car Line would provide transit and commuter services to the surrounding community throughout the Port, while the land and water bridge would provide pedestrian modes of travel (e.g., walking and biking).
GVP 2.1 Promote infill development and redevelopment to revitalize existing communities.	The proposed Project is **consistent** with this principle. The proposed Project would include the redevelopment of the waterfront and the inclusion of 150,000 square feet of light industrial uses, 58,000 square feet of Retail/Mercado uses, and 12,000 square feet of restaurant. This development would all occur as infill or the redevelopment of vacant industrial lots. Furthermore, it would provide additional jobs, and would enhance and revitalize the waterfront and recreational opportunities for the surrounding communities, increasing waterfront tourism and resident uses.
GVP 2.2 Promote developments, which provide a mix of uses.	The proposed Project is **consistent** with this principle. The proposed Project would include 150,000 square feet of light industrial uses, and 58,000 square feet of Retail/Mercado uses. Tenants for the retail and industrial uses have yet to be chosen; however, the open Request for Proposals (RFP) for tenants would encourage mixed retail and commercial development. Additionally, the proposed Project would include recreational uses, industrial uses, and a mix of commercial uses, further increasing consistency with this goal.
GVP 2.3 Promote "people scaled" walkable communities.	The proposed Project is **consistent** with this principle. The proposed Project does include recreational and open space amenities which would be utilized by the Wilmington community and perhaps communities in the greater Los Angeles area. It encourages walking by including parks and open-space areas with accessible and

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	aesthetically pleasing pedestrian paths (i.e., Land Bridge, Water Bridge, Railroad Green, and Waterfront Promenade). Furthermore, the streetscape enhancements north of Harry Bridges Boulevard and the Railroad Green would encourage employees and business owners to walk in their community and enjoy the outdoors.
GVP 2.4 Support the preservation of stable, single-family neighborhoods.	The proposed Project is **consistent** with this principle. The proposed Project does not include the development of single-family neighborhoods. However, it does include recreational and open-space amenities that would be utilized by the single-family neighborhoods of the Wilmington community and perhaps neighborhoods of the greater Los Angeles area. These recreational and open-space amenities would provide outdoor activities for the surrounding neighborhoods. Specifically the parks provided as part of the proposed Project would encourage more outdoor family-oriented activities. Providing areas for families and/or individuals to take their children, exercise, or hold special events would increase the stability of the single-family neighborhoods.
GVP 3.1 Provide, in each community, a variety of housing types to meet the housing needs of all income levels.	This principle is **not applicable** to the proposed Project. The proposed Project does not include the construction of homes.
GVP 3.2 Support educational opportunities that promote balanced growth.	The proposed Project is **consistent** with this principle. The proposed Project would provide direct public access and viewing areas for public enjoyment and education. The proposed Project would provide a 10-acre land bridge providing public access from the Wilmington community to the waterfront. Additionally, the proposed Project includes a promenade at the water's edge, viewing piers, and an Observation Tower, all of which provide public access and viewing areas along the waterfront of the proposed project area. Finally, the proposed Project would include interpretive displays regarding the historical maritime activities of Wilmington and the Port, providing education al opportunities.
GVP 3.3 Ensure environmental justice regardless of race, ethnicity or income class.	The proposed Project is **consistent** with this principle. The proposed Project would provide recreational opportunities, and open space within an area and community that historically has generally lacked these elements. Furthermore, the proposed project elements are for use free of charge regardless of race, ethnicity, or income class. The proposed Project would further connect the communities of San Pedro and Wilmington with the development of the Waterfront Red Car Line, providing economical travel and commuter opportunities between the two areas.

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GVP 3.4 Support local and state fiscal policies that encourage balanced growth.	The proposed Project is **consistent** with this principle. The proposed Project would encourage balanced growth by providing jobs and commercial development in a community that has expressed desire for it, per the Wilmington-Harbor City CP. Additionally, the surrounding communities currently have adequate available housing opportunities for the increased development and the expected amount of increased growth. Furthermore the proposed Project's ground leases within the development districts of the Avalon Development District, through rental charges and fees, would support a portion of the development costs of the proposed Project, supporting fiscal policies.
GVP 3.5 Encourage civic engagement.	The proposed Project is **consistent** with this principle. This EIR included a comprehensive public outreach process to ensure public participation and comments. Furthermore, the development of the proposed Project has been an active planning process with the Wilmington community, starting with the input received by the community to prepare the Wilmington Waterfront Development Final Plan in 2004. Four community workshops were conducted after this plan to receive community input, review, and comments. The Port has coordinated with the community throughout the entire Wilmington Waterfront Development planning process. The process was inclusive of all who wished to comment and participate in the Port renovation and rehabilitation.
GVP 4.1 Preserve rural, agricultural, recreational, and environmentally sensitive areas.	The proposed Project is **consistent** with this principle. There are no rural, agricultural, or environmentally sensitive areas in the proposed project area. The proposed Project would be constructed and operated in a built out section of the Port and the built out community of Wilmington. The proposed Project primarily consists of recreational and open space amenities including the 10-acre land bridge, the Railroad Green, the waterfront promenade, the Observation Tower, and the hardscaped plazas. Therefore, the proposed Project would enhance the recreational opportunities of an area that currently has very few.
GVP 4.2 Focus development in urban centers and existing cities.	The proposed Project is **consistent** with this principle. The proposed Project would be redeveloping an area that is currently urbanized within the Port and the Wilmington-Harbor City CPA. Furthermore, this area is identified specifically by the Wilmington-Harbor City CP as having important commercial and recreational value that is to be developed for commercial and recreational uses.
GVP 4.3 Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution, and	The proposed Project is **consistent** with this principle. The proposed Project would have minimal amounts of indirect increased growth

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significantly reduce waste.	(approximately less that 0.1% when compared to regional growth; see Section 3.10, "Population and Housing"). However, to accommodate the small amount of increased growth in the surrounding communities the proposed Project would implement goals, policies, and techniques described within the Green Building Policy (e.g., LEED Certification mandates), the Sustainability Plan, and the Clean Air Action Plan, all of which have been discussed earlier in this section.
GVP 4.4 Utilize "green" development techniques.	The proposed Project is **consistent** with this principle. The proposed Project would implement goals, policies, and techniques described within the Green Building Policy (e.g., LEED Certification mandates), the Sustainability Plan, and the Clean Air Action Plan, all of which have been discussed earlier in this section.
GENERAL PLAN FRAMEWORK ELEMENT	
The General Plan Framework Element provides guidelines for future updates of the City's community plans. It does not supersede the more detailed community or specific plans.	The proposed Project is **consistent** overall with this element. The proposed Project would overall support the goals, objectives, and policies of the three community plans in and around the proposed project area: the Port Plan, the Wilmington-Harbor City CP, and the San Pedro CP. The boundary adjustment to incorporate area south of Harry Bridges Boulevard into the Port Plan and PMP would not result in a significant impact on the Wilmington-Harbor City CP area. The boundary adjustment would maintain and be consistent with all applicable goals, objectives, and policies of these three community plans.
Open Space Policy: Consider Open Space as an integral ingredient of neighborhood character	The proposed Project is **consistent** with this policy. The proposed Project would bring additional open space and recreational opportunities to an existing industrial area and would link the Wilmington community to the waterfront. As described in more detail below under the Wilmington-Harbor City CP Goal 4, Objectives 4-2 and 4-4 regarding recreation, the proposed Project area is an integral ingredient to the Wilmington community; and by providing the additional open space, parks, and plazas, the proposed Project would enhance the open space of the neighborhood character of Wilmington and the character of the region.
Open Space Policy: Consider urban forms of open space, such as small parks, pedestrian districts, community plazas, and similar elements.	The proposed Project is **consistent** with this policy. The proposed Project provides approximately 10 acres of open space within an urban setting and creates a waterfront promenade with community plazas and gathering areas. Furthermore, the Railroad Green (located north of Harry Bridges Boulevard) is a small park within the urban setting of the light industrial and manufacturing land uses and zoning that

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	will remain.
Economic Policy: Provide sufficient land to support economic development activities.	The proposed Project is **consistent** with this policy. The proposed Project retains the existing land use and zoning designations of all light industrial and manufacturing north of Harry Bridges Boulevard and the commercial area south of Harry Bridges Boulevard between Marine and Broad Avenues. Under the proposed Project this area would be developed with 150,000 square feet of light industrial uses and 58,000 square feet of commercial uses. Therefore, the proposed project would promote and encourage economic development in this area.
Economic Policy: Retain current industrial land use classifications to provide adequate quantities of land for emerging industrial sectors, except where such lands are unsuitable for such purposes	The proposed Project is **consistent** with this policy. The proposed Project retains the existing land use and zoning designations of all light industrial and manufacturing north of Harry Bridges Boulevard and the commercial area south of Harry Bridges Boulevard between Marine and Broad Avenues. Under the proposed Project this area would be developed with 150,000 square feet of light industrial uses and 58,000 square feet of commercial uses. Therefore, the proposed project would promote and encourage economic development in this area.
Economic Policy: Facilitate the operations of the Port of Los Angeles and the Los Angeles International Airport as major drivers of the local and regional economy, supporting planned expansion and modernization.	The proposed Project is **consistent** with this policy. The proposed Project is located within the Port area, and would expand the Port Plan and PMP jurisdictional boundaries to include the area south of Harry Bridges Boulevard. This area would be developed with 58,000 square feet of commercial uses immediately south of Harry Bridges Boulevard between Marine and Broad Avenues and would develop 12,000 square feet of commercial uses at the waterfront. Utilizing the proximity to the Port as an important economic driver, all area north of Harry Bridges Boulevard and south of C Street would be developed with 150,000 square feet of light industrial using the existing land use and zoning.
Economic Policy: Promote the re-use and recycling of deteriorated commercial and industrial districts.	The proposed Project is **consistent** with this policy. Currently much of the land within the proposed Project area is vacant or under-utilized industrial and commercial land. The proposed Project would provide an additional 150,000 square feet of light industrial and a total of 70,000 square feet of commercial to the proposed project area, making use of the existing vacant and under-utilized commercial and industrial area. The proposed Project would attract this development by upgrading the street infrastructure and providing amenities such as the Railroad Green and the waterfront promenade.

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Transportation Policy: Enhance pedestrian circulation and bicycle access to centers and mixed-use boulevards.	The proposed Project is **consistent** with this policy. Although the foot of Avalon Boulevard is technically not defined as a mixed-use boulevard in the Wilmington-Harbor City CP, the proposed Project would enhance pedestrian use and circulation in the area through the addition of the CCT and the upgrades to the street infrastructure. Furthermore, the downgrade of Avalon Boulevard from a collector street to a local street from Harry Bridges Boulevard south to its terminus at Water Street would allow the roadway to be vacated between Broad Avenue and Harry Bridges Boulevard. This downgrade would require amending the circulation plan of the City's General Plan. The Avalon Boulevard change would be justified by the fact that Avalon Boulevard "dead ends" into a private, Port-owned street, and serves only Port-owned property.
PORT OF LOS ANGELES STRATEGIC PLAN	
Ensure the Port maintains and efficiently manages a diversity of cargo and land uses; maximize land use compatibility and minimize land use conflicts.	The proposed Project is **consistent** with this policy. The Strategic Plan initiatives note that the Port has long-range plans to "develop a comprehensive land use plan that recognizes the needs of commerce and recreation; establish land areas that consolidate liquid bulk storage facilities; retain economically viable breakbulk operations; promote the expansion of water-dependent institutional/research facilities and develop appropriate recreational facilities." Overall, the proposed Project includes amendments to the PMP and the zoning to incorporate the recreational and open space uses of the proposed Project into the proposed Project area, which would effectively maximize land use compatibility and minimize land use conflicts by removing industrial uses for an area that would be recreation, open space, and commercial uses. Furthermore, the proposed Project supports the Strategic Plan initiative by providing recreation and promoting the development of water-dependent institutions (i.e., waterfront promenade and interpretive displays) and developing appropriate recreational facilities (i.e., Observation Tower, waterfront promenade, land bridge). The proposed Project is located within an area that is primarily industrial. However, as discussed above under Impact LU-1, the existing industrial uses (LADWP Marine Tank Farm Site and those uses to remain [HGS and peaker plants]) would not pose an adverse physical environmental impact. Furthermore, the proposed Project and these industrial land uses would be consistent with the PMP RMP. Therefore, there is no inconsistency with the land use compatibility

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Define and address infrastructure requirements needed to support safe, environmentally friendly, and efficient goods movement throughout the region.	The proposed Project is **consistent** with this policy. Transportation studies conducted as part of this EIR address this issue directly. See Section 3.11, "Transportation and Circulation—Ground and Marine," for analysis and mitigation measures. However, as transportation relates indirectly to land use, the proposed Project supports safe, environmentally friendly, and efficient goods movement throughout the proposed project area. The proposed Project would utilize the Waterfront Red Car Line to connect people to and from the Wilmington Waterfront to San Pedro and the San Pedro community. Additionally, the proposed Project includes the realignment of Avalon Boulevard, Broad Avenue, and Water Street to support a safe and direct route to connect the Wilmington community to the proposed Project's land bridge and the Wilmington Waterfront Promenade.
Transform the Port of Los Angeles into the greenest port in the world by raising environmental standards and enhancing public health.	The proposed Project is **consistent** with this policy. The proposed Project has been subject to the Clean Air Action Plan (CAAP) and has undergone CEQA analysis in this document, and, where appropriate, mitigation measures have been imposed as an implementation strategy. Sections of this EIR create and implement action plans for clean water, clean soil, and clean groundwater. Specifically, the proposed Project includes the removal of hazardous materials and the remediation of hazardous areas. Additionally, the proposed Project would actually reduce the intensity of the land use of the area by removing industrial uses and replacing them with recreational amenities and open space. The proposed Project includes the removal of the DWP tanks to complete the full buildout of the 10-acre land bridge to connect the Wilmington community with the waterfront. Additionally, the proposed Project includes the redevelopment and enhancement of the existing industrial area north of Harry Bridges Boulevard to support future tenants that would operate in LEED-certified buildings and would specialize in "green industries" and/or "green technologies," the definition of which is still in progress. Although the proposed Project would bring individuals within close proximity to pipelines and diesel emissions, these individuals would spend several hours, or a weekend at most, within close proximity to these hazards, thus minimizing the overall lifetime exposure.
Strengthen relations with local community members through meaningful interaction and community focused programs.	The proposed Project is **consistent** with this policy. This EIR included a comprehensive public outreach process to ensure public participation and comments. Furthermore, the development of the proposed Project has been an active planning process with the Wilmington community, starting with the input received by the community to prepare the Wilmington Waterfront Development Final Plan in 2004. Four community workshops were conducted after this plan to receive community input, review,

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	and comments. The Port has coordinated with the community throughout the entire Wilmington Waterfront Development planning process. The process was inclusive of all who wished to comment and participate in the Port renovation and rehabilitation.
Realize the potential of the diversity of L.A.'s population by expanding opportunity and inclusion. Develop more and higher quality jobs.	The proposed Project is **consistent** with this policy. The 150,000 square feet of redeveloped and enhanced light industrial uses north of Harry Bridges Boulevard and the 70,000 square feet of commercial uses (retail/restaurant/Mercado) along the waterfront and in the Avalon Development District, under the proposed Project, would provide jobs. It is anticipated the majority of these jobs would be served by local residents of the Wilmington community and possibly the San Pedro community.
PORT OF LOS ANGELES PLAN—CITY OF LOS ANGELES GENERAL PLAN	
Objective 1: To maintain the Port of Los Angeles as an important local, regional, and national resource and to promote the orderly and continued development of the Port so as to meet the needs of foreign and domestic waterborne commerce and commercial fishing industry and public recreational users.	The proposed Project is **consistent** with this objective. The proposed Project addresses land use and regulatory strategies to ensure the Port continues to be an economically vibrant hub for foreign and domestic commerce, while providing and enhancing a spectrum of recreational opportunities within the Port.
Objective 2: To establish standards and criteria for the long-range orderly expansion of the Port by the eventual aggregation of major functional and compatible land and water uses under a system of preferences which will result in the segregation of related Port facilities and operations into functional areas.	The proposed Project is **consistent** with this objective. The proposed Project would include recreation and commercial uses (retail and restaurants) that are segregated from existing industrial and Port-related uses where appropriate. The PMP amendment and zone change would allow for the proposed Project to operate in a functional area. The proposed Project would include the operation of a pedestrian walkway, water feature, and interim park adjacent to existing DWP tanks prior to the removal of those tanks. This co-location would be inconsistent with Policy 2 as it relates to the segregation of facilities and operations into functional areas. However, the temporary inconsistency would allow for the full buildout of the proposed Project, including the proposed land bridge, which would occupy the location of the existing DWP tanks. The full buildout of the proposed Project would eliminate the temporary nonsegregated land use issue based on functional areas, causing the temporary inconsistency between the proposed Project and Policy 2. Therefore, the proposed Project is consistent with Policy 2.
Objective 3: To coordinate the development of adjacent communities as set forth in the community plans for San Pedro and Wilmington-Harbor City; the	The proposed Project is **consistent** with this objective. Extensive public outreach ensured that adjacent communities were able to communicate their needs, desires, and concerns with how the Port development would impact them. PAs

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development of the neighboring Port of Long Beach; and the redevelopment plans for the Beacon Street area in San Pedro and the Los Angeles Harbor Industrial Center in Wilmington.	4 and 3 are distinct from the San Pedro Community Plan area, but the shared John S. Gibson Boulevard, Front Street, and Pacific Avenue would be designed to ensure a safe pedestrian/vehicular/Waterfront Red Car Line interface. PA 5 of the Port is currently distinct from the Wilmington-Harbor City Plan area and the Avalon Development District; however, under the proposed Project the jurisdictional boundaries of the Port Plan and PMP would be amended to include all land north of Water Street, south of C Street, and in between Broad and Lagoon Avenues. Once the amendment occurs, the shared boundaries of the Port Plan and PMP with the Wilmington-Harbor City CP would be C Street, Broad Avenue, and Lagoon Avenue. Broad Avenue would be designed to ensure a safe pedestrian and vehicle interface by its realignment. Additionally, C Street and Lagoon Avenue would be streetscaped to provide for proper and safe pedestrian access. The proposed land bridge would be built up and over Water Street to route pedestrians away from vehicle and rail traffic. Finally, the proposed Project that is currently within the jurisdictional boundaries of the Wilmington-Harbor City CPA does coordinate the development of this area as outlined in the CP. The CP has a number of goals, objectives, and policies directly related to the proposed Project area to develop it as an industrial and commercial hub, with recreational amenities enhancing the waterfront and expressly connecting the Wilmington community with their waterfront. The proposed Project satisfies the goals, objectives, and policies of the Wilmington-Harbor City CP by proposing the infill, redevelopment, and enhancement of 150,000 square feet of light industrial use north of Harry Bridges, and by proposing 70,000 square feet of commercial use throughout the proposed project area. Additionally, the proposed Project connects the Wilmington community to the waterfront via the 10-acre land bridge and by realigning Avalon Boulevard and Broad Avenue.
Objective 4: To assure priority for water and coastal dependent development within the Port while maintaining and enhancing coastal zone environment and public views of and access to coastal resources.	The proposed Project is **consistent** with this objective. Development in the Port would include recreational and commercial uses (including retail and restaurants), which would be coastal dependent and supportive. Public views and access to the coastal resources would be protected and enhanced by improved vehicular and pedestrian linkages to the waterfront via the land bridge, the realigned Avalon Boulevard, Broad Avenue, and Water Street, the waterfront promenade, and the Observation Tower.
Objective 5: To permit the Port to have flexibility to adequately respond in its development processes to the pressures and demands placed upon it by: a. changing technologies in the ocean and land	The proposed Project is **consistent** with this objective. The proposed Project attempts to respond to evolving needs, desires, and economic pressures of the Port by providing recreational opportunities, tourist-oriented commercial development, and needed parking; and by expanding the Waterfront Red Car Line to

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movement of waterborne commerce; b. changing patterns in the commodity mix and form of waterborne commerce; c. changing developments in the Port of Long Beach and the surrounding residential and industrial areas adjacent to and affected by the Port; d. changes in laws and regulations affecting the environmental and economic uses of the Port; and **e.** changes in other U.S. ports affecting the Port's competitive position.	provide service to more residents and visitors in a more efficient and safe manner. Additionally, the proposed Project includes 150,000 square feet of light industrial infill and redevelopment that would foster "green businesses" and "green technologies" (e.g., retrofitting diesel engines). Finally, the light industrial development would maintain the minimum LEED certification, per the Green Building Policy.
Objective 7: To promote efficient transportation routes within the Port consistent with external systems to employment, waterborne commerce, commercial and recreational areas.	The proposed Project is **consistent** with this objective. Circulation improvements as part of the proposed Project include the straightening of Avalon Boulevard to maintain consistency with the street grid pattern, realignment of Broad Avenue to create a more direct route through the area, and the relocation of Water Street to open the area nearest the water's edge for additional public improvements. There would also be incorporation of a network of sidewalks, pedestrian crossings, and trails to enhance the pedestrian environment along streets in the proposed project area and to connect external pedestrian systems in the Wilmington area to the recreational and commercial areas in the Port. A contiguous and continuous multi-modal pedestrian promenade along the waterfront would separate vehicles from pedestrians and provide people with various ways to move through the Port area and public open spaces. Additionally, the land bridge would also separate vehicles from pedestrians and provide people with a route to access the recreational and commercial amenities at the waterfront
Objective 9: To minimize conflicts between vehicular, pedestrian, railroad, and harbor-oriented industrial traffic, tourist and recreational traffic and commuter traffic patterns within the Port.	The proposed Project is **consistent** with this objective. Segregated land uses, realigned roads (Avalon Boulevard), Waterfront Red Car Line realignment, multi-modal pedestrian walkways, and parking would minimize conflicts between the various means of traffic and pedestrians. There would also be incorporation of a network of sidewalks, pedestrian crossings, and trails to enhance the pedestrian environment along streets in the proposed project area and to connect external pedestrian systems in the Wilmington area north of C Street and east of Broad Avenue, as well as to the Harry Bridges Buffer area west of Lagoon Avenue to the recreational and commercial areas

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	in the Port. A contiguous and continuous multi-modal pedestrian promenade along the waterfront would separate vehicles from pedestrians and provide people with various ways to move through the Port area and public open spaces. Additionally, the land bridge would also separate vehicles from pedestrians and provide people with a route to access the recreational and commercial amenities at the waterfront
Objective 12: To stimulate employment opportunities for workers residing in adjacent communities, such as San Pedro and Wilmington.	The proposed Project is **consistent** with this objective. The proposed Project would include commercial uses (retail and restaurants) that would increase the employment opportunities for workers residing in adjacent communities. Additionally, the proposed Project includes streetscaping treatments to attract light industrial development and plans for the future infill, development, and redevelopment of 150,000 square feet of light industrial uses in this area north of Harry Bridges Boulevard. The proposed light industrial use would provide employment opportunities for people living in Wilmington and possibly San Pedro.
Policy 2. Marina, marina-related facilities and recreational boating facility projects, to the extent feasible, shall be designed and located so as not to interfere with the harbor-related needs of the commercial fishing industry or of vessels engaged in waterborne commerce, transportation or services.	The proposed Project is **consistent** with this policy. Proposed waterfront development includes a waterfront promenade and two floating docks located at the edge of Slip No. 5 in the existing PA 5. There is no commercial fishing in this area, and the waterborne commerce of Catalina Freight would be relocated to another area of the Port, under a separate project. The floating docks would serve recreational water users and potentially a water taxi. Therefore, the waterfront promenade and floating docks would not interfere with any harbor-related needs of the commercial fishing industry or vessels engaged in waterborne commerce. And the floating docks may actually support waterborne transportation services via the proposed waterborne taxi.
Policy 5. When a facility project involving a change in either land or water use is proposed for those areas in the Port which are adjacent or contiguous to residential, commercial or industrial areas in the surrounding communities, an analysis of the location, design effect and operation of the proposed facility shall be made to ensure the compatibility of such a Port facility with the provisions of the Risk Management Plan and with existing and/or planned uses in adjacent areas.	The proposed Project is **consistent** overall with this policy. Proposed project uses would be segregated and themed where appropriate. All aspects of the proposed Project have been subjected to community participation and review by the public and a wide range of public officials. There are no residential uses in the proposed project area or located along the proposed project boundaries. Currently, there are industrial uses located in the proposed project area, north of Harry Bridges Boulevard along the Avalon Development District, that would be redeveloped and enhanced to support 150,000 square feet of light industrial activities under the proposed Project. This redevelopment and enhancement would be compatible with the surrounding industrial and commercial development. The proposed Project would include the operation of a pedestrian walkway and water feature adjacent to existing DWP tanks prior to the removal of those tanks. Since the commodities stored and handled at the LADWP Marine Tank Farm are not hazardous,

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	they are not subject to a hazardous footprint analysis or the policies of the PMP RMP (see Section 3.7, "Hazards and Hazardous Materials," for additional discussion on the LADWP commodities).
Policy 6. The highest priority for any water or land area use within the jurisdiction of the Port shall be for developments that are completely dependent on harbor water areas and/or harbor land areas for their operations.	The proposed Project is **consistent** with this policy. The proposed Project includes the waterfront area along Slip No. 5. This area would consist of the waterfront promenade, open spaces along the waterfront, and the floating docks. These uses would be dependent upon the harbor water areas and would connect the Wilmington community to their maritime heritage and their historical relationship with the Port.
Policy 7. Decisions to undertake individual and specific development projects shall be based on considerations of alternative locations and designs to minimize environmental impacts.	The proposed Project is **consistent** with this policy. Two design alternatives are being proposed as part of this EIR to ensure the development would occur in the most environmentally sensitive manner.
Policy 8. In designing and constructing facilities in upland and waterfront areas for public recreation, including boating facilities and marinas, adequate public access shall be provided.	The proposed Project is **consistent** with this policy. Contiguous and continuous public access from the Wilmington community to the waterfront is an important element of the proposed Project. Promenade, multi-modal pedestrian paths, and public open space would be included as part of the proposed Project. Additionally, the land bridge would be the primary connection from the Wilmington community and Harry Bridges Boulevard to the waterfront and waterfront promenade. Finally, the realignment of Avalon Boulevard and Broad Street would provide public access to the public recreation opportunities along the waterfront.
Policy 11. It shall be long-range Port development policy to have facilities used for the storage or transfer of hazardous liquid and hazardous dry bulk cargoes that are inappropriately located, phased out, and relocated to more appropriate sites in areas relatively remote from adjacent communities. Such policy shall be subject to the following criteria: (1) changes in economic conditions that affect types of commodities traded in waterfront commerce; (2) the economic life of existing facilities handing or storing hazardous cargoes; and (3) precautions deemed necessary to maintain national security.	The proposed Project is **consistent** with this policy. The proposed Project includes the phase out of the LADWP Marine Tank Farm site for the development of a park, public space, and other-visitor serving amenities.

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Policy 12. Adequate fire and hazard protection facilities and equipment, which meet with the approval of the City of Los Angeles Fire Department, shall be provided in accordance with the Risk Management Plan.	The proposed Project is **consistent** with this policy. Existing fire department facilities are adequate to serve the proposed project area. See Sections 3.12, "Utilities," and 3.13, "Public Services," for additional discussion of public services.
Policy 13. Road, rail and access systems within the Port and connecting links with road, rail and access systems outside of the Port shall be located and designed to provide necessary, convenient and safe access to and from land and water areas consistent with the long-term preferred uses for the Port and consistent with the applicable elements of the City of Los Angeles General Plan and the Local Coastal Program.	The proposed Project is **consistent** with this policy. All transportation systems within the Port have been carefully designed to promote an efficient and safe interface between vehicles of various types and pedestrians. The proposed Project does include connecting links outside the Port, specifically the realignment of Avalon Boulevard and Broad Avenue and the relocation of Water Street. Additionally, the proposed land bridge would provide safe waterfront access from Harry Bridges Boulevard south to the waterfront over the existing railroad tracks and the realigned Water Street. These transportation improvements would be done to make the Wilmington Waterfront even more accessible and safe.
Policy 14. Programs designed to improve or modify roadway circulation in the Port shall be developed, in part, to eliminate: hazardous situations caused by inadequately protected rail/highway crossings; dual use of streets (by rails in the pavement); service and other roads crisscrossing the tracks; and random use of land areas by both highway and rail movement.	The proposed Project is **consistent** with this policy. Roadway circulations within the Port would be improved and modified to promote safe interfaces between pedestrians and vehicles. Intersections would be enhanced where necessary. The Waterfront Red Car Line would be routed along John S. Gibson Boulevard, Pacific Avenue, and Front Street to ensure the safest route. Additionally, the construction of the land bridge would separate vehicle and rail traffic from pedestrians accessing the waterfront.
Policy 16. Location, design, construction and operation of all new or expanded development projects under the Port's jurisdiction shall be based on the latest safety standards appropriate to the intended facility.	The proposed Project is **consistent** with this policy. All aspects of design of the proposed Project would be reviewed by appropriate Port staff to ensure any and all safety standards and measures have been adhered to.
Policy 18. Port development projects shall be consistent with the specific provisions of this Plan, the certified Port Master Plan, the California Coastal Act of 1976 and other applicable federal, state, county and municipal laws and regulatory requirements.	The proposed Project is **consistent** with this policy. The proposed project amendments to the PMP, GP, and zoning would ensure consistency. Furthermore, as discussed throughout this Land Use section, the proposed Project would be consistent with local, state, and federal regulations for the Port.
Policy 19. The following long-range preferred water and land uses shall guide future Port development:	The proposed Project is **inconsistent** with this policy.

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Area 5 West Channel/Cabrillo Beach: Non-hazardous liquid and non-hazardous dry bulk cargo (within the parameters of Policy no. 11), general cargo, commercial fishing operations, and Port-related commercial and industrial uses. *Area 4 West Bank:* Non-hazardous general cargo operations and Port-related industrial uses. *Area 3 West Turning Basin:* Non-hazardous general cargo operations, commercial shipping and other heavy commercial and industrial uses.	The existing long-range preferred water and land uses in PAs 5, 4, and 3 primarily included the storage of bulk cargo and general cargo. The proposed Project includes amendments to change the PMP, GP, and Zoning to allow for open space, recreational, and commercial uses. However, this inconsistency does not result in a significant physical environmental effect. It results in a beneficial environmental effect by providing additional recreational amenities to the area in the form of open space, linking the waterfront to the Wilmington community in the form of a land bridge, and providing additional commercial and light industrial jobs in the Wilmington community.
Policy 20. Since the Port provides an ideal environment for educational purposes such as oceanographic and marine research, the development of educational and research facilities shall be appropriate institutional uses in land or water areas of the harbor where they will not interfere with other Port-dependent preferred uses.	The proposed Project is **consistent** with this policy. Recreation, community, and educational facilities (e.g., the Observation Tower, the Banning's Landing Community Center, and the Waterfront Red Car Museum) would provide various educational opportunities. Additionally, the land bridge would include interpretive and interactive educational components about the Port and Wilmington.
SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN	
Standard 1: Projects must meet the 10 in 1,000,000 excess cancer risk threshold, as determined by health risk assessments conducted during CEQA review and implemented through required CEQA mitigations associated with lease negotiations.	The proposed Project is **consistent** with this standard.
Standard 2: Projects that exceed the SCAQMD CEQA significance thresholds for criteria pollutants must implement the maximum available controls and feasible mitigations for any emissions increases.	The proposed Project is **consistent** with this standard. The proposed Project could potentially exceed the SCAQMD–CEQA significance threshold for criteria pollutants by increasing the number of visitors and thereby increasing vehicle trips. However, the proposed Project includes a general reduction in the intensity of land uses south of Harry Bridges Boulevard by removing existing industrial uses and replacing them with recreational use and open space. This would reduce the amount of pollutants when compared to existing land uses. The proposed Project would implement maximum

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	available controls and feasible mitigation measures in order to lower the impacts on air quality in the proposed project area. See Sections 3.2, "Air Quality and Meteorology," and 3.11, "Transportation and Circulation—Ground and Marine," for additional information.
PORT OF LOS ANGELES GREEN BUILDING POLICY	
New Construction (e.g., office buildings) 7,500 square feet or greater, without compromising functionality, will be designed to a minimum level of LEED NC Gold.	The proposed Project is **consistent** with this standard. The proposed Project includes a total of 70,000 square feet of commercial use (12,000 square feet of restaurant space; 58,000 square feet of Retail/Mercado space) and 150,000 square feet of light industrial use. Currently there are no proposed or known tenants for this development. Future tenant occupation would be based on an Open Port RFP process that would incorporate conditions for each tenant's ability to meet LEED Certification and the Port's minimum level requirements.
New Construction (e.g., marine utilitarian buildings such as equipment maintenance), without compromising functionality, will be designed to a minimum level of LEED NC Silver.	The proposed Project is **consistent** with this standard. The proposed Project includes a total of 70,000 square feet of commercial use (12,000 square feet of restaurant space; 58,000 square feet of Retail/Mercado space) and 150,000 square feet of light industrial use. Currently there are no proposed or known tenants for this development. Future tenant occupation would be based on an Open Port RFP process that would incorporate conditions for each tenant's ability to meet LEED Certification and the Port's minimum level requirements.
Existing Buildings of 7,500 square feet or greater will be inventoried as evaluated for their applicability to the LEED Existing Building Standards. Priority for certification will be determined by building operation and maintenance procedures.	The proposed Project is **inconsistent** with this standard. Under the proposed Project, no existing buildings would be assessed and upgraded/updated on their individual ability to meet LEED Certification and the Port's minimum level requirements. Only new buildings that the Port would own or would occupy would be for LEED certification.
All other buildings will be designed or constructed to meet the highest achievable LEED standard to the extent feasible for the building's purpose.	The proposed Project is **consistent** with this standard. The proposed Project includes a total of 70,000 square feet of commercial use (12,000 square feet of restaurant space; 58,000 square feet of Retail/Mercado space) and 150,000 square feet of light industrial use. Currently there are no proposed or known tenants for this development. Future tenant occupation would be based on an Open Port RFP process that would incorporate conditions for each tenant's ability to meet LEED Certification and the Port's minimum level requirements.
All Port buildings will include solar power to the	The proposed Project is **consistent** with this standard.

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maximum extent feasible, as well as incorporation of the best available technology for energy and water efficiency.	The proposed Project would incorporate energy efficient designs into construction and development of new buildings. In addition, the proposed Project would incorporate photovoltaics on the shade pavilions, with a goal of providing up to 12.5% of the proposed Project's energy needs through solar power.
WILMINGTON-HARBOR CITY COMMUNITY PLAN	
Under the proposed Project the Port Plan and PMP may be amended to expand their respective jurisdictional boundaries and, therefore, would ultimately be the land use documents that would control approximately ¾ of the proposed project area that is currently under the jurisdiction of the Wilmington-Harbor City CP. Although this area would be ultimately under the control of the Port Plan and the PMP, the analysis below identifies the goals, objectives, and policies of the Wilmington-Harbor City CP and their consistency with the proposed Project. However, it should be noted that even without the boundary change, the proposed Project is consistent with the Wilmington-Harbor City CP.	
Goal 2: A strong and competitive commercial sector which best serves the needs of the community through maximum efficiency and accessibility while preserving the unique commercial and cultural character of the community.	The proposed Project is **consistent** with this goal. The proposed Project would provide approximately 150,000 square feet of a vibrant light industrial sector north of Harry Bridges Boulevard and 70,000 square feet of commercial use (Retail/Mercado/Restaurant) south of Harry Bridges Boulevard and along the waterfront promenade. The development of these commercial areas would be directed toward efficiency and accessibility, and preserving the cultural character of the Wilmington community
Objective 2-1: To conserve, strengthen and encourage investment in all commercial districts.	The proposed Project is **consistent** with this objective. The proposed Project, by enhancing the visual character of, and improving the accessibility to, the area, would encourage investment in the commercial districts along the Avalon Development District and the waterfront promenade.
Policy 2-1.3: Support commercial and/or recreational development at the foot of Avalon Boulevard as a focus for revitalization efforts, in coordination with Port development activities.	The proposed Project is **consistent** with this policy. The proposed Project would be directed at supporting the commercial and recreational development at the foot of Avalon Boulevard. The waterfront promenade, commercial land use, and land bridge directly relate to Policy 2-1.3. The proposed Project would enhance the visual character of the area and improve accessibility to the area, which would support development and revitalization within the Avalon Development District.
Goal 3: Provide sufficient land for a variety of industrial uses with maximum employment opportunities which are safe for the environment and	The proposed Project is **consistent** with this goal. The proposed Project includes sufficient land to provide for the area's existing industrial character. At the northern half of the Avalon Development District, between Lagoon and

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the work force and which have minimal adverse impact on adjacent residential uses.	Broad Avenues, there would be opportunities for redeveloped and infill development consisting of light industrial uses. These light industrial uses would provide jobs for the residents of the proposed Project and surrounding area. And, in accordance with LAHD's Green Building Policy, the buildings would be developed in an environmentally sustainable matter, with mandatory achievement of LEED certification levels depending on the type of development.
Objective 3-1: To provide locations for future industrial development and employment which are convenient to transportation facilities and compatible with surrounding land uses.	The proposed Project is **consistent** with this objective. Industrial uses are currently located north of Harry Bridges Boulevard in the proposed project area. This area would be redeveloped and enhanced under the proposed Project to support 150,000 square feet of new and infill light industrial development. This development would be consistent with the surrounding industrial and commercial uses. Therefore, the proposed Project provides industrial development areas that would be conducive and compatible with the surrounding land uses and with the proposed transportation enhancements and upgrades. Additionally, the downgrade of Avalon Boulevard from a collector street to a local street from Harry Bridges Boulevard south to its terminus at Water Street would allow the roadway to be vacated between Broad Avenue and Harry Bridges Boulevard. This would require amending the circulation plan of the City's General Plan and would be justified by the fact that Avalon Boulevard "dead ends" into a private, Port-owned street and serves only Port-owned property. Circulation improvements in the area are discussed further in Section 3.11, "Transportation and Circulation—Ground and Marine."
Policy 3-1.4: Land use compatibility should be achieved by including environmental protection standards and health and safety requirements in the design and operation of industrial facilities, including the measures identified.	The proposed Project is **consistent** with this policy. As discussed above, the environmental, health, and safety standards provided by the Port of Los Angeles and the communities of San Pedro and Wilmington would be implemented at all stages of development for the proposed Project.
Objective 3-2: To retain industrial lands for industrial use to maintain and expand the industrial employment base for the community residents.	The proposed Project is **consistent** with this objective. The proposed Project would retain the industrial land at the northern half of the Avalon Development District, between Lagoon and Broad Avenues. This industrial area would be upgraded and enhanced in order to expand the industrial employment base for the community.
Policy 3-2.1: Protect areas designated for industry and proposed for MR restricted zoning classification on the Plan map from unrelated commercial and other non-	The proposed Project is **consistent** with this policy. The proposed Project would retain the industrial land at the northern half of the Avalon

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industrial uses, and upgrade such areas with high quality industrial development that is compatible with adjacent land uses.	Development District, between Lagoon and Broad Avenues. This industrial area would be upgraded and enhanced in order to expand the industrial employment base for the community. Although future tenants of this area are currently unknown, tenants would be selected through an open RFP process controlled by the Port. During this process conditions would be applied so that tenants met the minimum LEED standards and so that tenants supporting "green industries" or "green technologies" (e.g., businesses retrofitting diesel engines) would be selected specifically for this area.
Goal 4: Adequate recreation and park facilities which meet the needs of the residents in the plan area.	The proposed Project is **consistent** with this goal. The proposed Project has multiple areas within the proposed project site that would be designated as recreation and park facilities (e.g., the Waterfront Promenade, the 10-acre Land Bridge Park, and the 1-acre Railroad Green). These elements are included as part of the proposed Project to meet the needs of the Wilmington community.
Objective 4-2: To provide facilities for specialized recreational needs within the Community with consideration given to utilizing existing public lands such as flood control channels, utility easements, or Department of Water and Power Property.	The proposed Project is **consistent** with this objective. The proposed Project would include the purchase and redevelopment of the DWP property and tanks between Water Street and Harry Bridges Boulevard. Once this property is purchased by the Port, the DWP tanks would be decommissioned and removed, and the land would be remediated as needed. The 10-acre proposed land bridge would be built on this area. Therefore, the proposed Project would utilize existing DWP property to provide facilities for specialized recreational needs.
Policy 4-2.1: Program: Portions of the abandoned railroad right-of-way in east Wilmington has been developed as parkland. The plan encourages their continued maintenance, and the upgrading and expansion of these parks where possible.	The proposed Project is **consistent** with this policy. The Railroad Green area is currently an abandoned railroad right-of-way. As part of the proposed Project it would be upgraded and maintained as a green open space park.
Objective 4-4: To expand and improve local parks throughout the Plan area on an accelerated basis, as funds and land becomes available.	The proposed Project is **consistent** with this objective. The proposed Project primarily would expand the existing open space and green space acreage within the Wilmington community; it would consist of a 10-acre landscaped and hardscaped land bridge, the Railroad Green park, and many open space areas along the waterfront, including the waterfront promenade. The proposed Project would include standards of park, recreational, and open space improvement and maintenance for all of the parks included within the proposed project area.
Objective 4-5: To ensure the accessibility, security, and safety of parks by their users, particularly families	The proposed Project is **consistent** with this objective.

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with children and senior citizens.	All parks within the proposed Project would include security and safety features (e.g., lighting and walkways) to provide accessibility and safety to the users of the parks. Furthermore, the proposed Project could, at a future date and with appropriate analysis, include a Port police boat stationed further down Water Street. Finally, as discussed in Section 3.13, "Public Services," there would be adequate police security for the park.
Goal 18: Coordinate the development of the Port of Los Angeles with surrounding communities to improve the efficiency and operational capabilities of the Port to better serve the economic needs of Los Angeles and the region, while minimizing adverse environmental impacts to neighboring communities from Port-Related activities.	The proposed Project is **consistent** with this goal. The Port involves members of the surrounding communities as part of the public CEQA process, as well as facilitating the Port Community Advisory Committee's (and various subcommittees') involvement in the proposed Project. Furthermore, the development of the proposed Project has been an active planning process with the Wilmington community, starting with the input received by the community to prepare the Wilmington Waterfront Development Final Plan in 2004. Four community workshops were conducted after this plan to receive community input, review, and comment. The Port has coordinated with the community throughout the entire Wilmington Waterfront Development planning process.
Objective 18-1: To coordinate the future development of the Port with all adopted City Plans the Wilmington Industrial Park Redevelopment Project and the Enterprise Zone.	The proposed Project is **consistent** with this objective. The proposed Project enhances and expands commercial and industrial development, provides for increased employment opportunities, and accommodates the needs of the surrounding community.
Objective 18-2: To continue to develop and operate the Port of Los Angeles to provide economic, employment, and recreational benefits to neighboring communities.	The proposed Project is **consistent** with this objective. The proposed Project would maintain these locations for recreation uses, including sport fishing and recreational boating.
Policy 18-2.1: The Port should continue to provide employment opportunities for workers residing in the Wilmington-Harbor City communities.	The proposed Project is **consistent** with this policy. As discussed earlier in this Land Use section, the proposed Project would enhance and upgrade the Avalon Development District in order to attract business development and increase employment opportunities. The proposed Project includes development of a variety of commercial, industrial, restaurant, retail, and recreational uses that would also increase employment opportunities.
Policy 18-2.2: The Port should commit resources toward providing public amenities (commercial, recreational and service-oriented) that will benefit the Wilmington community, consistent with the State	The proposed Project is **consistent** with this policy. The proposed Project considered its relationship with the adjacent Wilmington community and its community plan. The Port would commit resources toward public amenities under the proposed Project that would benefit the Wilmington community and would be consistent

Goal/Objective/Policy	*Consistency Analysis*
Tidelands Grant, the California Coastal Act of 1976 and the City Charter.	with the State Tidelands Grant. The proposed Project would include a Waterfront Red Car Museum, the extension of the Waterfront Red Car Line, a pedestrian corridor and enhancement of the CCT, and the Railroad Green. All of these amenities would benefit the Wilmington community. The proposed Project would also include public amenities such as the land bridge, which would provide public access to the waterfront, the waterfront promenade, the Observation Tower, and the floating docks, all of which would be consistent with the State Tidelands Grant and the California Coastal Act.
Objective 18-3: To assure that Port programs for land acquisition and circulation improvements will be compatible with and beneficial in reducing environmental impacts to surrounding communities caused by Port-related activities, as well as beneficial to the Port.	The proposed Project is **consistent** with this objective. The proposed Project includes land acquisition of the existing DWP property and tanks between Water Street and Harry Bridges Boulevard for the full buildout of the 10-acre land bridge. The proposed Project would reduce environmental impacts on the Wilmington community, because the removal of the DWP tanks would replace an industrial land use with a passive recreation use that would also connect the Wilmington community to the waterfront. Additionally, the purchase of the property and tanks and ultimate removal of the tanks would require remediation if contamination of groundwater or soil is identified. This remediation would also reduce environmental impacts on the Wilmington community. The straightening of Avalon Boulevard and Broad Avenue and the realignment of Water Street are circulation improvements that would be beneficial to the Wilmington community in that they would provide better and more direct access to the proposed project area, including the land bridge, the waterfront promenade, and the Observation Tower.
Goal 19: Maintenance of the coastal zone within Wilmington in an environmentally-sensitive manner, to allow maximum use for public access and recreational activities, as well as by other coastal-dependant activities, in accordance with the policies of the California Coastal Act of 1976.	The proposed Project is **consistent** with this goal. All development and maintenance of the waterfront within the proposed Project would be in accordance with the policies of the CCA. As part of the proposed Project public access and recreational use of the waterfront would be enhanced to include a 10-acre land bridge, Observation Tower, waterfront promenade, and floating docks, as well as commercial and retail development; all of which would provide public access to the waterfront and allow for maximum use of the waterfront.
Objective 19-1: To implement the policies of the California Coastal Act of 1976 in the areas of Wilmington designated within the Coastal Zone, allowing for maximum opportunities for public access and recreational/educational activities, and to encourage coastal-dependant activities and to encourage coastal-dependent activities and facilities to	The proposed Project is **consistent** with this objective. All development and maintenance of the coastal zone within the proposed Project would be in accordance with the policies of the CCA. As part of the proposed Project, public access and recreational use of the coastal zone would be enhanced to include a 10-acre land bridge, Observation Tower, waterfront promenade, and floating docks, as well as commercial and retail development; all of which would provide public access to the waterfront and allow for

Goal/Objective/Policy	*Consistency Analysis*
locate in the Coastal Zone.	maximum use of the waterfront.
Policy 19-1.5: Provide public access and viewing areas for the public enjoyment and education of the Coastal Zone environment, including access to and viewing of recreational and industrial activities in the Port of Los Angeles consistent with public safety, efficient Port operations and the California Coastal Act.	The proposed Project is **consistent** with this policy. The proposed Project would provide direct public access and viewing areas for public enjoyment of and education about the Coastal Zone. The proposed Project would provide a 10-acre land bridge giving public access from the Wilmington community to the waterfront. Additionally, the proposed Project includes a promenade at the water's edge, viewing piers, and an Observation Tower, all of which would provide public access and viewing areas along the Coastal Zone of the proposed project area. Finally, the proposed Project would include interpretive displays regarding the historical maritime activities of Wilmington and the Port, providing education about the Coastal Zone.
SAN PEDRO COMMUNITY PLAN—RELATIONSHIP TO THE PORT OF LOS ANGELES SECTION	
The proposed Project is not located within the jurisdictional boundary of the San Pedro CP. However, the Waterfront Red Car Line and Pedestrian Corridor, which follow John S. Gibson, Pacific Avenue, and Front Street, border the San Pedro CPA. Therefore, the consistency between the proposed Project and applicable goals, objectives, and policies of the San Pedro CP are discussed below. The proposed Project is consistent with the San Pedro CP.	
Goal 19: Coordinate the development of the Port of Los Angeles with surrounding communities to improve the efficiency and operational capabilities of the Port to better serve the economic needs of Los Angeles and the region, while minimizing adverse environmental impacts to neighboring communities from Port-related activities.	The proposed Project is **consistent** with this goal. The proposed Project enhances and expands commercial and industrial development, provides for increased employment opportunities, and accommodates the needs of the surrounding community. The proposed Project's consistency with the Port's Green Building Plan, Sustainability Plan, and Clean Air Action Plan would ensure that environmental impacts on neighboring communities would be minimized. Furthermore, traffic and circulation upgrades and realignments would improve the efficiency and operational capabilities of the Port with surrounding communities.
Objective 19-1: To recognize the Port of Los Angeles as a regional resource and the predominant influence on the economic well-being of the Community and to promote its continued development as to meet the needs of the fishing industry, recreational users, the handling of passengers and cargo, with special emphasis on the accommodation of increasingly larger ships.	The proposed Project is **consistent** with this objective. The proposed Project recognizes the Port's economic influence on the surrounding communities. As such, the proposed Project's development of the waterfront promenade, including recreational and commercial uses, as well as the 150,000 square feet of light industrial uses, would ensure the economic well-being of the proposed project area and the Port.

Impact Determination

The proposed Project is consistent with nearly all goals, objectives, and policies of the following plans:

- SCAG Regional Plans including the RCP, RTP, and RCPG
- Framework Plan
- Port of Los Angeles Strategic Plan
- Port of Los Angeles Plan (part of the City of Los Angeles General Plan)
- Los Angeles Green Building Policy
- CAAP
- Wilmington-Harbor City CP (part of City of Los Angeles General Plan)
- San Pedro CP (part of City of Los Angeles General Plan)

The proposed Project is consistent with California Tidelands Trust Act of 1911 because all property and improvements included in the proposed Project would be dedicated to maritime-related uses and maritime-support uses. The proposed Project is consistent with the Port Master Plan's provisions, but implementation of the proposed Project would require a PMP amendment as described above under Impact LU-1.

The proposed project is inconsistent with Policy 19 of the Port of Los Angeles Plan as it would not support the identified long-range program for PA 5. The proposed Project would develop a park, land bridge, and Observation Tower in the Avalon Waterfront District. These uses are not explicitly stated in the long-range plan, and the proposed Project would not be consistent with this policy. However, while the proposed Project is inconsistent, there is no adverse physical effect that would result that could not be mitigated to a less-than–significant level, from the development of a land bridge and Observation Tower, as analyzed and described in each resource section of this EIR (i.e.. Aesthetics, Air Quality, Biology, etc.).

The proposed Project would be generally consistent with all land use goals, objectives, and policies of the plans identified above. Any inconsistencies related to the land use goals, objectives, and policies of the plans identified above (e.g., Policy 19 of the Port of Los Angeles Plan) would not result in a physical environmental impact; therefore, these inconsistencies would be less than significant. Impacts would be less than significant under LU-2.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.8.4.3.1 Summary of Impact Determinations

Table 3.8-6 summarizes the impact determinations of the proposed Project related to land use and planning, as described in the detailed discussion and tables above. Identified potential impacts may be based on federal, state, City of Los Angeles, and LAHD significance criteria.

For each type of potential impact, Table 3.8-6 describes the impact, notes the CEQA impact determination, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.8-6. Summary Matrix of Potential Impacts and Mitigation Measures for Land Use Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.8 Land Use			
LU-1: The proposed Project would be consistent with the adopted land use/density designation in the Community Plan, redevelopment plan, and specific plan for the site.	Less than significant	No mitigation is required.	Less than significant
LU-2: The proposed Project would be consistent with the General Plan, adopted environmental goals, and policies contained in other applicable plans.	Less than significant	No mitigation is required.	Less than significant

3.8.4.4 Mitigation Monitoring

No mitigation related to Land Use and Planning is required for the proposed Project.

3.8.5 Significant Unavoidable Impacts

No significant unavoidable impacts on Land Use and Planning would occur during construction or operation of the proposed Project.

3.9

NOISE

3.9.1 Introduction

This chapter describes the fundamentals of noise, the existing environmental setting for noise, the regulatory setting associated with noise, the potential increase of noise that would result from the proposed Project and cause significant impacts, and the mitigation measures that would reduce these impacts.

3.9.1.1 Noise Fundamentals

Noise may be defined as unwanted sound and is usually objectionable because it is disturbing or annoying. The objectionable nature of noise can be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is the amplitude of sound waves combined with the reception characteristics of the ear. Amplitude may be compared with the height of an ocean wave. Technical acoustical terms commonly used in this section are defined in Table 3.9-1.

Table 3.9-1. Definitions of Acoustical Terms

Term	*Definition*
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals in air). Sound pressure level is the

Term	*Definition*
	quantity that is directly measured by a sound level meter.
Frequency (Hertz [Hz])	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA $L_{eq[h]}$.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after the addition of 5 dB to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dB to sound levels in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after the addition of 10 dB to levels measured in the night between 10:00 p.m. and 7:00 a.m.
L_1, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1, 10, 50, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content as well as the prevailing ambient noise level.

3.9.1.1.1 Decibels and Frequency

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise. The *decibel* is a unit of measurement, which indicates the relative amplitude of a sound. Zero on the decibel scale is based on the lowest sound pressure that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its level. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness over a wide range of amplitudes. Since decibels are logarithmic units, sound pressure levels are not added arithmetically. When two sounds of equal sound pressure level are added, the result is a sound pressure level that is 3 dB higher. For example, if the sound level were 70 dB when 100 cars pass by, then it would be 73 dB when 200 cars pass the observer. Doubling the amount of energy would result in a 3 dB increase to the

sound level. Noise levels will not change much when a quieter noise source is added to relatively louder ambient noise levels. For example, a 60 dB noise source is added to 70 dB ambient noise levels, resulting in noise level equal to 70.4 dB at the location of the new noise source.

Frequency relates to the number of pressure oscillations per second, or *Hertz*. The range of sound frequencies that can be heard by healthy human ears is from about 20 Hz at the low frequency end to 20,000 Hz (20 kilohertz [kHz]) at the high frequency end.

There are several methods for characterizing sound. The most common is the *A-weighted sound level* or *dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Studies have shown that the A-weighted level is closely correlated with annoyance to traffic noise. Other frequency weighting networks, such as *C weighting* or *dBC*, have been devised to describe noise levels for specific types of noise (e.g., explosives). Table 3.9-2 shows typical A-weighted noise levels that occur in human environments.

3.9.1.2 Noise Descriptors

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations is utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. A common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration. The scientific instrument used to measure noise is the sound level meter, which can accurately measure environmental noise levels to within approximately plus or minus 1 dBA. Two metrics describe the 24-hour average, L_{dn} and CNEL. Both include penalties for noise during the nighttime, and CNEL also penalizes noise during the evening. CNEL and L_{dn} are normally within 1 dBA of each other and are used interchangeably in this section. L_{dn} and CNEL are approximately equal to the L_{eq} peak hour under normal traffic conditions (Caltrans 1998).

Table 3.9-2. Typical Noise Levels in the Environment

Noise Level dBA	*Extremes*	*Home Appliances*	*Speech at 3 Feet*	*Motor Vehicles at 50 Feet*	*General Type of Community Environment*
120	Jet aircraft at 500 feet				
110					
100		Chain saw			
90		Power lawnmower		Diesel truck (not muffled)	
80		Shop tools	Shout	Diesel truck (muffled)	
70		Blender	Loud voice	Automobile at 70 mph	Major metropolis
60		Dishwasher	Normal voice	Automobile at 40 mph	Urban (daytime)
50			Normal voice (back to listener)		
40		Air-conditioner		Automobile at 20 mph	Suburban (daytime)
30		Refrigerator			Rural (daytime)
20					
10					
0	Threshold of hearing				

Source: Harris Miller Miller & Hanson, Inc. (2003).

3.9.1.3 Human Response to Noise

Noise-sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound may adversely affect the use of the land. Noise-sensitive receptors typically include residences, hospitals, schools, guest lodging, libraries, and certain types of passive recreational uses. Sensitive land uses in the proposed project area include:

- existing residences;
- existing recreational land uses; and
- planned recreational land uses.

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. In the normal environment, changes in noise level of 3 dBA are considered just noticeable to most people. A change of 5 dBA is readily perceptible and a change of 10 dBA is perceived as being twice as loud.

Biological responses to noise are discussed in greater detail in Section 3.3, "Biological Resources."

3.9.1.3.1 Noise and Health

A number of studies have linked increases in noise with health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts on fetal development (Babisch 2005). Potential health effects appear to be caused by both short- and long-term exposure to very loud noises and long-term exposure to lower levels of sound. Acute sounds of LAF[1] > 120 dB can cause mechanical damage to hair cells of the cochlea (the auditory portion of the inner ear) and hearing impairment (Babisch 2005). As discussed in Section 3.9.1.1.1, LAF > 120 dB is equivalent to a rock concert or a plane flying overhead at 984 feet.

The World Health Organization and the EPA consider L_{eq} = 70 dB(A) to be a safe daily average noise level for the ear. However, even this "ear-safe" level may cause disturbance to sleep and concentration and may be linked to chronic health impacts such as hypertension and heart disease (Babisch 2006).

A number of studies have looked at the potential health effects from the sound of chronic lower noise levels, such as traffic, especially as these noise levels affect children. In a study of school children in Germany, blood pressure was found to be 10 mmHg[2] higher in a group of students exposed to road traffic noise from high traffic transit routes (Babisch 2006). A study by Kwanda (2004) showed that in pregnant women, exposure to airplane noise was found to be associated with decreased fetal body weight.

3.9.1.4 Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on the following important factors:

Geometric spreading. In the absence of obstructions, sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. Highway noise is not a single stationary point source of

[1]LAF = Sound level with 'A' Frequency weighting and Fast Time weighting
[2] mmHG = millimeter of mercury

sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a "line" source) rather than from a point. This results in cylindrical spreading rather than the spherical spreading resulting from a point source. The change in sound level from a line source is 3 dBA per doubling of distance.

Ground absorption. Usually the noise path between the source and the observer is very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation because of geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective surface, such as a parking area or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.

Atmospheric effects. Research by Caltrans and others has shown that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 500 feet, whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation).

Shielding by natural or human-made features. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receiver, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

3.9.2 Existing Environment

3.9.2.1 Existing Noise Measurements

Noise measurement locations were initially determined based on aerial photographs of the area surrounding the proposed project site, which showed the location of residential uses, schools, and public facilities. Exact measurement locations were then chosen during site visits on January 31st and June 5th, 2008, based on the potential for noise-related impacts to occur. Short-term noise measurements were taken at measurement locations around the proposed project site and in the surrounding neighborhoods to establish the existing ambient noise profile in the and around the proposed project site. These noise levels from Table 3.9-3 are used for the project baseline unless otherwise stated. A Larson Davis 820 type 1 (Precision-grade) digital sound level meter was used to measure the existing ambient noise levels. The sound meter was mounted on a tripod, and a windscreen covered the sound meter's microphone to diminish the effect of unwanted wind-generated noise; 15-minute measurements were conducted recorded at the measurement locations. Both before and after each set of measurements were taken, a CA 250 calibrator was used to verify the calibration of the sound level meter. Noise metrics recorded consisted of the measured L_{eq}, L_{min}, L_{max}, L_{10}, L_{50}, and L_{90}. Prevailing weather conditions at each site were noted along with other factors that might adversely alter the quality of the noise measurements. The results of those measurements are displayed in Table 3.9-3, and the locations are displayed in Figure 3.9-1.

3.9.2.1.1 ST-1: Water Street and Avalon Boulevard, near the DWP oil tanks

Site ST-1 is located at the site of the proposed land bridge (proposed park site), on the north side of Water Street near an open lot. To the northwest there are several LADWP oils tanks, backup power generating stations, and the Harbor Generation Station, a gas fired power plant (Port of Los Angeles 2007). A rail line runs from the southwest of ST-1 to the northeast. The measured L_{eq} at ST-1 was 62.8 dBA; noise sources included the rail line and traffic.

3.9.2.1.2 ST-2: Corner of Harry Bridges and Avalon Boulevard

Site ST-2 is located at the intersection of Avalon Boulevard and Harry Bridges Boulevard. An open lot is to the east of the site, and commercial developments are to the north and west. ST-1 is south of the site. The measured L_{eq} at the site was 68.7 dBA with the main noise source being traffic along Harry Bridges Boulevard.

Table 3.9-3. Noise Measurement Results (dBA)

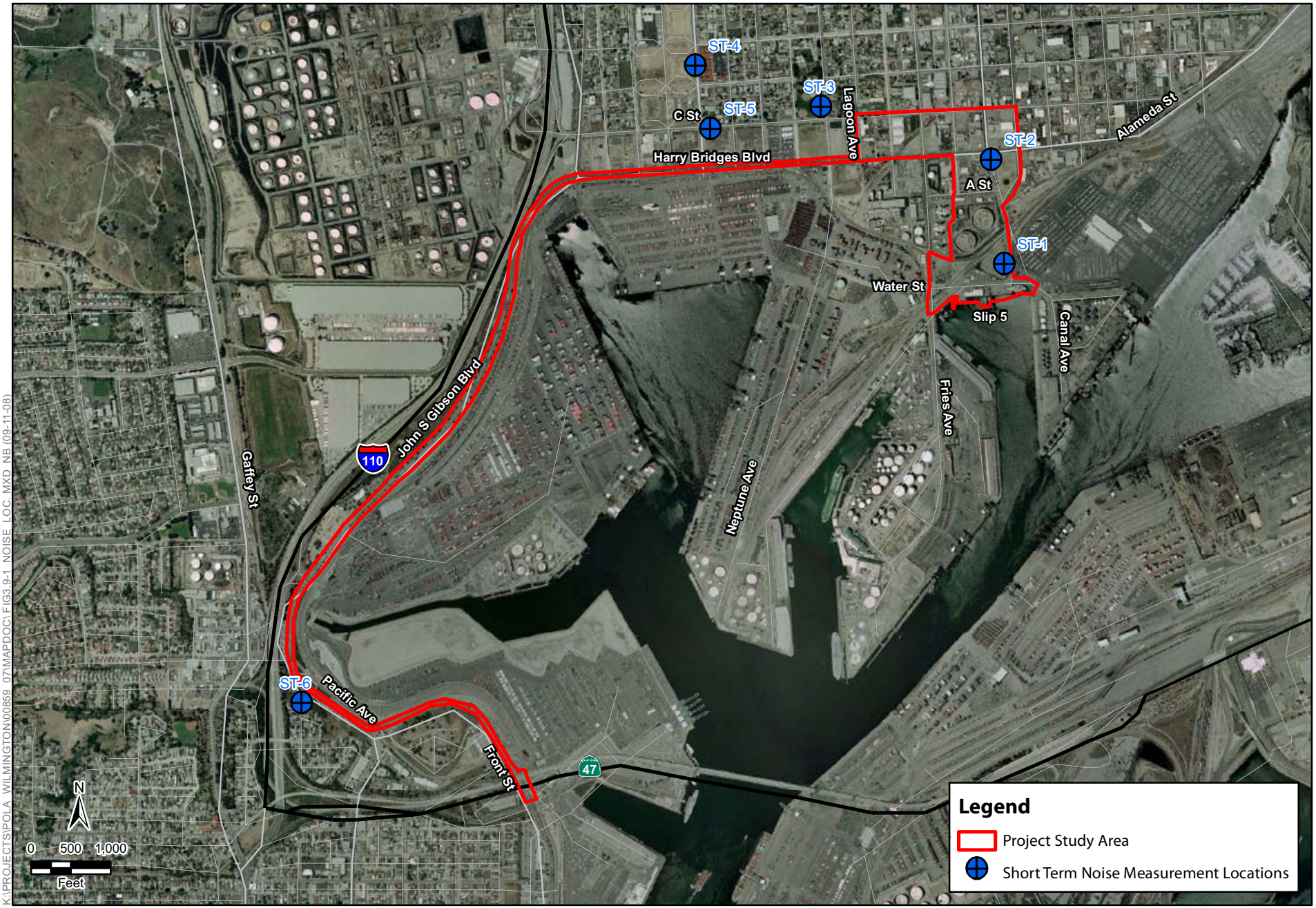
		Measurement Period				Measurement Results (dBA)					
Site ID	Measurement Location	Date	Start Time (a.m.)	Duration (mm:ss)	Noise Sources	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
ST-1	Water Street and Avalon Boulevard, near the DWP oil tanks (proposed Land Bridge)	1/31/2008	9:56	15:00	Traffic, Rail, Industrial, Aircraft	62.8	73.2	50.1	53.5	60.8	66.1
ST-2	Corner of Harry Bridges and Avalon Boulevard (Park)	1/31/2008	10:23	15:00	Traffic	68.7	81.3	53.9	59.0	66.0	72.3
ST-3	Wilmington Recreation Center near Neptune Avenue	1/31/2008	10:50	16:00	Traffic, Rail, Industrial, Distant Construction	54.3	63.9	46.3	49.2	53.1	57.1
ST-4	425 Wilmington Boulevard	1/31/2008	11:14	15:00	Traffic, Aircraft, Residents	62.3	80.0	46.3	50.1	55.3	65.8
ST-5	Corner of North Wilmington Boulevard and West C Street	1/31/2008	11:40	15:00	Traffic, Industrial, Distant Traffic (Trucks) Distant Industrial	59.0	70.4	52.0	53.6	57.1	61.8
ST-6	600 Shields Avenue	6/5/2008	10:12	15:00	Traffic (I-110), Truck Traffic from the Port, Birds	60.7	70.4	56.7	58.4	60.0	62.8

3.9.2.1.3 ST-3: Wilmington Recreation Center

Site ST-3 is located on the southern end of the Wilmington Recreation Center and would represent sensitive receptors using the recreation center. ST-3 would also represent commercial development found to the east and west, residential development to the northeast and northwest, and an open field to the south. The measured L_{eq} at the site was 54.3 dBA with the main noise source being traffic along West C Street.

3.9.2.1.4 ST-4: Adjacent to North Wilmington Boulevard

ST-4 is representative of the multi-family residential units located along Wilmington Boulevard, and residential developments found to the north, east, south, and west of the site. The measured L_{eq} was 62.3 dBA with the main noise source being traffic along North Wilmington Boulevard and workers performing construction-related activities nearby.



K:\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.9-1_NOISE_LOC.MXD NB (09-11-08)

SOURCE: ESRI USA Imagery (2006)

ICF Jones & Stokes
an ICF International Company

Figure 3.9-1
Noise Measurement Locations
Wilmington Waterfront Development Project

3.9.2.1.5 ST-5: Corner of North Wilmington Boulevard and C Street

ST-5 is representative of the single-family homes along C Street and the surrounding land uses; including residential to the north and west, with commercial uses located to the east. An undeveloped lot lies to the south. The measured L_{eq} at ST-5 was 59 dBA with the main source of noise being traffic along C street.

3.9.2.1.6 ST-6: Residential location on Shields Avenue above Pacific Avenue

ST-6 is representative of the single-family homes along Shields Drive above Pacific Avenue. The surrounding land uses include residential to the south, with the Port to the north and east. I-110 is to the west and was clearly audible. The measured L_{eq} at ST-6 was 61 dBA with the main source of noise being traffic along on I-110.

3.9.3 Applicable Regulations

3.9.3.1 U.S. Department of Transportation Federal Highway Administration

Table 3.9-4. FHWA Noise Abatement Criteria (NAC) in dBA (Hourly A-weighted Sound Level).

Activity Category	*NAC, Leq(h)*	*Description of Activity Category*
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches libraries, hospitals, and auditoriums.
Source: Caltrans (2008).		

3.9.3.2 City of Los Angeles Municipal Code

Section 41.40 of the City of Los Angeles Municipal Code prohibits construction work during nighttime and early morning hours. The Municipal Code section states the following:

> (a) No person shall between the hours of 9:00 pm and 7:00 am of the following day perform any construction or repair work of any kind upon or any excavating for, any building or structure, where any of the foregoing entails the use of any power-driven drill, driven machine, excavator, or any other machine, tool, device, or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling, hotel, or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the jobsite delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this code.
>
> (b) No person, other than an individual homeowner engaged in the repair or construction of his single-family dwelling shall perform any construction or repair work of any kind upon, or any earth grading for, any building or structure located on land developed with residential buildings under the provisions of Chapter I of this Code, or perform such work within 500 feet of land so occupied, before 8:00 a.m. or after 6:00 p.m. on any Saturday or national holiday nor at any time on any Sunday. In addition, the operation, repair or servicing of construction equipment and the job-site delivering of construction materials in such areas shall be prohibited on Saturdays and on Sundays during the hours herein specified. The provisions of this subsection shall not apply to persons engaged in the emergency repair of:

The code section then provides certain provisions for exceptions and exemptions.

Chapter 11 of the Municipal Code sets forth noise regulations, including regulations applicable to construction noise impacts. Section 112.05 establishes maximum noise levels for powered equipment or powered hand tools. This section states:

> Between the hours of 7:00 am and 10:00 pm in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet there from (a) 75 dBA for construction, industrial and agricultural machinery including crawler tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, depressors, and pneumatic or other powered equipment; (b) 75 dBA for powered equipment of 20 horsepower or less intended for infrequent use in residential areas including chain saws, log chippers, and powered hand tools; and (c) 65 dBA for powered equipment intended for repetitive use in residential areas including lawn mowers, backpack mowers, small lawn and garden tools, and riding tractors.
>
> The noise limits for particular equipment listed above in (a), (b) and (c) shall be deemed to be superseded and replaced by noise limits for such equipment from

and after their establishment by final regulations adopted by the Federal Environmental Protection Agency and published in the Federal Register.

Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers, and/or other noise reduction device and techniques during the operation of the equipment.

3.9.3.3 City of Los Angeles Noise Element

The City of Los Angeles General Plan Noise Element establishes standards for exterior sound levels based on land use categories. The Noise Element states that the maximum acceptable outdoor noise exposure-level for residential, hospital, and school zones is 65 dBA CNEL and that silencers and mufflers on intake and exhaust openings for all construction equipment are required. Table 3.9-5 summarizes the City's noise compatibility guidelines.

Table 3.9-5. City of Los Angeles Guidelines for Noise Compatible Land Use

Land Use Category	Day-Night Average Exterior Sound Level (CNEL dB)						
	50	55	60	65	70	75	80
Residential Single-Family, Duplex, Mobile Home	A	C	C	C	N	U	U
Residential Multi-family	A	A	C	C	N	U	U
Transient Lodging, Motel, Hotel	A	A	C	C	N	U	U
School, Library, Church, Hospital, Nursing Home	A	A	C	C	N	N	U
Auditorium, Concert Hall, Amphitheater	C	C	C	C/N	U	U	U
Sports Arena, Outdoor Spectator Sports	C	C	C	C	C/U	U	U
Playground, Neighborhood Park	A	A	A	A/N	N	N/U	U
Golf Course, Riding Stable, Water Recreation, Cemetery	A	A	A	A	N	A/N	U
Office Building, Business, Commercial, Professional	A	A	A	A/C	C	C/N	N
Agriculture, Industrial, Manufacturing, Utilities	A	A	A	A	A/C	C/N	N

Notes:

A = Normally acceptable. Specified land use is satisfactory, based upon assumption buildings involved are conventional construction, without any special noise insulation.
C = Conditionally acceptable. New construction or development only after a detailed analysis of noise mitigation is made and needed noise insulation features are included in project design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning normally will suffice.
N = Normally unacceptable. New construction or development generally should be discouraged. A detailed analysis of noise reduction requirements must be made and noise insulation features included in the design of a project.
U = Clearly unacceptable. New construction or development generally should not be undertaken.

3.9.3.4 Wilmington-Harbor City Community Plan

Community plans are intended to promote an arrangement of land uses, streets, and services which will encourage and contribute to the economic, social, and physical health, safety, welfare, and convenience of the people who live and work in the community. The plans are also intended to guide development in order to create a healthful and pleasant environment. Goals, objectives, policies, and programs are created to meet the existing and future needs and desires of the community through future years. The CPs are part of the Land Use Element of the City of Los Angeles General Plan, and are intended to coordinate development among the various parts of the City and adjacent municipalities in a fashion both beneficial and desirable to the residents of the community.

The Wilmington-Harbor City CP ensures that sufficient land is designated that provides for the housing, commercial, employment, educational, recreational, cultural, social, and aesthetic needs of the residents of the CP area. The land use designations are designed to help ensure land use compatibility, including noise compatibility based upon the City of Los Angeles General Plan Noise Element.

3.9.4 Impact Analysis

3.9.4.1 Methodology

The potential noise impacts due to construction and operation of the proposed Project were estimated using the methodologies described below.

Hourly average construction noise levels have been estimated based on the types of equipment proposed to be on site to complete the various construction projects. These sources included equipment such as loaders, dozers, pile drivers, and trucks. The noise levels are those that would occur during the noisiest phase of construction. Table 3.9-6 shows the noise level ranges of typical construction equipment. During any construction project, the overall average noise levels vary with the level of construction activity and the types of equipment that are on site and operating at a particular time.

Operational noise impacts were assessed using the Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM®), which is their computer program for highway traffic noise prediction and analysis. The most current TNM version (2.5) was used for this report. The parameters for estimating vehicular traffic noise were the typical distance between roadway centerline and receiver; typical AM/PM peak-hour traffic volumes and posted speed limits; percentages of automobiles, medium trucks, buses, motorcycles, and heavy trucks; roadway grade; and site conditions (terrain or structural shielding and ground propagation characteristics). (Federal Highway Administration 2004)

Potential vibration impacts associated with construction were assessed using the USDOT Transit Noise and Vibration Impact Assessment. Construction vibration thresholds were based on USDOT criteria levels for potential damage to structures surrounding the proposed project site.

Potential noise impacts on the proposed recreational uses from the freight rail line located along the western portion of the proposed project site were assessed using the FTA's rail noise model and Soundplan 6.4. The FTA's rail noise model uses train make-up, locomotive type, number of cars, distance from source to receiver, and other parameters to predict noise levels. Soundplan 6.4 is a computer program for the calculation and assessment of noise levels from industrial facilities and other noise sources. The program allows for input of all pertinent features (such as terrain or structures) that affect noise, resulting in a highly accurate estimate of existing and future noise levels. The resultant noise levels are presented in an easy to understand, graphically oriented format—noise "contours." A model that included the proposed heights of the planned land and pedestrian bridges, the location of the existing rail lines, and the location of planned commercial uses was created to predict the train noise levels.

Furthermore, the noise analysis is based on the assumption that the proposed Project would implement the following project design features:

> PD-N-1: All exterior uses associated with the commercial structures located at the waterfront (e.g., the 12,000-square-foot restaurant) that might incorporate exterior uses (e.g., outside seating for restaurants) will be located more than 100 feet from the heavily used San Pedro Branch Line and TraPac ICTF lead. In addition, all commercial structures would be designed to shield any exterior uses from the existing rail line. This would occur by either locating the building between the exterior use and the rail line or by using barriers (i.e., clear Plexiglas) at any locations that have direct line of sight to the existing rail lines east of Fries Avenue and along Water Street to attenuate rail sound.

3.9.4.2 Thresholds of Significance

3.9.4.2.1 CEQA Criteria

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) contains the following significance thresholds related to construction noise. Quantification of ambient noise levels (existing and projected at the time of construction) is measured in CNEL.

A project would normally have a significant impact on noise levels from construction during the *daytime* if:

NOI-1: Construction activities lasting more than 1 day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; or if construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.

A project would normally have a significant impact on noise levels from construction during the *nighttime* if:

NOI-2: Construction activities would exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

NOI-3: Expose persons to or generate excessive groundborne vibration or groundborne noise levels?

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) contains the following significance thresholds for operational noise impacts due to stationary sources, vehicular traffic, or increased railroad operations.

A project would normally have a significant impact on noise levels from project operations if:

NOI-4: Ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more.

Sensitive receptors in the Port area that could be potentially affected by operational noise from the proposed Project include residential land uses (single- and multi-family housing, boats used as residences) and neighborhood parks. At these land uses, a significant impact would occur if the proposed Project causes CNEL noise levels to increase by (1) 5 dBA or greater where the existing CNEL is less than 70 dBA, or (2) 3 dBA or greater where the existing CNEL exceeds 70 dBA.

NOI-5: Existing land uses surrounding the proposed project area would generate noise levels in excess of a land use compatibility standard, which would substantially inhibit the usability of the proposed project site.

3.9.4.3 Impacts and Mitigation

The potential for noise from construction and operation to affect sensitive receptor locations in the area surrounding the proposed project site is assessed in this section.

3.9.4.3.1 Construction Impacts

Proposed project construction is anticipated to increase noise levels temporarily at noise-sensitive locations near the proposed project site. The magnitude of the increases would depend on the type of construction activity, the noise level generated by various pieces of construction equipment, site geometry (i.e., shielding from intervening terrain or other structures), and the distance between the noise source and receiver.

Noise from construction activity is generated by the broad array of powered, noise-producing mechanical equipment used in the construction process. This equipment ranges from hand-held pneumatic tools to bulldozers, dump trucks, and front loaders. Noisy construction activities could be in progress on more than one part of the proposed project site at a given time. However, the noise levels from construction activity and the representative pieces of construction equipment during various phases of a typical construction project have been evaluated, and their use provides an acceptable prediction of a project's potential noise impacts. Noise levels from typical construction equipment are shown in Table 3.9-6.

Table 3.9-6. Typical Noise Levels from Construction Equipment

Construction Equipment	Typical Noise Level at 50 feet (dBA)
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pile-driver (Sonic)	96
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82

Construction Equipment	Typical Noise Level at 50 feet (dBA)
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88
Source: USDOT (2006)	

In order to assess the potential noise effects of construction, this noise analysis used data from an extensive field study of various types of residential, industrial and commercial construction projects (U.S. Environmental Protection Agency 1971). Noise levels associated with various construction phases where all pertinent equipment is present and operating, at a reference distance of 50 feet, are shown in Table 3.9-7. Because of vehicle technology improvements and stricter noise regulations since the field study was published, this analysis will use the average noise levels shown in Table 3.9-7 for the loudest construction phase (excavation and phase). This information indicates that the overall average noise level generated on a construction site could be 89 dBA L_{eq} at a distance of 50 feet during excavation and finishing phases. The noise levels presented are value ranges; the magnitude of construction noise emission typically varies over time because construction activity is intermittent and the power demands on construction equipment (and the resulting noise output) are cyclical.

Table 3.9-7. Typical Noise Levels from Construction Activities for Public Works Projects

Construction Activity	Average Sound Level* at 50 feet (dBA L_{eq})	Standard Deviation (dB)
Ground Clearing	84	7
Excavation	89	6
Foundations	78	3
Erection	87	6
Finishing	89	7
*Sound level with all pertinent equipment operating. Source: EPA 1971.		

Noise levels generated by construction equipment (or by any point source) decrease at a rate of approximately 6 dBA per doubling of distance from the source (Harris 1979). Therefore, if a particular construction activity generated average noise levels of 89 dBA at 50 feet, the L_{eq} would be 83 dBA at 100 feet, 77 dBA at 200 feet, 71

dBA at 400 feet, and so on. This calculated reduction in noise level is based on the loss of energy resulting from the geometric spreading of the sound wave as it leaves the source and travels outward. Intervening structures that block the line of sight, such as buildings, would further decrease the resultant noise level by a minimum of 5 dBA. The effects of molecular air absorption and anomalous excess attenuation would reduce the noise level from construction activities at more distant locations at the rates of 0.7 dBA and 1.0 dBA per 1,000 feet, respectively.

The closest existing noise-sensitive receptors to the portion of the project bounded by the waterfront to the south and C Street to the north are recreational land uses and existing residential land uses to the west across C Street. Construction would take place as near as 600 feet and as far as 2,500 feet or more from the existing Wilmington Recreation Center Park (ST-3). These two distances represent a conservative estimate of construction activities, which could occur as close to the intersection of Lagoon Avenue and C Street and as far away as the intersection of Broad Street and Harry Bridges Boulevard. The closest residences would be approximately 1,200 feet from the "acoustic center"[3] of construction activity. A construction noise level of 89 dBA L_{eq} at 50 feet would attenuate to approximately 61 dBA L_{eq} 1,200 feet from the source (the acoustic center). This noise level would be near or approximately equivalent to the typical ambient daytime noise levels measured in the area, and higher than the ambient daytime noise level measured at the Wilmington Recreation Center. Noise levels from construction would be readily audible and could at times dominate the noise environment at the existing Wilmington Recreation Center Park (ST-3) and surrounding areas. Noise levels at the ST-3 location were measured at 54.3 dBA.

In addition, proposed project operation during Phase 1 and proposed project construction during Phase 2 would overlap at 2015. Proposed project elements such as the waterfront promenade and the first portion of the land bridge would be operational by 2012. Recreational users would be exposed to noise generated from the proposed Project construction. Noise levels at locations operational during phase 2 construction (i.e., locations constructed during Phase 1) would be readily audible and could at times dominate the noise environment within these areas.

Waterfront Development

Waterfront development would include a 6 month time frame in 2011 and 2012 during which pile driving construction associated with the proposed Project would occur. Pile driving construction projects can be expected to generate an L_{eq} of 101 dBA at 50 feet from construction. Assuming that the piles are to be driven north of Water Street, during development of the interim land bridge, the closest sensitive receptor would be measured location ST-3, approximately 1,900 feet to the north of the construction area. A construction noise level of 101 dBA L_{eq} at 50 feet would attenuate to approximately 69 dBA L_{eq} 1,900 feet from the source. This noise

[3] The acoustic center is the idealized point from which the energy sum of all construction activity noise near and far would be centered. The acoustic center takes into account the furthest distance and then nearest distance construction could occur then multiplies them together and takes the square root. This distance is marginally closer than the average of the two distances.

level would be substantially higher than the measured noise level of 54 dBA L_{eq} at location ST-3 (which is the closest sensitive receptor to the proposed pile driving). Noise levels of this magnitude would be readily audible in the area.

Waterfront Red Car Line/CCT

The Waterfront Red Car Line and multi-use pedestrian/bicycle CCT would be extended to connect to the nearby San Pedro Community. The CCT and Waterfront Red Car Line would begin at the intersection of Swinford Street and Harbor Boulevard, proceed along Front Street onto John S. Gibson, and then onto Harry Bridges Boulevard where it would terminate at the intersection with Avalon Boulevard. The precise alignment of the Waterfront Red Car Line is not currently known; therefore for this analysis the closest possible alignment to sensitive receptors was used to represent the worst-case scenario of noise impacts associated with the proposed Project. If determined to be necessary during future environmental review, the effects from the Waterfront Red Car Line will be analyzed in greater detail (at the project level) in a subsequent document when the alignment has been finalized.

Construction of the Waterfront Red Car Line is anticipated to temporarily increase noise levels at residential land uses in the vicinity of the proposed project site. Construction is estimated to last approximately 12 months; however, because the proposed Project is linear in nature, the duration at any particular location would likely be substantially less. In order to assess the potential noise effects from the rail line construction, this noise analysis used data from Table 3.9-7 above to quantify noise levels at the nearest sensitive receptor. The "worst-case" average overall construction noise level would be 89 dBA at a distance of 50 feet from the acoustic center of the construction site during excavation and finishing phases.

Along the proposed project alignment, the nearest noise-sensitive receptors (as represented by ambient noise measurement ST-6) are located approximately 140 feet from the nearest possible alignment along Pacific Avenue. A noise level of 89 dBA L_{eq} at 50 feet from conventional construction activity would attenuate to approximately 80 dBA L_{eq} at 140 feet from the source, using the drop off with distance relation for construction noise as discussed above. This noise level is substantially higher than the typical daytime noise level measured at ST-6 of approximately 61 dBA L_{eq}. Noise level increases of this magnitude would be readily audible and would dominate the noise environment in the area during construction operations.

Impact NOI-1: The proposed Project would last more than 1 day and exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.

Construction activities would typically last more than 10 days in any 3-month period. Based on the thresholds for significance, an impact would be considered significant if noise from these construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use. Using the acoustic center from construction between Harry Bridges Avenue and C Street bound by Broad Street to the east and Lagoon Avenue to the west would raise the noise level approximately 6 dBA above the existing noise environment. Pile driving from the proposed park area would raise the noise levels approximately 15 dBA at the closest sensitive receptor (ST-3) as well as other noise-sensitive land uses in the area adjacent to ST-3. The construction of the Waterfront Red Car Line would raise noise levels at the closest sensitive receptors along Shields Drive (overlooking Pacific Avenue) by approximately 20 dBA.

Furthermore, the overlap of the Phase 1 operational stage with the Phase 2 construction stage would mean recreational users would be exposed to construction related noise. Proposed project elements such as the waterfront promenade and the first portion of the land bridge would be operational by 2012. Recreational users would be exposed to noise generated from the proposed Project construction. Operational locations located adjacent to Phase 2 construction sites would be exposed to intermittent noise levels that would prevent recreational and leisurely activities within these areas.

Construction would exceed the construction noise standards of more than 5 dB increase in ambient noise levels at the closest sensitive receptor ST-3. Although the City's noise ordinance exempts construction activities from the noise standard (providing that such activities take place between the hours of 7:00 a.m. and 9:00 p.m. Monday through Friday, 8:00 a.m. and 6:00 p.m. on Saturdays, and no time on Sundays), control measures are recommended as mitigation to reduce the noise levels to the extent practicable. However, even with the recommended control measures, the increase in noise levels would be considered a significant impact.

Impact Determination

Construction due to the proposed Project would constitute a significant impact. Although mitigation measure MM NOI-1 would reduce impacts resulting from construction noise, it would not be sufficient to reduce the projected increase in the ambient noise level to a level below significance. Even with implementation of this mitigation measure, construction equipment noise levels would be expected to remain significant. Thus, impacts on sensitive receptors resulting from construction would remain significant even after mitigation.

Mitigation Measures

MM NOI-1: The following procedures will help reduce noise impacts from construction activities:

a) **Temporary Noise Barriers.** When construction occurs within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) will be located between noise-generating construction activities and sensitive receptors.

b) **Construction Hours.** Construction will be limited to between 7:00 a.m. and 9:00 p.m. on weekdays; between 8:00 a.m. and 6:00 p.m. on Saturdays; and there will be no construction equipment noise anytime on Sundays as prescribed by the City of Los Angeles Municipal Code.

c) **Construction Days.** Noise-generating construction activities will not occur on Sundays or holidays unless critical to a particular activity (e.g., concrete work).

d) **Construction Equipment.** All construction equipment powered by internal combustion engines will be properly muffled and maintained.

e) **Idling Prohibitions.** Unnecessary idling of internal combustion engines near noise-sensitive areas will be prohibited.

f) **Equipment Location.** All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise-sensitive land uses.

g) **Quiet Equipment Selection.** Quiet construction equipment will be utilized. Noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with.

h) **Notification.** Sensitive receptors including residences within 2,000 feet of the proposed project site will be notified of the construction schedule in writing prior to the beginning of construction.

Residual Impacts

Impacts would be significant and unavoidable.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

No construction activities would occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact NOI-3: The proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Construction of the proposed Project would generate groundborne vibration. In general, demolition of structures during construction generates the highest levels of vibration. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration. Heavy trucks can also generate groundborne vibration, which varies depending on vehicle type, weight, and pavement conditions. The FTA has published standard vibration levels and peak particle velocities for construction equipment operations. The root mean square (RMS) velocity level and peak particle velocities for construction equipment are listed in Table 3.9-8 below.

Table 3.9-8. Vibration Velocities for Construction Equipment

Equipment	*Approximate Velocity Level at 25 Feet, VdB*	*Approximate Peak Particle Velocity at 25 Feet (inches/second)*
Large Bulldozers	87	0.089
Loaded Trucks	86	0.076
Jackhammer	79	0.035
Pile Driver	104	0.644
Data reflects typical vibration level. Source: USDOT (2006).		

Vibration levels from construction equipment attenuate as they radiate from the source. The equation to determine vibration levels at a specific distance states that

$$PPV_{equip} = PPV_{ref} \times (25/D)^{\wedge 1.5}$$

where PPV_{ref} is the Peak Particle Velocity at a reference distance of 25 feet, and D is the distance from the equipment to the sensitive receptor (USDOT 2006).

The closest sensitive receptors are approximately 1,200 feet away from the acoustic center of construction during Phase 1. Phase 1 construction would include construction activities such as pile driving, which experiences the greatest Peak Particle Velocity values from construction equipment. Table 3.9-8 states that pile driving produces Peak Particle Velocities of approximately 0.644 inches per second at a reference distance of 25 feet. This vibration level would attenuate to approximately 0.002 inches per second, which would be undetectable and would be well under the threshold of 0.2 inches per second—the threshold that would cause damage from vibration for masonry and wood timber buildings (USDOT 2006).

The Waterfront Red Car Line would be constructed approximately 140 feet from the closest sensitive receptor. Vibration from construction equipment would be calculated in the same manner as above. Construction of the Waterfront Red Car Line would not require the use of pile drivers during construction. Vibration levels would be associated with earth-moving equipment as well as trucks entering the construction site. Large bulldozers would be utilized for construction of the proposed Waterfront Red Car Line extension, and produce approximately 0.09 inches per second Peak Particle Velocity at a reference distance of 25 feet. This would be well below the threshold of 0.2 to cause damage to engineered structures. At 140 feet (the location of the closest sensitive receptor) vibration levels would be approximately .002 inches per second. These vibration levels would be virtually undetectable at the closest sensitive receptor.

Vibration levels due to construction activities would be below levels that could cause damage to sensitive receptors and would be unnoticeable; thus, construction vibration impacts would be less than significant.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.9.4.3.2 Operational Impacts

Impact NOI-4: Operations would not result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more.

Operational Traffic Noise

Predicted traffic noise levels in the proposed project area under existing, Future (2015) and Future (2020) conditions with and without the proposed Project were analyzed using the FHWA's TNM. TNM is the FHWA's computer program for highway traffic noise prediction and analysis. The most current version (2.5) was used for this report. The parameters used to estimate vehicular traffic noise were: the typical distance between roadway centerline and receiver; peak-hour traffic volumes and posted speed limits; percentages of automobiles, medium trucks, and heavy trucks; and site conditions (terrain or structural shielding and ground propagation characteristics). (Federal Highway Administration 2004)

Noise from motor vehicle traffic associated with the proposed Project was analyzed using the data from the proposed Project's traffic study. Existing, Future (2015) PM peak hour volumes plus cumulative with- and without-project scenarios and Future (2020) PM peak hour volumes with and without the proposed project were used to predict the changes in traffic noise at representative noise-sensitive locations. The results of the noise modeling are shown in Table 3.9-9.

As shown in Table 3.9-9, existing traffic noise levels ranged from 48 dBA CNEL (at modeled receptor ST-3) up to 62 dBA CNEL (at modeled receptor ST-2) (when rounded to the nearest whole number). Future (2015) Cumulative Base Peak Hour Projects noise levels would vary from 49 dBA CNEL at ST-3 to 64 dBA CNEL at ST-2. For Modeled Future (2015) Cumulative Base plus Project conditions, noise levels would vary from 49 dBA CNEL at ST-3 to 64 dBA CNEL at ST-2 (when rounded to the nearest whole number). Future (2015) traffic noise levels With Project would increase 0 to 2 dBA CNEL from the existing baseline. Modeled receptor ST-1 would experience no increase over the existing noise levels associated with the vacation of Avalon Boulevard.

The Future (2020) Cumulative Base noise levels would also range between 49 dBA CNEL at ST-3 and 64 dBA CNEL at ST-2 (when rounded to the nearest whole number). With the inclusion of the proposed Project, the Future (2020) noise levels would remain virtually unchanged from the Future (2015) noise levels. Future (2020) traffic noise volumes would increase approximately 0 to 2 dBA CNEL from existing as well. Modeled receptor ST-1 would still experience no increase in noise levels associated with the vacation of Avalon Boulevard. Therefore, traffic-related noise impacts would not result in a significant impact.

41 **Table 3.9-9.** Traffic Noise Modeling Results

Receptor[1]	*Relevant Noise Standard (dBA CNEL) (not to exceed)*	*Existing Modeled Peak Hour (dBA CNEL)*	*Future Peak Hour (2015) Cumulative Base (dBA CNEL)*	*Future Peak Hour (2015) Cumulative Base plus Project (dBA CNEL)*	*Proposed Project-related Difference between Existing and Future (2015) With Project (dBA)*	*Future Peak Hour (2020) Cumulative Base (dBA CNEL)*	*Future Peak Hour (2020) Cumulative Base plus Project (dBA CNEL)*	*Proposed Project-related Difference between Existing and Future (2020) With Project (dBA)*	*Relevant Noise Standard Exceeded by the Proposed Project?*	*Increase (Compared to Existing) over 3 dBA and Relevant Standard Exceeded?*
ST-1 Water Street and Avalon Boulevard by the DWP oil tanks (proposed land bridge)	70	56	57	56	0	57	56	0	No	No
ST-2 Corner of Harry Bridges and Avalon Boulevard	70	62	64	64	2	64	64	2	No	No
ST-3 Wilmington Recreation Center off Neptune Avenue	65	48	49	49	1	49	49	1	No	No
ST-5 Corner of North Wilmington Boulevard and C Street	65	56	57	57	1	57	57	1	No	No

[1]Measurement Location ST-4 and ST-6 were not used in the traffic noise analysis because the traffic study for the proposed Project suggested that proposed project traffic would not influence Wilmington Boulevard or Pacific Avenue. Therefore, no traffic data was supplied for these measurement locations.

Operational Waterfront Red Car Noise

Predicted traffic noise levels in the proposed project area from the Waterfront Red Car were analyzed using the FTA's General Transit Noise Assessment Model program for rail line noise prediction. The parameters used to estimate rail noise were: the typical distance between track and receiver, type of vehicle (freight train, commuter train, light rail transit), number of vehicle per hour, number of cars per vehicle, typical speed of the vehicles, condition of the tracks, and whether shielding and/or barriers are present (USDOT 2006).

For the purposes of this analysis, the Light Rail Transit (LRT) model was used as the noise source for the Waterfront Red Car. An average speed of 7 miles per hour with 3 cars per hour was used in the analysis, with two Waterfront Red Car Line cars in tandem. Tracks were assumed to be embedded and jointed. Based on these parameters, the resultant noise associated with the operation of the Waterfront Red Car Line would be approximately 57 dBA L_{eq}, or 53 dBA CNEL at the nearest noise-sensitive receptor.

Measurement location ST-6 was measured and modeled as the closest sensitive receptor to the Waterfront Red Car Line construction. Without the Waterfront Red Car Line extension, the 24-hour noise level would be approximately 65 dBA CNEL, assuming the measured noise level of 61 dBA L_{eq} as the typical noise level. With the addition of the noise from the Waterfront Red Car Line extension, the combined noise levels (65 and 53 dBA CNEL) would be approximately 65 CNEL (when rounded to whole numbers). Thus, the Waterfront Red Car Line would not result in an increase in overall noise levels on a CNEL basis; the increase would also not exceed the 3 dBA threshold set forth in Threshold NOI-4 and therefore would not result in a significant impact.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts

Impacts would be less than significant.

Impact NOI-5: Existing land uses surrounding the proposed project area would generate noise levels in excess of a land use compatibility standard, but would not substantially inhibit the usability of the proposed project site.

The proposed Project would introduce new noise sensitive land uses to the proposed project area. The proposed Land Bridge/park and pedestrian "water" bridge would

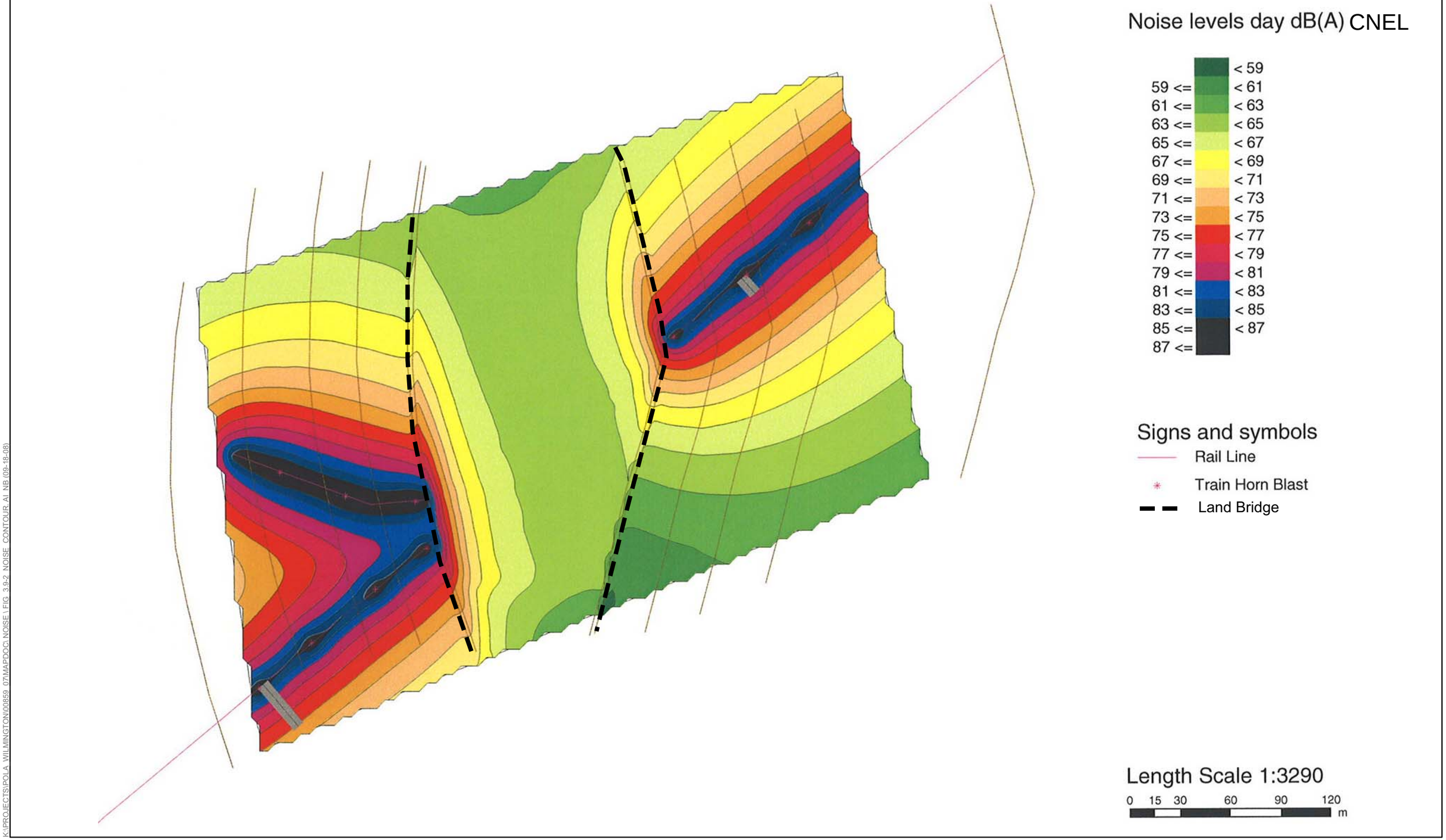
be considered noise sensitive land uses. Introduction of the proposed Project would potentially expose people to noise levels in excess of the standard for parks (67 CNEL)[4]. The proposed park would be bordered to the west by the Harbor Generation Station which includes five peaker power units. Peaker units are smaller power units used during times of high energy demand. The proposed land bridge and pedestrian "water" bridge would also be exposed to noise levels in excess of the 67 dBA CNEL standard from rail line traffic and train horn noise associated with the at-grade crossing surrounding the proposed project site. The proposed commercial/restaurant land uses could also be exposed to noise levels in excess of 77 dBA CNEL as stated in the General Plan of the City of Los Angeles Land Use Compatibility Guidelines.

The ST-1 measurement site represents the park location on the eastern side. Noise level at ST-1 was approximately 63 dBA at the time of the measurement when rounded to the nearest whole number. Existing noise sources include freight trains, which must sound horns to provide a minimum 20 seconds of warning prior to entering an at-grade street crossing (Wilson Geosciences 2006), such as occurs at Harry Bridges Boulevard approximately 1,800 feet northeast of the proposed park, at the proposed realignment of Broad Street, and at Fries Avenue approximately 750 feet to the southwest. Horn noise levels from trains are about 104 dBA at 100 feet (Federal Rail Administration). The proposed park would also be impacted by existing noise from the Harbor Generating Station's peaker units, which are located immediately to the west of the proposed park location.

Noise levels associated with the trains were calculated using Soundplan 6.4. The model included the proposed heights of the planned land and pedestrian "water" bridges, the location of the existing rail lines, and the location of planned commercial uses. The model also included the assumptions that 3 trains per hour going 10 miles per hour would pass along the rail lines and that each train would blow its horn for a duration of 1 second at multiple locations prior to entry into the at-grade crossings. Therefore, all 3 trains would cumulatively blow their horns for approximately 3 seconds total at the crossings and at the tunnel portal. The engine and wheel noise from the trains was also modeled. Each train was assumed to have 4 locomotives and an average of 40 cars per train.

Based on calculations made during modeling, noise levels would range from approximately 74 dBA CNEL at the closest point on the raised land and pedestrian "water" bridges to the rail lines to approximately 64 dBA CNEL in the middle of the land bridge. Although the noise levels would exceed the 67 dBA CNEL thresholds at the edge of the land bridge closest to the track, the noise levels would dissipate toward the interior of the park. Noise levels above 67 dBA CNEL would extend approximately the first 80 feet into the park along the eastern front of the land bridge and approximately the first 100 feet on the western front of the land bridge (Figure 3.9-2). Because the land bridge is approximately 500 feet wide, a large majority of the park would be not be exposed to noise levels which exceed the 67 CNEL

[4] A noise threshold of 67 dBA CNEL was used as criteria for determining significance based on the threshold in the General Plan of the City of Los Angeles Guidelines for Noise Compatibility Land Use. Between 65 and 70 dBA CNEL is considered Normally Acceptable/Normally Unacceptable. Also the FHWA Noise Abatement Criteria is listed as approaching 67 dBA CNEL for Activity Category B which includes "picnic areas, recreation areas, playground and sports area" among others.



K:\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\NOISE\ FIG_3.9-2_NOISE_CONTOUR_AI_NB (09-18-08)

SOURCE: Soundplan 6.4 (2008)

ICF Jones & Stokes
an ICF International Company

Figure 3.9-2
Rail Line Noise Contours across the Proposed Land Bridge
Wilmington Waterfront Development Project

threshold. Park users would be able to avoid these edge locations which exceed the 67 dBA CNEL threshold by moving away from the louder areas and still use a majority of the park space. Therefore, the impact from train noise on the land bridge would be less than significant.

The proposed pedestrian "water" bridge would experience noise levels similar to that from the existing rail lines. Noise levels in excess of the 67 dBA CNEL threshold would extend for approximately 350 feet along the northern section and 180 feet along the southern section when measured from the closest location to the rail lines. Although the proposed pedestrian "water" bridge would experience noise levels in excess of 67 dBA CNEL along certain portions of the alignment, this is not considered a significant impact because users are not anticipated to congregate for long periods of time along the pedestrian "water" bridge as it is intended a mode of transportation to the water's edge and users would only be exposed to noise exceeding 67 dBA CNEL during the moments they pass across the bridge. Therefore, the impact from train noise on the pedestrian "water" bridge is considered less than significant.

The proposed commercial development located along the waterfront would be located in close proximity (100 feet) to the existing San Pedro Branch Line and TraPac ICTF lead. This track parallels the proposed Water Street extension and continues southwest beyond Fries Avenue. This track is heavily traveled throughout the day and night by the San Pedro Branch Line and TraPac ICTF lead and therefore is the primary acoustical source. The Mormon Island rail spur that separates from the track passes closer to the proposed commercial development. However, this rail line is used infrequently and only during the night. Therefore, analysis was based on the San Pedro Branch Line and TraPac ICTF lead. As stated previously, trains are required to sound their horns when entering an at-grade crossing. Based on the Soundplan 6.4 analysis, the exterior noise levels at the proposed commercial land uses would be approximately 75 dBA CNEL. This level would not exceed the 77 dBA CNEL[5] threshold derived from the General Plan of the City of Los Angeles Guidelines for Noise Compatibility Land Use [Noise element?]. Therefore, impacts would be less than significant.

However, it is recommended that the proposed Project implement a project design feature to design all commercial structures having exterior uses (e.g., outside seating for restaurants) a minimum of 100 feet from the existing San Pedro Branch Line and TraPac ICTF lead. In addition, it is recommended that all commercial structures be designed in such a way as to shield any exterior land uses from the existing rail line by locating the exterior use on the side opposite the rail alignment or by erecting clear Plexiglas noise barriers at locations with a direct line of sight to the existing rail lines east of Fries Avenue.

The Harbor Generation Station currently produces noise levels in excess of the 67 dBA CNEL park standard. A noise study was conducted by URS Corporation in

[5] A noise threshold of 77 dBA CNEL was used as criteria for determining significance based on the threshold in the City of Los Angeles General Plan Guidelines for Noise Compatibility Land Use. Between 75 and 80 dBA CNEL is considered Conditionally Acceptable/Normally Unacceptable.

2004(" Noise Analysis Results and Recommendations for Potential Park Sites near the Harbor Generating Station") to analyze potential impacts to the proposed land bridge[6]. The study measured noise during times when the Harbor Generation Station's peaker units were both inactive and active.

Ambient noise levels during times of peaker plant inactivity at representative locations were approximately 57 dBA L_{eq}. The noise environment was dominated by rail noise from the Pacific Rail Line, horns, and birds. Noise levels with 4 of the 5 peaker units active were approximately 71 dBA L_{eq} at the fence line of the Harbor Generation Station, a difference of 14 dBA at approximately 130 feet. Predictive noise modeling using Cadna/A predicted noise levels in representative noise locations in the proposed park area. Noise levels ranged from 65 dBA L_{eq} to 77 dBA L_{eq}. (URS 2004)

According to the URS study, existing noise levels would exceed the noise criteria of 67 dBA and would require mitigation. The URS study suggested that a 32-foot-high wall built at the property boundary would reduce noise levels to less-than-significant levels. However, with the current design of the proposed land bridge, the wall would not be necessary.

The proposed park and land bridge would be designed in such a way that the park would be raised above existing grade. The proposed land bridge would range from an at-grade elevation on the north side of the proposed land bridge to 40 feet above the existing ground elevation.

Based on the design of the land bridge and Figure 5 in the URS report (included as Appendix (H)) the existing 67 dBA L_{eq} contour would extend approximately 30 feet into the proposed land bridge. This area would not constitute a large portion of the land bridge, and land bridge users would be able to avoid impacted locations by moving toward a quieter area of the park on occasions when the peaker units are in use. Therefore, impacts are considered less than significant.

Impact Determination

Noise analysis conducted using Soundplan 6.4 was used to quantify potential impacts from the existing rail lines and rail traffic surrounding the proposed Project. Based on modeling, rail traffic would not significantly impact the proposed land and pedestrian "water" bridge because only the edges of the land bridge would be exposed to noise levels in excess of 67 dBA CNEL and the pedestrian "water" bridge is a transportation mode in which pedestrians would use to arrive at the water's edge. The proposed commercial land uses would also not be significantly impacted by the rail traffic located along the existing rail lines because noise from the trains would not exceed the 77 dBA CNEL threshold.

Noise analysis conducted by URS Corporation in 2004, determined that the Harbor Generation Station and peaker power units would expose park patrons to noise levels

[6] The Harbor Generation Station's peaker power units were not modeled using Soundplan 6.4. TheURS report modeled the peaker power units and laid out the 66 dBA CNEL contours using Cadna/A.

in excess of the 67 CNEL standard. The report, which assumed that park elevations would be at-grade, concluded that a sound wall along the western and southern boundary with the Harbor Generation Station would mitigate noise levels and reduce impacts to a less-than-significant level. Based on the current design the proposed park and land bridge would be raised above existing grade, thus providing additional topographic shielding not anticipated by the URS study in 2004. Therefore, the only location which would experience noise levels in excess of 67 dBA CNEL is the area at the northern portion of the land bridge where planned grades do not change from the existing grades.

Because areas affected by noise levels in excess of the 67 dBA CNEL standard would be limited to the park edges and park patrons would be able to move to the quieter, interior areas of the park, the noise impacts from the peaker units and trains are considered less than significant.

Mitigation Measures

No mitigation is required

Residual Impacts

Impacts would be less than significant.

3.9.4.3.3 Summary of Impact Determinations

Table 3.9-10 summarizes the impact determinations of the proposed Project related to Noise, as described in the detailed discussion in Section 3.9.4.3.1. Identified impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.9-10. Summary Matrix of Potential Impacts and Mitigation Measures for Noise Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.9 Noise			
Construction			
NOI-1: The proposed Project would last more than 1 day and exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.	Significant	**MM NOI-1:** The following procedures will help reduce noise impacts from construction activities: a) **Temporary Noise Barriers**. When construction occurs within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) will be located between noise-generating construction activities and sensitive receptors. b) **Construction Hours**. Construction will be limited to between 7:00 a.m. and 9:00 p.m. on weekdays; between 8:00 a.m. and 6:00 p.m. on Saturdays; and there will be no construction equipment noise anytime on Sundays as prescribed by the City of Los Angeles Municipal Code. c) **Construction Days.** Noise-generating construction activities will not occur on Sundays or holidays unless critical to a particular activity (e.g., concrete work). d) **Construction Equipment.** All construction equipment powered by internal combustion engines will be properly muffled and maintained. e) **Idling Prohibitions.** Unnecessary idling of internal combustion engines near noise-sensitive areas will be prohibited. f) **Equipment Location.** All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise-sensitive land uses. g) **Quiet Equipment Selection.** Quiet construction equipment will be	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		utilized. Noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with. h) **Notification.** Sensitive receptors including residences within 2,000 feet of the proposed project site will be notified of the construction schedule in writing prior to the beginning of construction.	
NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.	Less than significant	No mitigation is required	Less than significant
NOI-3: The proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.	Less than significant	No mitigation is required	Less than significant
Operations			
NOI-4: Operations would not result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more.	Less than significant	No mitigation is required	Less than significant
NOI-5: Existing land uses surrounding the proposed Project area would generate noise levels in excess of a published standard, but would not substantially inhibit the usability of the proposed project site.	Less than significant	No mitigation is required	Less than significant

3.9.4.4 Mitigation Monitoring

Table 3.9-11. Mitigation Monitoring for Noise

NOI-1: The proposed Project would last more than 1 days and exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.	
Mitigation Measure	**MM NOI-1:** The following procedures will help reduce noise impacts from construction activities: a) **Temporary Noise Barriers**. When construction occurs within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) will be located between noise-generating construction activities and sensitive receptors. b) **Construction Hours**. Construction will be limited to between 7:00 a.m. and 9:00 p.m. on weekdays; between 8:00 a.m. and 6:00 p.m. on Saturdays; and there will be no construction equipment noise anytime on Sundays as prescribed by the City of Los Angeles Municipal Code. c) **Construction Days.** Noise-generating construction activities will not occur on Sundays unless critical to a particular activity (e.g., concrete work). d) **Construction Equipment.** All construction equipment powered by internal combustion engines will be properly muffled and maintained. e) **Idling Prohibitions.** Unnecessary idling of internal combustion engines near noise-sensitive areas will be prohibited. f) **Equipment Location.** All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise-sensitive land uses. g) **Quiet Equipment Selection.** Quiet construction equipment will be utilized. Noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with. h) Notification. Sensitive receptors including residences within 2,000 feet of the proposed project site will be notified of the construction schedule in writing prior to the beginning of construction.
Timing	During construction activities
Methodology	To be implemented during construction activities to reduce noise associated with the activities
Responsible Parties	LAHD and the construction contractors
Residual Impacts	Significant and unavoidable

3.9.5 Significant Unavoidable Impacts

Construction due to the proposed Project would constitute a significant impact. Although mitigation measure MM NOI-1 would reduce impacts resulting from construction noise, it would not be sufficient to reduce the projected increase in the

ambient noise level at ST-3 (the existing Wilmington Recreation Center) and surrounding noise-sensitive land uses to a level below significance. Even with implementation of this mitigation measure, construction equipment noise levels would be expected to remain significant. Thus, impacts on sensitive receptors resulting from construction would remain significant even after mitigation.

3.10

POPULATION AND HOUSING

3.10.1 Introduction

This chapter describes the existing environment for population and housing, and the regulatory and policy setting associated with population and housing. It also provides an analysis of the impact on population and housing from the proposed Project. Because all impacts on population and housing from the construction and operation of the proposed Project would be less than significant, no mitigation is necessary.

3.10.2 Environmental Setting

The proposed Project resides within the City and County of Los Angeles, and for this EIR, the environmental setting encompasses the Port of Los Angeles and the community of Wilmington, which is located within two analysis areas that may be impacted by new housing and population growth: the SCAG region and the South Bay Cities Council of Governments. The study area is defined by census tract-level boundaries because population, employment, and housing data is gathered at the census-tract level. Census tracts used for this analysis include the proposed project area and surrounding vicinity and are as follows: 2933.05, 2941.20, 2943.00, 2944.20, 2945.20, 2946.10, 2946.20, 2947.00, 2948.20, 2948.30, 2949.00, 2951.01, 2961.00, 2962.10, 2962.20, 2963.00, 2964.00, 2965.00, 2966.00, 2971.10, 2971.20, 5755.00, 5756.00, 6701.00, and 6707.01.

As discussed above, data from the 2000 census have been aggregated at the census tract level in order to assess the general characteristics of the study area. Projected population, employment, and housing forecasts generated by SCAG were also used in the analysis. Comparisons of these characteristics have been made at the local (including the tracts listed above), City, County and regional levels. For the purposes of this discussion, the regional level includes the five-county SCAG region, composed of the counties of Los Angeles, Riverside, Imperial, San Bernardino, Ventura, and Orange.

3.10.2.1 Regional Characteristics

According to SCAG's 2007 State of the Region Progress Report, Los Angeles is the largest county in terms of population in the region, and was responsible for 35% of the regional population growth in 2006, accounting for the greatest absolute population increase in the southern California region. However, the County is expected to have the slowest annual growth rate through 2015, when compared to Riverside, Imperial, San Bernardino, Ventura, and Orange Counties. The 2000 census showed Los Angeles County as having 9.6 million people and 3.1 million households. The County's population is projected to increase to nearly 12 million and total households to reach 3.9 million in 2030.

In addition, housing prices in Los Angeles County have risen very rapidly and are projected to continue rising in the long run because demand exceeds supply. Meanwhile, in 1990, total employment in the County was approximately 4.2 million persons (Census 1990) and is projected to increase from a slightly lower 4.4 million in 2005 to over 5 million jobs in 2030. This represents an average annual increase of approximately 21,976 jobs or an approximately 0.5% annual growth rate during the forecast period, mirroring the average annual increase of 0.5% between 1990 and 2005.

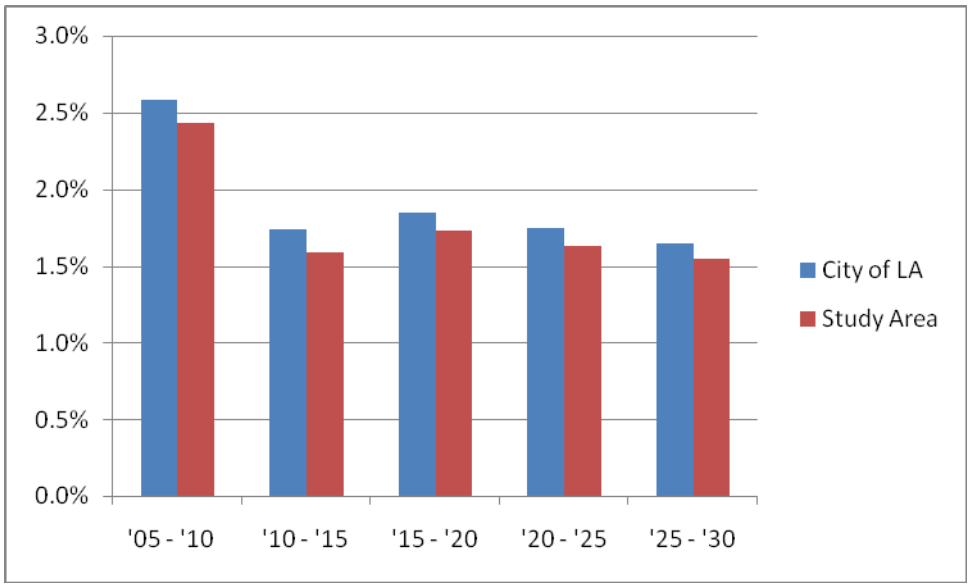
3.10.2.2 Project Area Characteristics

3.10.2.2.1 Population

The proposed Project is located in the Port of Los Angeles, adjacent to the Wilmington community of the City of Los Angeles. The population of the City totaled 3,694,820 persons in the 2000 census. Latinos represented the majority of the city's population, at 1,719,073 persons (46.5%). White non-Hispanics made up the next largest group, with 1,099,188 persons, or 29.7%. Blacks/African Americans made up 11.2%, Asians 10%, two or more races 5.2%, American Indian/Alaska Native 0.8%, some other race 25.7%, and Native Hawaiian/Pacific Islander 0.2%. Within Los Angeles County, population characteristics were very similar, with Latinos making up the majority (44.6%), followed by white non-Hispanics (31.1%). (Census 2000)

The City of Los Angeles experienced moderate growth from 1980 to 1990 (15%) and even less growth from 1990 to 2000 (6%). The City of Los Angeles General Plan, Housing Element (January 2002), attributes some of this slower growth to the population loss and recession resulting from the Northridge earthquake in January 1994. However, the Housing Element also states that the City's population is expected to increase 16% to 4,306,655 by 2010 (City 2008a). This estimate is higher than the 2010 estimate provided by SCAG. SCAG projects the population will reach 4,057,484 by 2010, a 10% increase over the 2000 population (SCAG 2008). The graph below shows the projected change in overall population, and Table 3.10-1 summarizes the characteristics of the existing regional population in 2000.

Projected Population Change 2005–2030



Source: SCAG (2008)

The population of the proposed project study area (which is composed of census tracts in and adjacent to the proposed project area) totaled approximately 96,481 in 1990 and is predominantly Hispanic or Latino, who represent 60% of the total population of the study area. This percentage is approximately 14 and 15% greater than in the City and County of Los Angeles, respectively. The breakdown in population for other races is as follows:

- Non-Hispanic whites represent approximately 26.3% of the study area's total population, which is approximately 3 and 4% less than in the City of Los Angeles and Los Angeles County, respectively.
- Asians made up 5% of the study area, which is approximately 5 and 7% lower than in the City and County of Los Angeles, respectively.
- Blacks/African Americans made up 5.8% of the study area, which is approximately 5 and 4% lower than in the City and County of Los Angeles, respectively.
- Persons claiming two or more races made up 1.9% of the study area, which is about 3% lower than in the City and County of Los Angeles, respectively.
- Persons claiming Native Hawaiian/Pacific Islander made up 0.5% of the study area population, which is slightly higher than in the City and County of Los Angeles.
- Persons claiming some other race made up only 0.2$, similar to the City and County of Los Angeles.

Table 3.10-1. Existing County- and City-wide Population Characteristics—Race and Ethnicity (2000)

Area	*Total Population*	*White*	*%*	*Black or African American*	*%*	*American Indian/ Alaska Native*	*%*	*Asian*	*%*	*Native Hawaiian/ Pacific Islander*	*%*	*Some Other Race*	*%*	*Two or More Races*	*%*	*Hispanic or Latino*	*%*
Los Angeles County	9,519,338	2,959,614	31.1	930,957	9.8	76,988	0.8	1,137,500	11.9	27,053	0.3	19,935	0.2	469,781	4.9	4,242,213	44.6
City of Los Angeles	3,694,820	1,099,188	29.7	415,195	11.2	29,412	0.8	369,254	10.0	5,915	0.2	9,065	0.2	191,288	5.2	1,719,073	46.5
Study Area*	**96,481**	**25,431**	**26.3**	**5,554**	**5.8**	**322**	**0.3**	**4,782**	**5.0**	**496**	**0.5**	**155**	**0.2**	**1,844**	**1.9**	**57,897**	**60.0**

*The study area consists of the twenty-five census tracts within and adjacent to the proposed project site, including: 2933.05, 2941.20, 2943.00, 2944.20, 2945.20, 2946.10, 2946.20, 2947.00, 2948.20, 2948.30, 2949.00, 2951.01, 2961.00, 2962.10, 2962.20, 2963.00, 2964.00, 2965.00, 2966.00, 2971.10, 2971.20, 5755.00, 5756.00, 6701.00, 6707.01

Source: Census (2000)

1

3.10.2.2.2 Households

A household is defined by the U.S. Census as a group of people who occupy a housing unit. A household differs from a dwelling unit because the number of dwelling units includes both occupied and vacant units. It is important to note that not all of the population lives in households. A portion lives in group quarters, such as board and care facilities; others are homeless.

Small households (1 to 2 persons per household [pph]) traditionally reside in units with 0 to 2 bedrooms; family households (3 to 4 pph) normally reside in units with 3 to 4 bedrooms. Large households (5 or more pph) reside in units with 4 or more bedrooms. However, the number of units in relation to the household size may also reflect preference and economics: many small households obtain larger units, and some large families live in small units for economic reasons. The 2000 census shows that the average household size in the study area is 3.25 pph, which is slightly higher than both the City and County of Los Angeles where the average household size was 2.83 and 2.98 pph, respectively (see Table 3.10-2).

Table 3.10-2. Existing County- and City-wide Housing Characteristics—Occupancy (2000)

Area	*Total Housing Units*	*Occupied*	*%*	*Vacant*	*%*	*Average Household Size*
Los Angeles County	3,270,909	3,133,774	95.8	137,135	4.2	2.98
Los Angeles City	1,337,706	1,275,412	95.3	62,294	4.7	2.83
Study Area[1]	**32,654**	**30,758**	**94.2**	**1,896**	**5.8**	**3.25**

[1]The study area consists of the twenty-five census tracts within and adjacent to the proposed project site, including: 2933.05, 2941.20, 2943.00, 2944.20, 2945.20, 2946.10, 2946.20, 2947.00, 2948.20, 2948.30, 2949.00, 2951.01, 2961.00, 2962.10, 2962.20, 2963.00, 2964.00, 2965.00, 2966.00, 2971.10, 2971.20, 5755.00, 5756.00, 6701.00, 6707.01.

Source: Census (2000)

As of January 2007, an estimated total of 1,321,224 households were located in the City of Los Angeles, as represented by occupied housing units on the California Department of Finance (DOF) City/County Population and Housing Estimates. As shown in Table 3.10-2, the total occupied housing of the City of Los Angeles in 2000 was 1,275, 412. Thus, from 2000 to 2007, 45,812 households were added within the City, or approximately 3.6%.

3.10.2.2.3 Housing

The total number of housing units in the City of Los Angeles increased by approximately 6.5% from 1990 to 2007, as shown in Table 3.10-3. By 2010, the buildout year for the City of Los Angeles General Plan, the total number of housing units is anticipated to increase an additional 2.1% to 1,415,260 units.

Table 3.10-3. City of Los Angeles Housing Unit Growth Trends (1990–2010)

Year	*Units*	*Percent Change over Prior Period*
1990	1,299,963[1]	--
2000	1,337,654[2]	2.9
2005	1,363,250[2]	1.9
2007	1,386,169[2]	1.7
2010	1,415,260[3]	2.1

[1] Census (1990)
[2] DOF (2008)
[3]City (2008b)

3.10.2.2.4 Employment

Table 3.10-4 shows SCAG estimates and predictions of the number of jobs in the City and County of Los Angeles as well as estimates and predictions for the study area from 2005 to 2030. Job growth in the proposed project area is expected to be lower than in the County of Los Angeles.

Table 3.10-4. Employment Projections (2005–2030)

	2005	*2010*	*2015*	*2020*	*2025*	*2030*	*Percent Change*
SCAG Region[1]	7,770,880	8,349,454	8,811,402	9,183,026	9,546,782	9,913,372	27.6
County of Los Angeles	4,397,025	4,552,398	4,675,875	4,754,731	4,847,436	4,946,420	12.5
City of Los Angeles	1,764,768	1,820,092	1,864,061	1,892,139	1,925,148	1,960,393	11.1
Study Area[2]	**46,259**	**47,303**	**48,140**	**48,673**	**49,302**	**49,977**	**8.0**

3.10.3 Applicable Regulations and Planning Documents

3.10.3.1 State

California Planning and Zoning Law (Government Code Section 65000 et seq.) requires each city and county to adopt a general plan for the physical development of the land housing stock within its planning area. The general plan must contain land use, housing, circulation, open space, conservation, noise, and safety elements, as well as any other elements that the city or county may wish to adopt.

3.10.3.2 Regional and Local

3.10.3.2.1 Southern California Association of Governments

SCAG's Regional Comprehensive Plan and Guide (RCPG) and Regional Housing Needs Assessment (RHNA) are tools for coordinating regional planning and housing development strategies in southern California. State Housing Law mandates that local governments, through Councils of Governments, identify existing and future housing needs in a RHNA. In its 2007 Assessment, the RHNA indicated that the City of Los Angeles housing needs were 283,927 dwelling units (SCAG 2007). The RHNA provides recommendations and guidelines to identify housing needs within cities. It does not impose requirements as to housing development in cities.

3.10.3.2.2 City of Los Angeles General Plan Housing Element

The Housing Element sets forth a city's five-year strategy to preserve and enhance the community's character and expand housing opportunities for all economic segments; it also provides guidance for local government decision-making in all matters related to housing.

The City is required by state housing law to provide a detailed program to address the housing needs of its current and future residents. Specifically, the law requires the following:

- The housing element shall consist of an identification and analysis of existing and projected housing needs and a statement of goals, policies, and quantified objectives and scheduled programs for the preservation, improvement, and development of housing. The housing element shall identify adequate sites for housing, including rental housing, factory-built housing, and mobile homes, and shall make adequate provision for the existing and projected needs of all economic segments of the community.

The Los Angeles Housing Element consists of the following major components:

- Needs Assessment—an analysis of the demographic, household, and housing characteristics and trends
- Constraints to Residential Development—a review of potential and actual market, governmental, environmental, and other constraints to meeting the identified housing needs
- Issues, Goals, Objectives and Policies—a set of objectives and policies to address the housing needs of the City
- Implementation Programs—a review of the strategies contained within the Housing Element that will assist the City in meeting the housing needs and goals

3.10.3.2.3 City of Los Angeles Housing and Urban Development Consolidated Plan

The purpose of the Los Angeles Housing and Urban Development (HUD) Consolidated Plan is as follows:

- To provide the groundwork for a comprehensive, integrated approach to planning
- To implement the City's housing, community development, and economic development needs and priorities

Consolidated Plan Grant Descriptions

Community Development Block Grant

Consolidated Plan funds will be expended to meet the goals and objectives set forth in the Consolidated Plan and primarily benefit low- and moderate-income persons.

The Community Development Block Grant (CDBG) is the most flexible of the four Consolidated Plan grants, and may be used for a variety of purposes, including: affordable housing development and rehabilitation; renovation or construction of neighborhood facilities; economic development; provision of funding to Community-Based Development Organizations (CBDOs) for activities related to employment or economic revitalization; public services; public infrastructure improvements; parks; modification of structures for ADA (Americans With Disabilities Act) compliance; establishment of youth and family community centers; crime prevention and awareness programs; programs and facilities for the homeless and those persons with special needs, such as seniors and the disabled; and acquisition of land and improvements for a specific project. All CDBG-funded projects must meet one of three HUD-defined National Objectives.

Primary Objectives for the CDBG program, as defined by HUD, include:

- affordable housing for low-income, at-risk homeless, and homeless persons;
- increased availability of permanent housing; and mortgage financing at reasonable rates;
- a suitable living environment through improvement of safety of our neighborhoods, and increased access to quality facilities and public services;
- expansion of economic opportunities through job creation, credit for development activities accessible to low-income residents, and technical assistance to businesses.

3.10.3.3 Port of Los Angeles Plan (1982)

The purpose of the Port of Los Angeles General Plan is to provide an official guide to the continued development and operation of the Port of Los Angeles, and is designed to be consistent with the Port of Los Angeles Master Plan. Overall, the Port of Los Angeles General Plan is intended to guide the following:

- promote land and water uses;
- circulation and services which will encourage and contribute to the economic, social and physical health, safety, welfare and convenience of the Port, within the larger framework of the City;
- the development, betterment and change of the Port to meet existing and anticipated needs and conditions;
- to contribute to a healthful and safe environment;
- to balance growth and stability reflecting economic potentialities and limitations;
- land and water developments and other trends;
- protect investment to the extent reasonable and feasible.

3.10.3.4 Wilmington-Harbor City Community Plan

The Wilmington-Harbor City Community Plan sets forth goals to maintain the community's individuality by the following:

- Preserving and enhancing the positive characteristics of existing residential neighborhoods while providing a variety of compatible new housing opportunities.
- Improving the function, design, and economic vitality of the commercial corridors and industrial areas.

- Maximizing the development opportunities around the future transit system while minimizing any adverse impacts.
- Planning the remaining commercial and industrial development opportunity sites for needed job producing uses that improve the economic and physical condition of the Wilmington-Harbor City Community Plan Area.

The Wilmington-Harbor City CP also designates land for residential, commercial, and industrial use to accommodate the projected future population needs of the community.

3.10.4 Impact Analysis

This section describes the impact analysis relating to population and housing for the proposed Project. It describes the methods used to determine the impacts of the proposed Project and lists the thresholds used to conclude whether an impact would be significant.

3.10.4.1 Methodology

The analysis of population, employment, and housing impacts compares existing levels with projected levels and determines whether the growth is within local and/or regional forecasts. In addition to the previous projections, the analysis determines whether the anticipated growth under the proposed Project would be considered substantial, given the existing and planned infrastructure improvements that could serve population growth. Changes to population and housing would only be considered significant if they would result in impacts on the physical environment.

3.10.4.2 Thresholds of Significance

For this analysis, an impact pertaining to population and housing was considered significant if it would result in any of the following environmental effects, which are based on the screening criteria from the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006). Would the proposed Project:

- **POP-1:** Induce 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)?
- **POP-2:** Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- **POP-3:** Displace substantial numbers of existing people, necessitating the construction of replacement housing elsewhere?

3.10.4.3 Impacts and Mitigation

3.10.4.3.1 Proposed Project

Impact POP-1. The proposed Project would not induce 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).

Direct Growth-Inducing Impacts

A project would directly induce growth if it would directly foster population growth or the construction of new housing in the surrounding environment (e.g., if it would remove an obstacle to growth by expanding existing infrastructure). The proposed Project would not include the development of new housing or population-generating uses or infrastructure that would directly encourage such uses. The residential area in the immediate vicinity of the proposed Project (Wilmington and San Pedro communities) is a well-established urban community within a region that is highly developed. Therefore, the proposed Project would not directly trigger new residential development in the proposed project area. As discussed below, the proposed Project would foster economic growth, but would not directly induce population growth or the construction of new housing in the Port's region of influence (Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties).

The proposed Project would lead to development of a currently underutilized area, improve traffic circulation, and increase industrial, commercial, and recreational use. Approximately 150,000 square feet of industrial development, 14,500 square feet for the Waterfront Red Car Museum, and 70,000 square feet of commercial, retail, and restaurant space is proposed for development by 2020.

As part of the proposed Project, circulation system improvements would be constructed in the vicinity of the proposed project site to maintain consistency with the street grid pattern along Avalon Boulevard south of Harry Bridges Boulevard (see Section 2.6, "Proposed Project Elements," for a description of each improvement). The proposed Project is located in an area that is currently developed and has been planned by the LAHD to undergo improvements with new development opportunities. As mentioned above, the surrounding area is a well-established urban community connected by an existing local and regional transportation network. Construction of the proposed Project's additional transportation infrastructure would not provide access to a previously inaccessible area, thereby triggering or causing a substantial new residential or other development. Therefore, these transportation improvements would not be growth-inducing.

As discussed in Section 3.12, "Utilities," implementation of the proposed Project would generate increased demand for water, wastewater conveyance capacity, natural gas, and power. The proposed Project would include an upgrade to a sewer line

currently near capacity as well as tie into an existing recycled water main line. No new construction of major natural gas or electrical infrastructure would be required as existing infrastructure and supplies are adequate to serve the proposed Project. Although the site currently has tie-in access to water supply, natural gas, and electrical infrastructure, additional distribution infrastructure would need to be extended to the new facilities. The new distribution infrastructure would tie into the existing utilities that serve the proposed Project site. These improvements are not considered growth-inducing because they would neither accommodate nor require any increase in the supply of water, natural gas, or electrical power to the area.

The proposed Project would also result in minimal increases in wastewater output. As discussed in Section 3.12, "Utilities," and mentioned above, the existing sewer trunk lines serving the area are at capacity, and would not accommodate the proposed Project in their existing state. An upgrade of the existing sewer pipeline system would be required. Wastewater flows generated from implementation of the proposed Project would be conveyed to, and treated by, the Terminal Island Treatment Plant (TITP). The treatment plant currently operates at 58% capacity, and output from the proposed Project would use a small amount of this capacity; therefore, no increased capacity of TITP would be required to serve the proposed Project. Furthermore, an upgrade of the existing sewer trunk lines would not be considered growth-inducing because only enough capacity would be added to accommodate the proposed Project and nearby planned development, and would not lead to further unplanned development.

Indirect Growth-Inducing Impacts

A project would indirectly induce growth if it would foster economic or population-expanding activities that would lead to further development that would tax existing facilities and eventually require the construction of new facilities (e.g., an increase in population as a result of development authorized by approval of a general plan).

The maximum annual direct employment effect during proposed project construction activities would reach 1,186 jobs, and the maximum indirect employment effects would reach 2,846 jobs (see Table 3.10-7). The proposed Project's employment contribution would account for less than 0.1% of the total employment in the City and County of Los Angeles. To assess a worst-case scenario of direct and indirect effects of construction employment, a maximum of 2,846 jobs were added to employment levels in the surrounding vicinity, which would represent a 4% increase over existing employment levels (see Table 3.10-7).

Table 3.10-5. Permanent Employment Generated by the Proposed Project

Land Use	*Square Feet*	*Employment Density (Square Feet/Employee)*[1]	*New Employment*
Commercial/Retail[2]	84,500	500[3]	169
Industrial (Light)	150,000	900[4]	167
Total	**234,500**	**--**	**336**

[1]Derived from SCAG-sponsored Employment Density Study (Natelson 2001).
[2]Includes Waterfront Red Car Museum.
[3]Median Employees per Acre for Commercial/Retail land uses (broad polygon selection) for five county region was 13.49, or 585 square feet per employee. Rounded to 500 square feet per employee to assume worst case scenario.
[4]Median Employees per Acre for Light Industrial land uses (broad polygon selection) for five county region was 11.63, or 924 square feet per employee. Rounded to 900 square feet per employee to assume worst case scenario.

Table 3.10-6. Construction Employment Resulting from the Proposed Project

Construction Jobs	*Construction Spending*	*Employment Rate (Jobs/Construction Spending [Millions])*	*Employment Generated*
Direct	$139,573,448	8.5	1,186
Indirect[1]		20.4	2,847

[1]Includes employment directly and indirectly generated as a result of construction of the proposed Project as well as a multiplier effect.

Table 3.10-7. Increase in Employment Resulting from the Proposed Project

Area	*Existing Employment (2005)*	*Permanent Increase (Operation) Percentage*	*Temporary Direct Increase (Construction) Percentage*	*Temporary Indirect Increase (Construction) Percentage*
SCAG Region[1]	7,770,880	<0.1	<0.1	<0.1
County of Los Angeles	4,397,025	<0.1	<0.1	<0.1
City of Los Angeles	1,764,768	<0.1	<0.1	0.1
Study Area	**46,259**	**0.7**	**2.6**	**6.2**

[1]SCAG Region includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties.
Source: SCAG (2008)

Given the highly integrated nature of the southern California economy and the prevalence of cross-county and inter-community commuting by workers between their places of work and places of residence, it is unlikely that a substantial number of workers would change their place of residence in response to the new Port-related employment opportunities. Such potential residential relocation for either permanent employment or temporary construction employment is especially unlikely given that about half the new jobs created as a result of construction of the proposed Project are secondary and, by their nature, distributed throughout the five-county region. Thus, in the absence of changes in place of residence by persons likely to fill the job opportunities, distributional effects to population and, thus, housing assets, are not likely to occur. Accordingly, negligible impacts to population, housing, and community services and infrastructure are anticipated. Because the proposed Project would not involve development of housing and would not result in substantial direct increases in employment in the regional workforce, the proposed Project would not have any significant effects on population growth that would tax existing facilities and require the construction of new facilities, the construction of which could have environmental effects.

The proposed Project would indirectly increase earnings to firms and households throughout the region as proposed project expenditures would be spent throughout the region. The short-term indirect effects from construction would incrementally increase activity in nearby retail establishments as a result of construction workers patronizing local establishments. However, the long-term effects in the immediate area from the proposed Project would be small relative to the size of the regional economy. Overall, the proposed Project would not generate significant indirect growth-inducing impacts.

Per the *LA CEQA Thresholds Guide*, "The potential to induce substantial growth may be indicated by the introduction of a project in an undeveloped area or the extension of major infrastructure. Major infrastructure systems include: major roads, highways, or bridges; major utility or service lines; major drainage improvements; or grading which would make accessible a previously inaccessible area" (City 2006). The proposed Project does not develop a previously undeveloped area, does not propose to increase the housing stock, and it does not propose to introduce new major infrastructure systems or perform major upgrades to the existing infrastructure. Development resulting from the proposed Project would stimulate a certain amount of economic growth in the immediate area through both direct and indirect construction and operational effects. As discussed above, the effects of this activity on employment levels in the City and County of Los Angeles, as well as in the region as a whole, would not be significant. As a result, the proposed Project would not stimulate significant population growth, remove obstacles to population growth, or necessitate the construction of new community facilities that would lead to additional growth in the surrounding area.

Impact Determination

As discussed above, direct and indirect growth-inducing impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact POP-2. The proposed Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

The proposed Project would not displace existing housing.

Impact Determination

No impact from the displacement housing would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact POP-3. The proposed Project would not displace substantial numbers of existing people, necessitating the construction of replacement housing elsewhere.

The proposed project site supports underused industrial and commercial land uses. The proposed Project would create jobs and improve the conditions at the waterfront and along the Avalon Corridor by developing infrastructure to support up to 150,000 square feet of new industrial space, up to 70,000 square feet of retail and restaurant/visitor-serving retail, and an approximately 10-acre park. The proposed Project would not displace a substantial number of existing people, which would require the construction of replacement housing elsewhere.

Impact Determination

The proposed Project would not displace a substantial number of existing people, which would require the construction of replacement housing elsewhere. No impact would occur from the displacement of existing people.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

3.10.4.3.2 Summary of Impact Determinations

Table 3.10-8 summarizes the impact determinations of the proposed Project related to population and housing, as described in the detailed discussion in Section 3.10.4.3.1.

Table 3.10-8. Summary Matrix of Potential Impacts and Mitigation Measures for Population and Housing Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.10 Population and Housing			
POP-1. The proposed Project would not induce 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	No mitigation is required	Less than significant
POP-2. The proposed Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.	No impact would occur	No mitigation is required	No impact would occur

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
POP-3. The proposed Project would not displace substantial numbers of existing people, necessitating the construction of replacement housing elsewhere.	No impact would occur	No mitigation is required	No impact would occur

3.10.4.4 Mitigation Monitoring

No mitigation from impacts on population and housing is required for the proposed Project.

3.10.5 Significant Unavoidable Impacts

No significant unavoidable impacts on Population and Housing would occur during construction or operation of the proposed Project.

3.11

TRANSPORTATION AND CIRCULATION—GROUND AND MARINE

3.11.1 Introduction

This section describes the environmental setting (existing conditions and regulatory setting) for surface and marine transportation relating to the proposed Project, discusses the impacts on transportation that would result from the proposed Project, and lists mitigation measures that would reduce these impacts.

Proposed project elements with potential surface transportation impacts include new retail, industrial and recreational development that would generate new trips to the Wilmington waterfront area, and new transportation improvements and linkages. A key source of data and information used in the preparation of the surface transportation element of this section is the Traffic Study that was prepared separately for the proposed Project by Fehr & Peers; this report is included as Appendix I of this draft EIR.

Proposed project activities with potential marine impacts include demolition of existing piers and construction of new viewing piers and two floating docks at the waterfront promenade. Proposed project operations with potential impacts include increased levels of visiting boat traffic associated with new development at the waterfront promenade.

3.11.2 Environmental Setting

This environmental setting discusses the existing conditions relating to transportation in the study area, as well as federal, state, and local regulations relating to transportation that would apply to the proposed Project. The assessment of conditions relevant to this study includes roadway, transit, rail, and nonmotorized infrastructure and operations.

3.11.2.1 Existing Surface Transportation Elements

3.11.2.1.1 Street System

Primary regional access to the proposed project area is provided by the Harbor Freeway (I-110) west of the proposed project site. Year 2006 data from Caltrans shows that the average daily traffic (ADT) volume on the Harbor Freeway to the north of C Street was approximately 91,000 vehicles per day (vpd) (Caltrans 2006). Access to the site from I-110 is provided via the ramps at C Street.

Local access to the proposed project site is provided by a well-defined grid of arterial and collector roads. The primary roadway facilities in the study area are as follows:

- **Anaheim Street** is classified as a Major Class II Highway that runs east–west in the study area. This arterial provides a connection for local and regional travel from Wilmington to other parts of Los Angeles and the South Bay region, and is a major commercial corridor within Wilmington.
- **Avalon Boulevard** is classified as a Major Class II Highway that runs north–south in the study area. This arterial provides a connection for local and regional travel from Wilmington to other parts of Los Angeles and the South Bay region, and is a major commercial corridor within Wilmington. Avalon Boulevard currently has its terminus at Water Street.
- **C Street** is classified as a local street and provides east–west access along the northern edge of the proposed project area as well as access for local traffic to southern Wilmington. C Street starts at the I-110 and continues east until its terminus at Eubank Avenue.
- **Figueroa Street** is classified as a Major Class II Highway that runs north–south in the study area. This arterial provides a connection for local and regional travel from Wilmington to other parts of Los Angeles and the South Bay region. Figueroa begins at John S. Gibson Boulevard/Harry Bridges Boulevard.
- **Harry Bridges Boulevard** is classified as a Major Class I Highway within the study area, providing east–west access through the southern portion of the Wilmington community and along the northern edge of the Port of Los Angeles. At the western edge of the study area Harry Bridges Boulevard becomes John S. Gibson Boulevard and on the eastern edge becomes Alameda Street.
- **John S. Gibson Boulevard** is classified as a Major Class I Highway providing north–south access through the southwestern portion of the study area. This roadway starts north of Pacific Avenue and turns into Harry Bridges Boulevard at Figueroa Street.
- **Wilmington Boulevard** is classified as a Secondary Highway providing north–south access through the western portion of the community of Wilmington. This roadway starts near the ocean at Harry Bridges Boulevard and continues northward through the Wilmington Waterfront area.

Table 3.11-1 provides a description of these streets, summarizing their physical characteristics in the study area. Diagrams of the existing lane configurations at the analyzed intersections are provided in the Traffic Study in Appendix I.

Table 3.11-1. Existing Roadway Characteristics

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
Anaheim Street	SR 110	Figueroa Street	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
	Figueroa Street	Mar Vista Avenue	2	2	Double Yellow	Parking Allowed	No Stopping Anytime	35
	Mar Vista Avenue	Hawaiian Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Hawaiian Avenue	King Avenue	2	2	Double Yellow	Parking Allowed	No Stopping Anytime	35
	King Avenue	Ronan Avenue	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
	Ronan Avenue	McDonald Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	McDonald Avenue	Bayview Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Bayview Avenue	Neptune Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Neptune Avenue	Lagoon Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Lagoon Avenue	Island Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Island Avenue	Fries Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Fries Avenue	Marine Avenue	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m. metered)	Parking Allowed 2 hour (8 a.m.–6 p.m.)	35
	Marine Avenue	Avalon Boulevard	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)	Parking Allowed 1 hour (8 a.m.–6 p.m.)/Red Zone—No Parking Allowed	35
	Avalon Boulevard	Broad Avenue	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)/Red Zone—No Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
	Broad Avenue	Lakme Avenue	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)	Parking Allowed	35
	Lakme Avenue	Eubank Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Eubank Avenue	Dominguez Avenue	2	2	Dual Left Turn/ Double Yellow	Parking Allowed	No Stopping Anytime/Parking Allowed	35
	Dominguez Avenue	Stanford Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Stanford Avenue	Flint Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed 1 hour (8 a.m.–6 p.m.)	35
	Flint Avenue	Pioneer Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Pioneer Avenue	Watson Avenue	2	2	Double Yellow	Parking Allowed/Red Zone—No Parking Allowed	Parking Allowed	35
	Watson Avenue	Alameda Street	2	2	Double Yellow	Red Zone—No Parking Allowed	Parking Allowed	35
C Street	Lakme Avenue	Broad Avenue	1	1	Single Dashed Yellow	No Parking Allowed (10 p.m.–6 a.m.)	No Parking Allowed (10 p.m.–6 a.m.)	25
	Broad Avenue	Lagoon Avenue	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
	Lagoon Avenue	Bayview Avenue	1	1	Single Dashed Yellow	Parking Allowed 2 hour (8 a.m.–6 p.m.)	Parking Allowed 2 hour (8 a.m.–6 p.m.)	25
	Bayview Avenue	McDonald Avenue	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed/Red Zone—No Parking Allowed	25
	McDonald Avenue	Figueroa Street	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
John S. Gibson Boulevard	Figueroa Street	SR 110 northbound on-ramps	2	2	Dual Left Turn/Raised Median	No Stopping Anytime	No Stopping Anytime/Parking Allowed	35/40
Harry Bridges Boulevard	Figueroa Street	Lakme Avenue	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
	Lakme Avenue	Eubank Avenue	2	2	Double Yellow	Parking Allowed	Parking Allowed	35
	Eubank Avenue	Anaheim Street	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	40
Water Street	(end)	(end – Fries Avenue)	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
	(end – Fries Avenue)	Avalon Boulevard	1	1	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
	Avalon Boulevard	Canal Avenue	1	1	Double Yellow	No Stopping Anytime/Parking Allowed	No Stopping Anytime/Parking Allowed	25
	Canal Avenue	Yacht Street	2	2	Raised Median	Parking Allowed	Parking Allowed	25
A Street	Avalon Boulevard	Fries Avenue	1	1	Undivided Lane	Parking Allowed	No Stopping Anytime	25
Figueroa Street	I Street/110 northbound on-ramp	Anaheim Street	2	2	Double Yellow	Parking Allowed	Parking Allowed 2 hour (8 a.m.–6 p.m.)	35
	Anaheim Street	Emden Street	2	2	Double Yellow	Parking Allowed 2 hour (8 a.m.–6 p.m.)	Parking Allowed	35
	Emden Street	E Street	2	2	Dual Left Turn	Parking Allowed 2 hour (8 a.m.–6 p.m.)	Parking Allowed 2 hour (8 a.m.–6 p.m.)	35
	E Street	Frigate Avenue	2	2	Dual Left Turn	Red Zone – No Parking Allowed	Parking Allowed	35
	Frigate Avenue	C Street	2	2	Dual Left Turn	Parking Allowed	Parking Allowed	35

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
	C Street	John S Gibson Boulevard/Harry Bridges Boulevard	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	35
Mar Vista Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Hawaiian Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
King Avenue	C Street	Harry Bridges Boulevard	1	1	Undivided Lane	Parking Allowed	Parking Allowed	25
Guff Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Wilmington Boulevard	I Street	Anaheim Street	1	2	Dual Left Turn	Parking Allowed	Parking Allowed	30
	Anaheim Street	Harry Bridges Boulevard	2	2	Double Yellow	Parking Allowed	Parking Allowed	30
McDonald Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Bayview Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Neptune Avenue	E Street	Harry Bridges Boulevard	2	2	Double Yellow	Parking Allowed	Parking Allowed	25
Lagoon Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Island Avenue	E Street	Harry Bridges Boulevard	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Fries Avenue	Anaheim Street	Harry Bridges Boulevard	1	1	Dual Left Turn	Parking Allowed	Parking Allowed	35

Segment	*From*	*To*	*Number of Lanes*		*Median Type*	*Parking Characteristics*		*Speed Limit*
			NB/EB	*SB/WB*		*NB/EB*	*SB/WB*	
	Harry Bridges Boulevard	A Street	1	1	Dual Left Turn	No Stopping Anytime	No Stopping Anytime	30
	A Street	Water Street	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	30
	Water Street	La Paloma Avenue	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
Marine Avenue	A Street	E Street	1	1	Single Dashed Yellow	Parking Allowed	Parking Allowed	25
Avalon Boulevard	Water Street	Harry Bridges Boulevard	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	30
	Harry Bridges Boulevard	C Street	2	2	Double Yellow	Parking Allowed	Parking Allowed	30
	C Street	F Street	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m.)	Parking Allowed 1 hour (8 a.m.–6 p.m.)	30
	F Street	I Street	2	2	Double Yellow	Parking Allowed 1 hour (8 a.m.–6 p.m. metered)	Parking Allowed 1 hour (8 a.m.–6 p.m. metered)	30
Broad Avenue	E Street	Avalon Boulevard	1	1	Dual Left Turn	Parking Allowed	Parking Allowed	25
Pier A	Fries Avenue	Pier A Place	2	2	Double Yellow	No Stopping Anytime	No Stopping Anytime	25
La Paloma Avenue	Fries Avenue	San Clemente Avenue	1	1	Double Yellow	Parking Allowed	Parking Allowed	25
San Clemente Avenue	La Paloma Avenue	Fries Avenue	1	1	Double Yellow	Parking Allowed	Parking Allowed	25
Hermosa Street	La Paloma Avenue	San Clemente Avenue	1	1	Undivided Lane	Parking Allowed	Parking Allowed	25

3.11.2.1.2 Roadway Levels of Service

This section describes the methodology used to assess the traffic conditions at each analysis intersection and roadway segments, and presents the existing operating conditions at each location.

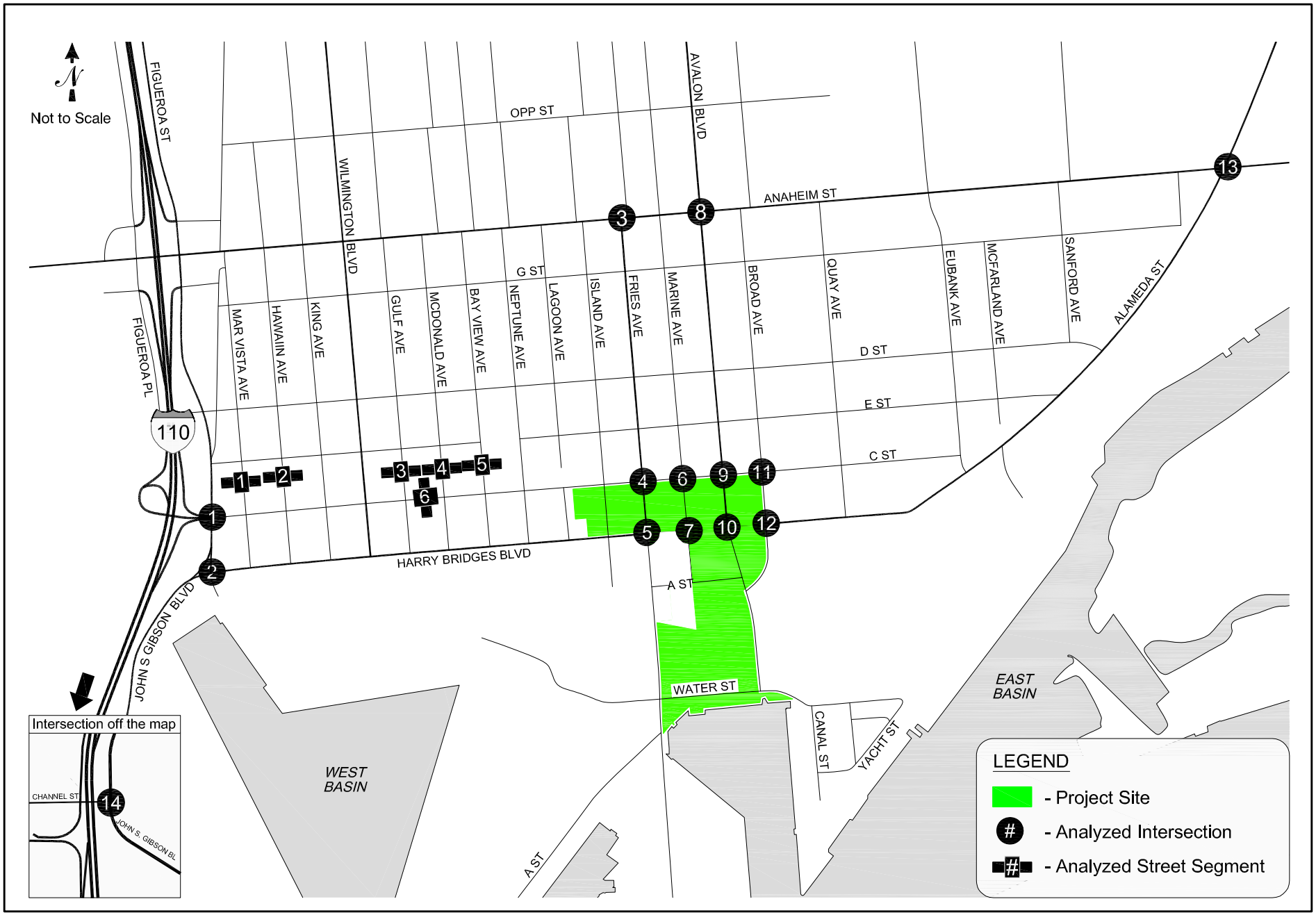
Analysis Locations

Figure 3.11-1 shows the surface street system in the Project study area. Analysis locations were identified in consultation with the Los Angeles Department of Transportation (LADOT), on the basis of their location in relation to the proposed project site and the potential for proposed project–related traffic to travel through them. The analysis area includes the following intersections.

1. Figueroa Street/I-110 Northbound Ramps/C Street
2. Figueroa Street/Harry Bridges Boulevard
3. Fries Avenue/Anaheim Street
4. Fries Avenue/C Street
5. Fries Avenue/Harry Bridges Boulevard
6. Marine Avenue/C Street
7. Marine Avenue/Harry Bridges Boulevard
8. Avalon Boulevard/Anaheim Street
9. Avalon Boulevard/C Street
10. Avalon Boulevard/Harry Bridges Boulevard
11. Broad Avenue/C Street
12. Broad Avenue/Harry Bridges Boulevard
13. Alameda Street/Anaheim Street
14. John S. Gibson Boulevard/Channel Street

The analysis area also includes the following neighborhood street segments.

1. Mar Vista Avenue, north of C Street
2. Hawaiian Avenue, north of C Street
3. Gulf Avenue, north of C Street
4. McDonald Avenue, north of C Street
5. Bay View Avenue, north of C Street
6. C Street, east of Gulf Avenue



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SOURCE: Fehr & Peers (2008)

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Figure 3.11-1
Study Area and Analyzed Intersections
Wilmington Waterfront Development Project

Existing traffic turning movements and traffic counts are presented in the Traffic Study prepared for this project (included in this EIR as Appendix I).

New classified traffic counts were conducted for the weekday morning peak period (between 7:00 a.m. and 10:00 a.m.) and the weekday afternoon peak period (between 4:00 p.m. and 7:00 p.m.) in January 2008 (Intersections 1 through 13) and in July 2008 (Intersection 14, which was added after consulting with LADOT in early summer). Weekend traffic counts were not conducted due to much lower background traffic on non-business days and reduced operations at Port terminals. Vehicle counts for the study intersections include the classification of passenger cars and large trucks. A Passenger Car Equivalent (PCE) factor of 2.0 was applied to the truck traffic to convert the traffic counts to PCEs.

Level of Service Methodology

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent "free flow" conditions at LOS A to overloaded "stop and go" conditions at LOS F. LOS D is typically considered to be the minimum acceptable level of service in urban areas.

LADOT requires that the Critical Movement Analysis (CMA) method (Transportation Research Board 1980) be used to analyze the LOS of signalized intersections (LADOT 2002). The CMA methodology determines the volume-to-capacity ratio (V/C) of an intersection based on the number of approach lanes, the traffic signal phasing and the traffic volumes. The CalcaDB software package developed by LADOT was used to implement the CMA methodology in this study. The V/C ratio is then used to find the corresponding LOS based on the definitions in Table 3.11-2.

Eight of the fourteen analyzed intersections are currently controlled by traffic signals. Of those eight, all but the intersection of Figueroa Street and Harry Bridges Boulevard are currently controlled by the City's Automated Traffic Surveillance and Control (ATSAC) system. Of the seven signalize intersections installed with the ATSAC system, only the intersection of John S. Gibson Boulevard and Channel Street is installed with LADOT's Adaptive Traffic Control System (ATCS). In accordance with LADOT procedures, a capacity increase of 7% (0.07 V/C adjustment) was applied to reflect the benefits of ATSAC and 10% (0.10 V/C adjustment) was applied to reflect the combined benefits of ATSAC and ATCS control at the applicable intersections.

Table 3.11-2. Level of Service Definitions for Signalized Intersections (Critical Movement Analysis Methodology)

LOS	*V/C*	*Definition*
A	0.000–0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.610–0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.710–0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.810–0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.910–1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.
Source: Transportation Research Board (1980).		

Six study intersections are unsignalized and were analyzed using the stop-controlled methodologies from the Highway Capacity Manual (Transportation Research Board, 2000). Two intersections were analyzed using the "Two-Way Stop" methodology, while four intersections were analyzed using the "Four-Way Stop" methodology to determine V/C ratio and corresponding LOS. For stop-controlled intersections, LOS depends on the amount of delay experienced by drivers on the stop-controlled approaches. Thus, for two-way and one-way stop-controlled T-intersections, LOS is based upon the average delay experienced by vehicles entering the intersection on the minor (stop-controlled) approaches. For all-way stop-controlled intersections, LOS is determined by the average delay for all movements through the intersection. Table 3.11-3 presents the average delay criteria for the different LOS designations for stop-controlled intersections.

Existing Peak Hour LOS

The LOS methodologies described in the previous section were applied to existing weekday AM and PM peak hour turning volumes to determine existing operating conditions at each of the study intersections. The weekday morning and evening peak hour traffic counts and the LOS calculation worksheets are provided in the Traffic Study prepared for this project (included as Appendix I of this EIR).

Table 3.11-3. Level of Service Criteria for Unsignalized Intersections

Level of Service	*Average Total Delay (seconds/vehicle)*
A	< 10
B	> 10 and < 15
C	> 15 and < 25
D	> 25 and < 35
E	> 35 and < 50
F	> 50
Source: Transportation Research Board (2000).	

Table 3.11-4 summarizes the existing AM and PM peak hour LOS at each of the study intersections. The table shows that all of the study intersections are currently operating at acceptable LOS (LOS D or better) during the weekday morning and evening peak hours.

3.11.2.1.3 Neighborhood Streets

The following residential street segments located within the study area, listed along with their existing ADT, were analyzed to address potential residential street impacts:

1. Mar Vista Avenue, north of C Street (existing ADT = 322)
2. Hawaiian Avenue, north of C Street (existing ADT = 512)
3. Gulf Avenue, north of C Street (existing ADT = 299)
4. McDonald Avenue, north of C Street (existing ADT = 227)
5. Bay View Avenue, north of C Street (existing ADT = 487)
6. C Street, east of Gulf Avenue (existing ADT = 1,103)

For a discussion on relevant impact methodology, see section 3.11.4.1.

Table 3.11-4. Existing Intersection LOS (Year 2008)

ID Number	*Intersection*	*Peak Hour*	*Traffic Control*	*V/C*	*Average Delay*[1]	*LOS*
1	Figueroa Street/C Street	AM	All-Way	—	12.4	B
		PM	Stop	—	11.7	B
2	Figueroa Street/Harry Bridges Boulevard	AM	Signal	0.419	—	A
		PM		0.429	—	A
3	N Fries Avenue/Anaheim Street	AM	Signal[2]	0.475	—	A
		PM		0.473	—	A
4	Fries Avenue/C Street	AM	All-Way	—	8.0	A
		PM	Stop	—	7.6	A
5	Fries Avenue/Harry Bridges Boulevard	AM	Signal[2]	0.311	—	A
		PM		0.283	—	A
6	Marine Avenue/C Street	AM	Two-Way	—	10.6	B
		PM	Stop	—	10.0	A
7	Marine Avenue/Harry Bridges Boulevard	AM	Two-Way	—	15.1	C
		PM	Stop	—	18.2	C
8	Avalon Boulevard/Anaheim Street	AM	Signal[2]	0.577	—	A
		PM		0.752	—	C
9	Avalon Boulevard/C Street	AM	All-Way	—	8.1	A
		PM	Stop	—	9.0	A
10	Avalon Boulevard/Harry Bridges Boulevard	AM	Signal[2]	0.252	—	A
		PM		0.392	—	A
11	Broad Avenue/C Street	AM	All-Way	—	7.8	A
		PM	Stop	—	8.9	A
12	Broad Avenue/Harry Bridges Boulevard	AM	Signal[2]	0.227	—	A
		PM		0.295	—	A
13	Alameda Street/Anaheim Street	AM	Signal[2]	0.426	—	A
		PM		0.502	—	A
14	John S Gibson Boulevard/Channel Street	AM	Signal[3]	0.504	—	A
		PM		0.582	—	A

Notes:
[1]Average delay = average seconds of delay per vehicle, for all vehicles on stop-controlled movement
[2]Intersection is currently operating under ATSAC system
[3]Intersection is currently operating under ATSAC and ATCS systems

3.11.2.1.4 Congestion Management Program Facilities

LADOT was consulted in the selection of the CMP monitoring locations considered for the proposed Project. There are two CMP arterial monitoring stations near the proposed Project that have the potential to be affected by the proposed Project. Both of these monitoring stations are approximately 2miles north of the proposed Project site:

- Figueroa Street and Pacific Coast Highway
- Alameda Street and Pacific Coast Highway

The CMP mainline freeway monitoring location nearest to the proposed project site is I-110 south of C Street.

3.11.2.1.5 Existing Public Transit

The Wilmington Waterfront Development area is served by two transit agencies, the Los Angeles County Metropolitan Transportation Authority (Metro) and LADOT. The following bus routes provide service in the vicinity:

- **Metro 446/447**—These transit lines provide service between Point Fermin Park on Paseo del Mar in the Los Angeles Harbor area and the Patsaouras Transit Plaza at Union Station in downtown Los Angeles. In the study area, these lines travel on Harry Bridges and Avalon Boulevards.
- **Metro 202**—This transit line provides service between C Street in Wilmington and the Rosa Parks Station where the Metro Blue Line connects with the Metro Green Line near Imperial Highway in Willowbrook. In the study area, this line travels on C Street, D Street, Avalon Boulevard, and Anaheim Street.
- **Metro 232**—This transit line provides service between 1st Street in downtown Long Beach and the Mariposa/Nash Metro station via the LAX CityBus Center. In the study area, the line travels on Anaheim Boulevard.
- **DASH Wilmington**—This transit line, operated by LADOT, circulates within the Wilmington area of Los Angeles, providing local and connector service to the regional Metro transit line at the Harbor Freeway Transit Station at Pacific Coast Highway. In the study area, the line circulates along Figueroa Street (north of Anaheim Street), Hawaiian Avenue, Wilmington Avenue, Avalon Boulevard (north of Anaheim Street), C Street, and Anaheim Street. It operates every 15 minutes on weekdays between 7:00 a.m. and 8:27 p.m.

3.11.2.1.6 Existing Commercial Rail Facilities

The Port is served by an extensive commercial rail network, linking Port operations to both the region and the rest of the country. The Pacific Harbor freight rail line runs through the proposed project site and would travel under the proposed land bridge.

3.11.2.1.7 Existing Parking

Parking is allowed within the immediate vicinity of the Wilmington Waterfront, the waterfront promenade, and the land bridge, except for Harry Bridges Boulevard, where on-street parking is prohibited, and Water Street, where parking is provided on the south side only. Table 3.11-1 above summarizes the parking characteristics of the roadways within the study area.

3.11.2.1.8 Existing Non-Motorized Facilities

Pedestrian and bicycle facilities comprise the existing nonmotorized traffic features. Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. Sidewalks are provided along existing major roadway facilities in the study area. Minor roads typically do not include sidewalks. Pedestrian crossings and signals are located at most major roadway intersections.

Bicycle facilities include the following:

- bicycle paths (Class I): paved trails that are separated from roadways;
- bicycle lanes (Class II): lanes on roadways designated for use by bicycles through striping, pavement legends, and signs; and
- bicycle routes (Class III): designated roadways for bicycle use by signs only, which may or may not include additional pavement width for cyclists.

Class II bicycle lanes are present on Anaheim Street and Avalon Boulevard. The City of Los Angeles Bicycle Plan has also designated a Class I bicycle path on Alameda Street, a Class II bicycle lane on John S. Gibson Boulevard south of B Street, and a Class III bicycle route north of B Street. (City of Los Angeles 1996)

3.11.2.2 Existing Marine Elements

The Los Angeles Harbor is located in San Pedro Bay. In addition to the Port of Los Angeles, San Pedro Bay is also home to the Port of Long Beach, which is located directly to the east. The bay is protected from the open Pacific Ocean by the San Pedro, Middle, and Long Beach breakwaters. The openings between these breakwaters, known as Angels Gate and Queens Gate, provide entry to the Ports of

Los Angeles and Long Beach, respectively. Vessel traffic channels have been established in the harbor, and numerous aids to navigation have been developed.

Numerous vessels, including fishing boats, pleasure vessels, passenger-carrying vessels, tankers, auto carriers, container vessels, dry bulk carriers, cruise ships, and barges call or reside in the harbor. Commercial vessels follow vessel traffic lanes established by the U.S. Coast Guard (USCG) when approaching and leaving the harbor (as depicted on Figure 3.11-2). Designated traffic lanes converge at the precautionary areas shown in the figure. Once inside the harbor, vessel traffic is managed as described in the following section.

3.11.2.2.1 Vessel Transportation Safety

Vessel traffic within and approaching the harbor is managed by two entities:

1. Vessel Traffic Service (VTS)—for the harbor approach (25 nautical miles from Point Fermin to the federal breakwater)
2. Los Angeles Pilot Service—within the Port of Los Angeles

Vessel traffic levels are highly regulated by the USCG Captain of the Port (COTP) and the Marine Exchange of Southern California via the VTS. Mariners are required to report their position prior to transiting through the harbor to the COTP and the VTS; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes (Figure 3.11-2). Smaller craft, such as yachts and fishing vessels, are not required to participate in VTS. If there are scheduling conflicts and/or if vessel occupancy within the harbor reaches operating capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the harbor.

Several measures are in place to ensure the safety of vessel navigation in the harbor area. USCG provides a weekly Local Notice to Mariners, which describes regional navigational issues and construction activities. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and are regulated by various agencies and organizations to ensure navigational safety; these are described below.

Marine Exchange of Southern California

The Marine Exchange is a voluntary, non-profit organization affiliated with the Los Angeles Chamber of Commerce. This voluntary service is designated to enhance navigation safety in the precautionary and harbor areas of the Ports of Los Angeles and Long Beach. The service consists of a coordinating office, specific reporting points, and very high frequency-frequency modulation (VHF-FM) radio communications used with participating vessels. Vessel traffic channels and numerous aids to navigation (i.e., operating rules and regulations) have been established in the harbor. The Marine Exchange also operates the Physical Oceanographic Real Time System (PORTS) as a service to organizations making

operational decisions based on oceanographic and meteorological conditions in the vicinity of the harbor. PORTS collects and disseminates accurate real-time information on tides, visibility, winds, currents, and sea swell to maritime users to assist in the safe and efficient transit of vessels in the harbor area.

Vessel Traffic Service

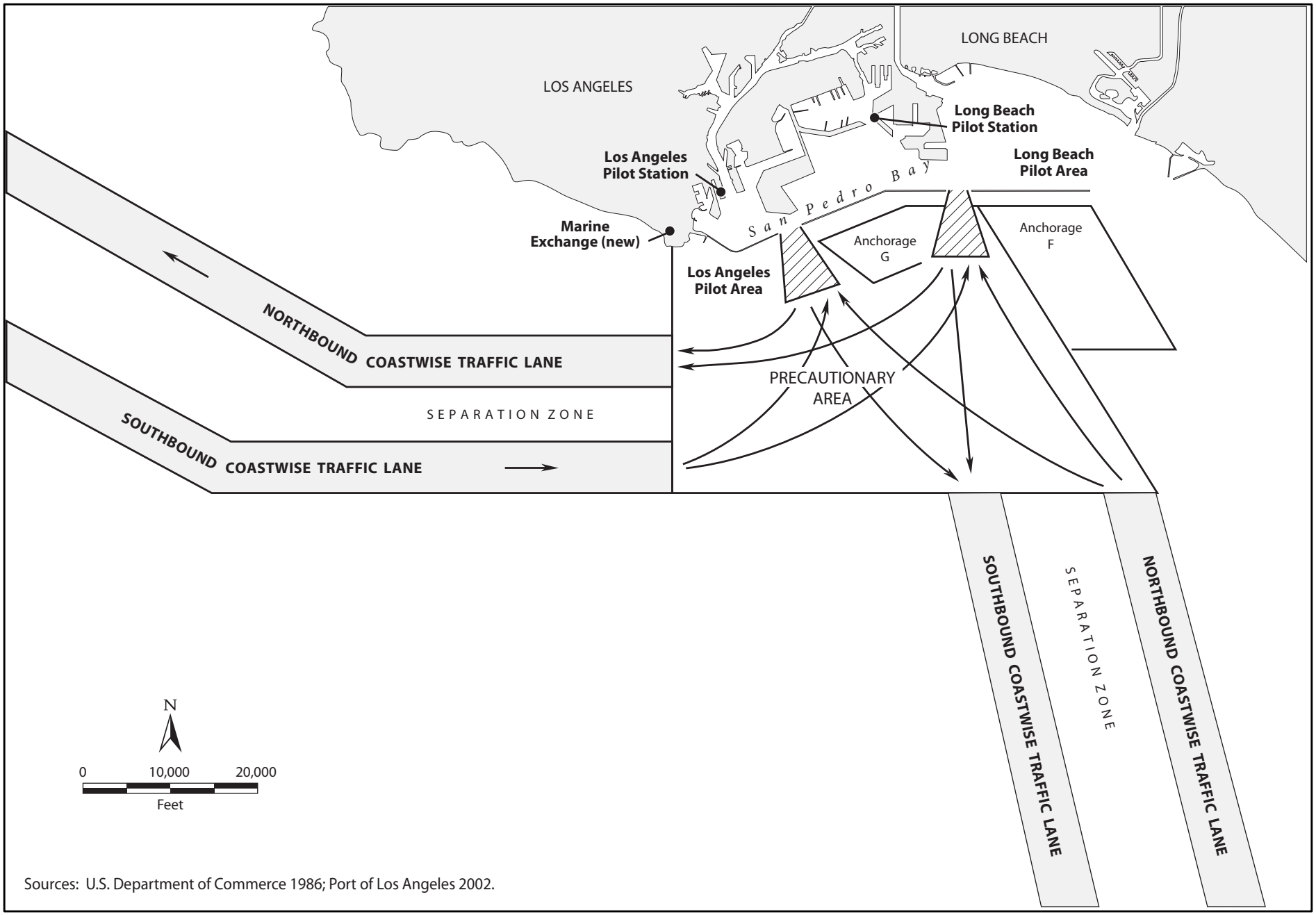
VTS is operated by the Marine Exchange and the USCG to monitor traffic with shore-based radar within both the main approach and departure lanes, including the precautionary area, as well as internal movement within harbor areas. The VTS uses radar, radio, and visual inputs to collect real-time vessel traffic information and broadcast traffic advisories to assist mariners. In addition, vessels are required to report their positions and destinations to the VTS at certain times and locations, and they may also request information about traffic they could encounter in the precautionary area. Furthermore, the VTS implements the COTP's uniform procedures, including advanced notification to vessel operators, vessel traffic managers, and Port pilots identifying the location of dredges, derrick barges, and any associated operational procedures and/or restrictions (i.e., one-way traffic), to ensure safe transit of vessels operating within and to and from the proposed project area. In addition, a communication system links the following key operational centers: USCG COTP, VTS, Los Angeles Pilot Station, Long Beach Pilot Station, and Port of Long Beach Security. This system is used to exchange vessel movement information and safety notices between the various organizations.

Traffic Separation Schemes

A traffic separation scheme (TSS) is an internationally recognized vessel routing designation, which separates opposing flows of vessel traffic into lanes, including a zone between lanes where traffic is to be avoided. TSSs have been designated to help direct offshore vessel traffic along portions of the California coastline, such as the Santa Barbara Channel. Vessels are not required to use any designated TSS, but failure to use one, if available, would be a major factor for determining liability in the event of a collision. TSS designations are proposed by the USCG but must be approved by the International Maritime Organization (IMO), which is part of the United Nations. The traffic lanes utilized for TSS at the Port are shown in Figure 3.11-2.

Safety Fairways

Offshore waters in high traffic areas are designated as safety fairways, which mean that placement of surface structures, such as oil platforms, is prohibited to ensure safer navigation. The USACE is prohibited from issuing permits for surface structures within safety fairways, which are frequently located between a port and the entry into a TSS. The offshore areas shown in Figure 3.11-2 are high traffic areas at the Port, and thus designated as safety fairways.



Sources: U.S. Department of Commerce 1986; Port of Los Angeles 2002.

K:\ GIS \ PROJECTS \ POLA_WILMINGTON \ 00859_07 \ MAPDOC \ FIG3.11-2.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

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Figure 3.11-2
Designated Vessel Traffic Lanes
Wilmington Waterfront Development Project

Precautionary and Regulated Navigation Areas

A precautionary area is designated in congested areas near the Los Angeles/Long Beach Harbor (LALB) entrances to set speed limits or to establish other safety precautions for ships entering or departing the harbor. A regulated navigation area (RNA) is defined as a water area within a defined boundary for which federal regulations for vessels navigating within this area have been established under CFR 33 Part 165, Subsection 165.1109. In the case of the LALB, RNA boundaries match the designated precautionary area. CFR 33, Part 165, Subsection 165.1152, identifies portions of the precautionary area as an RNA.

The precautionary area for LALB is defined by a line that extends south from Point Fermin approximately 7 nautical miles, then due east approximately 7 nautical miles, then northeast for approximately 3 nautical miles, and then back northwest (see Figure 3.11-2). Ships are required to cruise at speeds of 12 knots or less upon entering the precautionary area. A minimum vessel separation of 0.25 nautical mile is also required in the precautionary area. Vessel traffic within the precautionary area is monitored by the Marine Exchange of Southern California.

Pilotage

Use of a Port pilot for transit in and out of the San Pedro Bay area and adjacent waterways is required for all vessels of foreign registry and for U.S. vessels that do not have a federally licensed pilot on board (some U.S. flag vessels have a trained and licensed pilot onboard; those vessels are not required to use a Port pilot while navigating through the harbor). Port pilots provide pilotage to the Ports of Los Angeles and Long Beach, and receive special training that is regulated by the Harbor Safety Committee (see discussion in Section 3.11.3.2.2). Pilots typically board the vessels at the Angel's Gate entrance and then direct the vessels to their destinations. Pilots normally leave the vessels after docking and reboard the vessels to pilot them back to sea or to other destinations within the harbor. In addition, Port pilots operate radar systems to monitor vessel traffic within the harbor area. This information is available to all vessels upon request. The pilot service also manages the use of anchorages under an agreement with the USCG. It should be noted that cruise vessels do not typically require use of a Port pilot for transit in and out of the bay.

LAHD also enforces numerous federal navigation regulations (i.e., Port tariffs) within Los Angeles Harbor. Specifically, larger commercial vessels (i.e., greater than 300 gross tons) are required to use a federally licensed pilot when navigating inside the breakwater. In most circumstances, vessels employ the services of a federally licensed local pilot from the Port pilots. In instances where a local pilot is not used, pilots must have a local federal pilot license and receive approval by the USCG COTP prior to entering or departing the harbor. The Port tariffs also require vessels to notify the affected pilot station(s) in situations when a pilot is not needed before entering, leaving, shifting, or moving between the Ports of Los Angeles and Long Beach.

Tug Escort/Assist

Tug escort refers to the stationing of tugs in proximity of a vessel as it transits into the harbor to provide immediate assistance should a steering or propulsion failure develop. *Tug assist* refers to the positioning of tugs alongside a vessel and applying force to assist in making turns, reducing speed, providing propulsion, and docking. Commercial container vessels, as well as most of the ocean-going vessels, are required to have tug assistance within the LALB (Harbor Safety Committee 2004). However, some vessels have internal "tugs" (typically bow and stern thrusters) that allow the vessel to propel without engaging the main engines, and they can accomplish maneuvers with the same precision as a tug-assisted vessel. These ships are not required to have external tug assistance with the exception of loaded tankers, which are required to have a tug escort.

Physical Oceanographic Real Time System (PORTS)

In partnership with NOAA, National Ocean Service (NOS), California Office of Spill Prevention and Response (OSPR), USGS, and some businesses operating in the Ports of Los Angeles and Long Beach, the Marine Exchange operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the Ports' vicinity. PORTS is a system of environmental sensors and supporting telemetry equipment that gathers and disseminates accurate real-time information on tides, visibility, winds, currents, and sea swell to maritime users to assist in the safe and efficient transit of vessels in the harbor area. Locally, PORTS is designed to provide crucial information in real time to mariners, oil spill response teams, managers of coastal resources, and others about water levels, currents, salinity, and winds in LALB.

The instruments that collect the information are deployed at strategic locations within LALB to provide data at critical locations and to allow "now-casting" and forecasting using a mathematical model of the harbor's oceanographic processes. Data from the sensors are fed into a central collection point; raw data from the sensors are integrated and synthesized into information and analysis products, including graphical displays of PORTS data.

3.11.2.2.2 Navigational Hazards

Port pilots can easily identify fixed navigational hazards in LALB, including breakwaters protecting the outer harbor, anchorage areas, and various wharfs and landmasses that comprise the harbor complex. These hazards are easily visible by radar and are currently illuminated. Four bridges cross the navigation channels of both harbors. All bridges have restricted vertical clearances, and two have restricted horizontal clearances as well.

Vessels that are waiting to enter the harbor and moor at a berth can anchor at the anchorages outside (Ports of Los Angeles and Long Beach) and inside (Long Beach

only) the breakwaters. Vessels do not require tug assistance to anchor outside the breakwater. LAHD currently does not have any available anchorages inside the breakwater. For safety reasons, VTS will not assign an anchorage in the first row of sites closest to the breakwater to vessels exceeding 656 feet in length.

Vessel Accidents

Although marine safety is thoroughly regulated and managed, accidents do occasionally occur, including allisions (between a moving vessel and a stationary object, including another vessel), collisions (between two moving vessels), and vessel groundings. The number of vessel allisions, collisions, and groundings (ACGs) in the Ports of Los Angeles and Long Beach ranged between 2 and 12 annually in the 10-year period from 1996 through 2006, with the lowest numbers occurring in the last two years. Based on the data shown in Table 3.11-5, between 1996 and 2006 there were, on average, 6.9 ACG incidents per year. Each of these was subject to USCG marine casualty investigation, and the subsequent actions taken were targeted at preventing future occurrences.

Table 3.11-5. Allisions, Collisions, and Groundings—Ports of Los Angeles and Long Beach (1996–2006)

	ACG Incidents			
Year	*Allisions*	*Collisions*	*Groundings*	*Total*
1996	2	4	1	7
1997	1	3	2	6
1998	1	2	3	6
1999	3	4	2	9
2000	3	2	1	6
2001	4	1	0	5
2002	6	5	0	11
2003	4	2	2	8
2004	6	4	2	12
2005	3	1	0	4
2006	2	0	0	2

Source: Harbor Safety Committee 2004; U.S. Naval Academy 1999; Harbor Safety Committee 2007.

Note: These commercial vessel accidents meet a reportable level defined in 46 CFR 4.05, but do not include commercial fishing vessel or recreational boating incidents.

According to the USCG vessels accidents database, the LALB area has one of the lowest accident rates among all U.S. ports, with a 0.0038% probability of a vessel experiencing an ACG during a single transit, as compared to the average 0.025% vessel ACG probability for all U.S. ports (U.S. Naval Academy 1999).

Vessels are required by law to report failures of navigational equipment, propulsion, steering, or other vital systems that occur during marine navigation. Marine vessel accidents in San Pedro Bay are reported to USCG via the COTP office or the COTP representative at VTS as soon as possible. According to the VTS, approximately 1 in 100 vessels calling at the Ports of Los Angeles and Long Beach experiences a mechanical failure during their inbound or outbound transit.

Close Quarters

To avoid vessels passing too close together, the VTS documents, reports, and takes action on close quarters situations. *VTS close quarters situations* are described as vessels passing an object or another vessel closer than 0.25 nautical miles or 500 yards. These incidents usually occur within the precautionary area. No reliable data are available for close quarter incidents outside the VTS area. Normal actions taken in response to close quarters situations include initiating informal USCG investigation; sending letters of concern to owners and/or operators; having the involved vessel master(s) visit VTS and review the incident; and USCG enforcement boardings. A 9-year history of the number of "close quarters" situations is presented in Table 3.11-6. Given a relatively steady amount of commercial transits over that time, the table shows a decreasing trend in close quarters incidents.

Table 3.11-6. Number of VTS-recorded "Close Quarters" Incidents, 1998–2006

Year	*No. of Close Quarters*
1998	9
1999	5
2000	1
2001	2
2002	6
2003	4
2004	1
2005	0
2006	0
Sources: Harbor Safety Committee 2004; 2005; Harbor Safety Committee 2006; 2007	

Near Misses

The Ports of Los Angeles and Long Beach Harbor Safety Committee defines a reportable "near miss" as:

- an incident in which a pilot, master or other person in charge of navigating a vessel, successfully takes action of a 'non-routine nature' to avoid a collision

with another vessel, structure, or aid to navigation, or grounding of the vessel, or damage to the environment.

The most practical and readily available near miss data can be obtained from VTS reports, which are available from the LAHD. The number of "near miss" incidents is the same as the number of "close quarter" incidents listed in Table 3.11-6.

3.11.2.2.3 Factors Affecting Vessel Traffic Safety

This section summarizes environmental conditions that could impact vessel safety in the Port of Los Angeles area.

Fog

Fog is a well-known weather condition in southern California. Harbor-area fog occurs most frequently in April and from September through January, when visibility over the bay is below 0.5 mile for 7 to 10 days per month. Fog at the Port is mostly a land (radiation) type that drifts offshore and worsens in the late night and early morning. Smoke from nearby industrial areas often adds to its thickness and persistence. Along the shore, fog drops visibility to less than 0.5 mile on 3 to 8 days per month from August through April, and is generally at its worst in December (Harbor Safety Committee 2004).

Winds

Wind conditions vary widely, particularly in fall and winter. Winds can be strongest during the period when the Santa Ana winds (prevailing winds from the northeast occurring from October through March) blow. The Santa Ana winds, though infrequent, may be violent. A Santa Ana condition occurs when a strong high-pressure system resides over the plateau region of Nevada and Utah and generates a northeasterly to easterly flow over southern California. Aside from weather forecasts, there is little warning of a Santa Ana's onset: good visibility and unusually low humidity often prevail for some hours before it arrives. Shortly before arriving on the coast, the Santa Ana may appear as an approaching dark-brown dust cloud. This positive indication often provides a 10 to 30 minute warning. The Santa Ana wind may come at any time of day and can be reinforced by an early morning land breeze or weakened by an afternoon sea breeze (Harbor Safety Committee 2004).

Winter storms produce strong winds over San Pedro Bay, particularly southwesterly to northwesterly winds. Winds of 17 knots or greater occur about 1 to 2% of the time from November through May. Southwesterly to westerly winds begin to prevail in the spring and last into early fall (Harbor Safety Committee 2004).

Tides

The mean range of tide is 3.8 feet for the Los Angeles Harbor. The diurnal range is about 5.4 feet, and a range of 9 feet may occur at maximum tide.

Currents

The tidal currents follow the axis of the channels and rarely exceed 1 knot. The LALB area is subject to seiche (i.e., seismically induced water waves that surge back and forth in an enclosed basin as a result of earthquakes) and surge, with the most persistent and conspicuous oscillation having about a 1-hour period. Near Reservation Point, the prominent hourly surge causes velocity variations as great as 1 knot. These variations often overcome the lesser tidal current, so that the current ebbs and flows at half-hour intervals. The more-restricted channel usually causes the surge through the Back Channel to reach a greater velocity at the east end of Terminal Island, rather than west of Reservation Point. In the Back Channel, hourly variation may be 1.5 knots or more. At times, the hourly surge, together with shorter, irregular oscillations, causes a very rapid change in water height and current direction/velocity, which may endanger vessels moored at the piers (Harbor Safety Committee 2004).

USACE ship navigation studies indicate that within the harbor channels, current magnitudes are essentially a negligible ⅓ knot or less. Maximum current velocity in the Angel's Gate area is less than 1 knot. These current magnitudes, determined during a simulation study, indicate depth-averaged values over three layers.

According to Jacobsen Pilot Service, the Long Beach Queen's Gate has deeper water than Angel's Gate and has more open waterways just inside the breakwater. The pilots have never experienced a current greater than 1 knot in Queen's Gate (Harbor Safety Committee 2004).

Water Depths

The USACE maintains the federal channels in LALB. Table 3.11-7 lists water depths in the Los Angeles Harbor.

Table 3.11-7. Water Depths within the Los Angeles Harbor

Channel/Basin	*Depth—MLLW feet*
Main Channel	-45
Turning Basin	-45
West Basin	-45
East Basin	-45
North Channel (Piers 300–400)	-53
North Turning Basin	-81
Approach and Entrance Channels	-81
Source: Harbor Safety Committee 2004.	

3.11.2.2.4 Vessel Traffic

Vessel traffic calls to the Port have ranged generally between 2,300 and 3,000 per year over the past 10 years, with a total of 2,820 vessels in 2006 (Table 3.11-8). The increase in cargo volumes in recent years has been accommodated primarily by larger vessels rather than additional vessels.

Table 3.11-8. Vessel Calls at the Port of Los Angeles

Year	*Vessel Calls*
2006	2,820
2005	2,341
2004	2,302
2003	2,660
2002	2,526
2001	2,899
2000	3,060
1999	2,630
1998	2,569
1997	2,786
Sources: LAHD 2004; SCC 2007; MESC 2007; MELALBH 2004	

3.11.3 Applicable Regulations

3.11.3.1 Surface Transportation

Traffic analysis in the state of California is guided by policies and standards set by Caltrans at the state level and by local jurisdictions. Since the proposed Project is located in the City of Los Angeles, the proposed Project or alternatives should adhere to the adopted City transportation policies.

3.11.3.1.1 Intersection Operations

The City of Los Angeles has established threshold criteria to determine significant traffic impacts of a proposed project in its jurisdiction. Under the LADOT guidelines (LADOT 2002), an intersection would be significantly impacted if a project results in an increase in V/C ratio equal to or greater than 0.04 for intersections operating at LOS C, equal to or greater than 0.02 for intersections operating at LOS D, and equal to or greater than 0.01 for intersections operating at LOS E or F. Intersections operating at LOS A or B after the addition of project traffic are not considered significantly impacted regardless of the increase in V/C ratio. Table 3.11-9 summarizes intersection impact criteria.

Table 3.11-9. Intersection Impact Criteria

LOS	*Final V/C Ratio*	*Project-related Increase in V/C*
C	>0.700–0.800	equal to or greater than 0.040
D	> 0.800–0.900	equal to or greater than 0.020
E or F	> 0.900	equal to or greater than 0.010

3.11.3.1.2 Neighborhood Streets

Under the City of Los Angeles guidelines (LADOT 2002), potential project impacts are also considered on local residential streets. Table 3.11-10 summarizes neighborhood street impact criteria.

Table 3.11-10. Neighborhood Street Impact Criteria

Projected ADT with Project	*Project-related Increase in V/C*
0 to 999	16% or more of final ADT
1,000 to 1,999	12% or more of final ADT
2,000 to 2,999	10% or more of final ADT
3,000 or more	8% or more of final ADT

3.11.3.1.3 CMP Guidelines

CMP arterial and freeway mainline facilities are analyzed if they meet the following thresholds (Metro 2004):

- all CMP arterial monitoring intersections where the proposed Project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic; or
- all CMP mainline freeway monitoring locations where the proposed Project will add 150 or more trips per hour, in either direction, during either the AM or PM peak hours.

For locations that meet these trip guidelines, the CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following thresholds are exceeded:

- a CMP facility would be significantly impacted if the Project increases V/C by 0.02 or greater and would cause the facility to operate at LOS F (V/C > 1.00); or
- if the facility is already at LOS F, a significant impact occurs when the proposed project increases V/C by 0.02 or greater.

3.11.3.1.4 Parking Code

The proposed Project is located in the Harbor Enterprise Zone. Enterprise Zones help businesses located therein lower their operating costs by providing state hiring credits, sales and use tax credits, and expense and interest deductions. The City of Los Angeles offers local incentives such as DWP rate discounts, site fee waivers, sewer facility hookup payment plans, Work Opportunity Tax Credits, and reduced parking rates. The Harbor Enterprise Zone is valid through March 3, 2009.

According to the parking code requirements per the Harbor Enterprise Zone, commercial office, business, retail, restaurant, bar and related uses, trade schools, or research and development buildings need to provide two parking spaces for every 1000 square feet of floor area.

3.11.3.2 Marine Transportation

Many laws and regulations are in place to regulate marine structures, vessels calling at marine terminals, and emergency response/contingency planning. Responsibilities for enforcing or executing these laws and regulations are governed by various federal and local agencies, as described below.

3.11.3.2.1 Federal Agencies

A number of federal laws regulate marine structures and movement of vessels. In general, these laws address design and construction standards, operational standards, and spill prevention and cleanup. Regulations to implement these laws are contained primarily in Titles 33 (Navigation and Navigable Waters), 40 (Protection of Environment), and 46 (Shipping) of the Code of Federal Regulations (CFR).

Since 1789, the federal government has authorized navigation channel improvement projects; the General Survey Act of 1824 established the USACE's role as the agency responsible for the navigation system. Since then, ports have worked in partnership with the USACE to maintain waterside access to port facilities.

U.S. Coast Guard

The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids), and operation of the National Response Center (NRC) for spill response. Current USCG regulations require a federally licensed pilot aboard every tanker vessel mooring and unmooring at offshore marine terminals. At the request of the USCG, the Los Angeles pilots and Jacobsen pilots have agreed to ensure continual service of a licensed pilot for vessels moving between the Ports of Los Angeles and Long Beach outside the breakwater.

Department of Defense (DoD)

The Department of Defense (DoD), through the USACE, is responsible for reviewing all aspects of a project and/or spill response activities that could affect navigation. The USACE has specialized equipment and personnel for maintaining navigation channels, removing navigation obstructions, and accomplishing structural repairs. The USACE has jurisdiction under Section 10 of the Rivers and Harbors Act of 1899.

3.11.3.2.2 Other Organizations

Marine Exchange of Southern California

As described in Section 3.11.2.2.1, "Vessel Transportation Safety," the Marine Exchange is a nonprofit organization affiliated with the L.A. Chamber of Commerce. The organization is supported by subscriptions from Port-related organizations that recognize the need for such an organization and use its services. This voluntary service is designated to enhance navigation safety in the precautionary and harbor areas of the Ports of Los Angeles and Long Beach. The Marine Exchange monitors vessel traffic within the precautionary area and operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the Ports of Los Angeles and Long Beach.

Harbor Safety Committee

The Ports of Los Angeles and Long Beach have a Harbor Safety Committee (committee) that is responsible for planning the safe navigation and operation of tankers, barges, and other vessels within San Pedro Bay and approach areas. This committee has been created under the authority of Government Code Section 8670.23(a), which requires the Administrator of the Office of Oil Spill Prevention and Response to create a harbor safety committee for the LALB area. The committee issued the original HSP in 1991 and has issued annual updates since. Major issues facing the committee include questions regarding the need for escort tugs, required capabilities of escort tugs, and the need for new or enhanced vessel traffic information systems to monitor and advise vessel traffic.

The committee developed a regulatory scheme to institutionalize good marine practices and guide those involved in moving tanker vessels, which include the minimum standards that are applicable under favorable circumstances and conditions. The master or pilot will arrange for additional tug assistance if bad weather, unusual harbor congestion, or other circumstances so require.

Harbor Safety Plan

The Ports of Los Angeles and Long Beach Harbor Safety Plan (HSP) contains additional operating procedures for vessels operating in the port vicinities. The vessel operating procedures stipulated in the HSP are considered good marine practice; some procedures are federal, state, or local regulations, while other guidelines are nonregulatory standards of care.

The HSP provides specific rules for navigation of vessels in reduced visibility conditions and does not recommend transit for vessels greater than 150,000 deadweight tonnage (DWT) if visibility is less than 1 nautical mile, and for all other vessels if visibility is less than 0.5 nautical mile.

The HSP establishes vessel speed limits. In general, speeds should not exceed 12 knots within the precautionary area or 6 knots within the harbor. These speed restrictions do not preclude the master or pilot from adjusting speeds to avoid or mitigate unsafe conditions. Weather, vessel maneuvering characteristics, traffic density, construction/dredging activities, and other possible issues are taken into account.

Vessel Transportation Service

As described previously, VTS is a shipping service operated by USCG or public/private sector consortiums (see Section 3.11.2.2.1). These services monitor traffic in both approach and departure lanes, as well as internal movement within harbor areas, using radar, radio, and visual inputs to gather real-time vessel traffic information and broadcast traffic advisories and summaries to assist mariners. The VTS that services the Ports of Los Angeles and Long Beach is located at the entrance of the LALB. The system is owned by the Marine Exchange and operated jointly by the Marine Exchange and the USCG under the oversight of the OSPR and the Ports' Harbor Safety Committee.

This system provides information on vessel traffic and ship locations so that vessels can avoid allisions, collisions, and groundings in the approaches to LALB. The VTS assists in the safe navigation of vessels approaching LALB in the precautionary area. The partnership is a unique and effective approach that has gained acceptance from the maritime community.

3.11.4 Impact Analysis

3.11.4.1 Methodology

3.11.4.1.1 Surface Transportation

Estimates of future traffic conditions both with and without the proposed Project were necessary to evaluate the potential impact of the proposed Project on surface transportation. The baseline, or Without Project, condition represents future traffic conditions without the addition of the proposed Project; while the baseline plus proposed Project represents future traffic conditions with the proposed Project in place. The evaluation of significance is defined by comparing proposed project conditions at the interim and buildout to areawide baseline conditions for the same years. The traffic study focuses on weekday peak hour traffic because it represents the worst overall traffic conditions with the greatest potential for impact. Although the proposed project may generate a slightly higher number of trips on the weekend or during special events, the background traffic conditions are substantially lower due to reduced business activities on weekend days. While some terminals remain open and in operation, the intensity of activities including freight and transportation operations at these terminals is significantly less.

Baseline (Without Project) Traffic Volumes

This section describes methods used to project traffic conditions under the Without Project conditions. The baseline traffic conditions are a conservative estimate of future conditions without development of the proposed Project in 2015 and 2020. These projections normally reflect the changes to existing traffic conditions that can be expected from three primary sources:

- future baseline street improvements,
- areawide background traffic growth, and
- traffic generated by other planned development.

These elements are described below.

Future Baseline Street Improvements

Several key roadway improvements in or near the study area are expected to be completed by 2015. These improvements, which are the result of local or regional capital improvement programs or mitigation for ongoing or entitled related projects, would result in capacity changes at the specified locations throughout the study area. The following roadway improvements were assumed to be in place for the baseline (Without Project) analysis:

- **I-110 and C Street Interchange Improvements:** This project would improve the flow of traffic from the I-110 ramps at C Street by consolidating two closely spaced intersections and facilitating heavy right-turn volumes with free-flowing turn lanes. As part of the improvement, C Street would be terminated in a cul-de-sac east of Figueroa Street and would no longer intersect with Figueroa Street. Harry Bridges Boulevard would be realigned to intersect with Figueroa Street across from the existing I-110 ramps. Another element of the improvement would be the construction of a northbound I-110 off-ramp to Harry Bridges Boulevard that would be grade-separated over Figueroa Street/John S. Gibson Boulevard with eastbound Harry Bridges Boulevard east of the consolidated intersection. The existing TraPac Terminal gate aligned with Figueroa Street will be relocated and accessed from the Lagoon Avenue Overpass. Appendix D of the traffic report (included in this EIR as Appendix I) shows that traffic shifts were estimated based on the future configuration of this intersection.
- **Lagoon Avenue Grade Separation:** Also known as the South Wilmington Grade Separation, this grade separation would provide access to all the facilities south of Harry Bridges Boulevard, in addition to providing access to the relocated Trapac Terminal Gate. The purpose of this grade separation is to provide vehicular traffic with an alternative route that avoids existing at-grade railroad crossings on Fries and Broad Avenues. It would consist of an elevated road extending from Lagoon Avenue, passing over the existing railroad tracks, and connecting to Pier A Street and Fries Avenue. Appendix D of the traffic report provides a conceptual drawing for this grade separation. Traffic shifts

were made to vehicular traffic to/from Fries Avenue south of Harry Bridges Boulevard. 80% of this traffic was estimated to shift to Lagoon Avenue.

- **Harry Bridges Buffer Area:** This project involves the construction of a buffer area along the north side of Harry Bridges Boulevard from Figueroa Street in the west to Lagoon Avenue in the east. The buffer would provide open recreational space between the Wilmington community and the Port. This project would involve the closure of all north–south streets between Figueroa Street and Avalon Boulevard except for King Avenue between Harry Bridges Boulevard and C Street. Existing and projected traffic volumes on these streets are low enough that they can be accommodated by the parallel routes that will remain open (Figueroa Street, King Avenue, Fries Avenue, Marine Avenue, Avalon Boulevard, and Broad Avenue).

  Projected traffic shifts as a result of the buffer area are as follows: 40% of the north–south traffic on the streets from Mar Vista Avenue in the west to Gulf Avenue in the east was assumed to shift to Figueroa Street, and 60% of the traffic on those streets was shifted to King Avenue; 30% of the north–south traffic on the streets from McDonald Avenue in the west to Island Avenue in the east was assumed to shift to Avalon Boulevard; 50% of this traffic was assumed to shift to Fries Avenue and 20% to Marine Avenue.

- **Equipping all signalized study intersections with the ATSAC/ATCS system:** The current improvement plan would equip all remaining intersections with ATSAC and install the state-of-the-art ATCS as an additional feature of the ATSAC system. ATCS is the latest enhancement to the ATSAC. It uses a personal computer–based traffic signal control software program that provides fully traffic-adaptive signal control based on real-time traffic conditions. ATCS allows for an automatic-adjustment–to-traffic signal timing strategy and control pattern in response to current traffic demands by controlling all three critical components of traffic signal timing simultaneously: cycle length, phase split, and offset. In the analysis of future operating conditions, a capacity increase of 10% (0.10 V/C adjustment) was applied to reflect the benefits of ATSAC/ATCS control at all signalized study intersections.

Areawide Background Traffic Growth

Based on the CMP for Los Angeles County (Metro 2004) and discussions with LADOT, it was determined that an ambient growth factor of 0.65% per year should be applied to adjust the existing base year traffic volumes to reflect the effects of regional growth and development for the 2015 interim and 2020 buildout years. This adjustment was applied to the base year 2008 traffic volume data to reflect the effect of ambient growth of 4.55% by the year 2015 and 7.8% by the year 2020.

Traffic Generated by Other Planned Development

Future traffic forecasts under Without Project conditions include the cumulative effects of specific development projects, also called related projects, expected to be built in the vicinity of the proposed project site prior to the interim year 2015 and full buildout year 2020. The list of related projects was based on data from LADOT and

from the Community Redevelopment Agency of the City of Los Angeles (CRA/LA), as well as a review of other recent traffic studies conducted for projects in the vicinity. A total of 14 cumulative projects were identified in the study area. They are summarized in Figure 4 and Table 5 of the Traffic Study in Appendix I.

The traffic resulting from related projects was estimated as follows.

- **Trip Generation.** Trip generation estimates for the related projects were calculated using either data in previous traffic studies or the trip generation rates contained in *Trip Generation* (ITE 2003). These projections are conservative in that they may not in every case account for either the existing uses to be removed or the possible use of nonmotorized travel modes (transit, walking, etc.)
- **Trip Distribution.** The geographic distribution of the traffic generated by related projects is dependent on several factors including the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments are drawn, the locations of employment and commercial centers to which residents of residential projects would be drawn, and the location of the projects in relation to the surrounding street system. If available, trip distribution from a related project's traffic study was used in this analysis. When trip distribution was not available for a related project, it was estimated based on the factors described above.
- **Traffic Assignment.** Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network.

Figures 3.11-3 and 3.11-4 summarize the projected peak hour Without Project traffic volumes for the years 2015 and 2020, respectively.

Proposed Project Traffic Volumes

Development of the traffic generation estimates for the proposed Project involved a three-step process including traffic generation, trip distribution, and traffic assignment.

Trip Generation for Proposed Project

Trip generation rates and equations from *Trip Generation* (ITE 2003) and other sources were used to develop trip generation estimates for the proposed Project. Trip generation rates for the proposed Project's park area were obtained from *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG 2002) because they were more conservative than the ITE rates. In order to provide a conservative estimate of the potential traffic impacts of the proposed Project, no adjustments were made to account for possible reductions due to either pass-by trips or internal capture. Table 3.11-11 summarizes the trip generation estimates for each proposed land use for the interim year 2015 and the full buildout year 2020, with the following total trip estimates:

- In 2015, the proposed Project is projected to generate a total of approximately 3,063 daily weekday trips, including 131 trips during the AM peak hour and 296 trips during the PM peak hour.
- In 2020, the proposed Project is projected to generate approximately 5,140 daily weekday trips, including 339 trips during the AM peak hour and 502 trips during the PM peak hour.

Additionally, it is anticipated that approximately six times a year a special event could be held at the proposed Project with approximately 1,500 people in attendance. These events would occur at non-peak hours generally on certain holidays and would resemble events such as Lobster Fest in Ports O'Call in San Pedro. Traffic generated from these rare events would be temporary and at non-peak traffic hours and, therefore, are not included in the daily peak hour trips or in the average daily trip totals.

Proposed Project Traffic Distribution

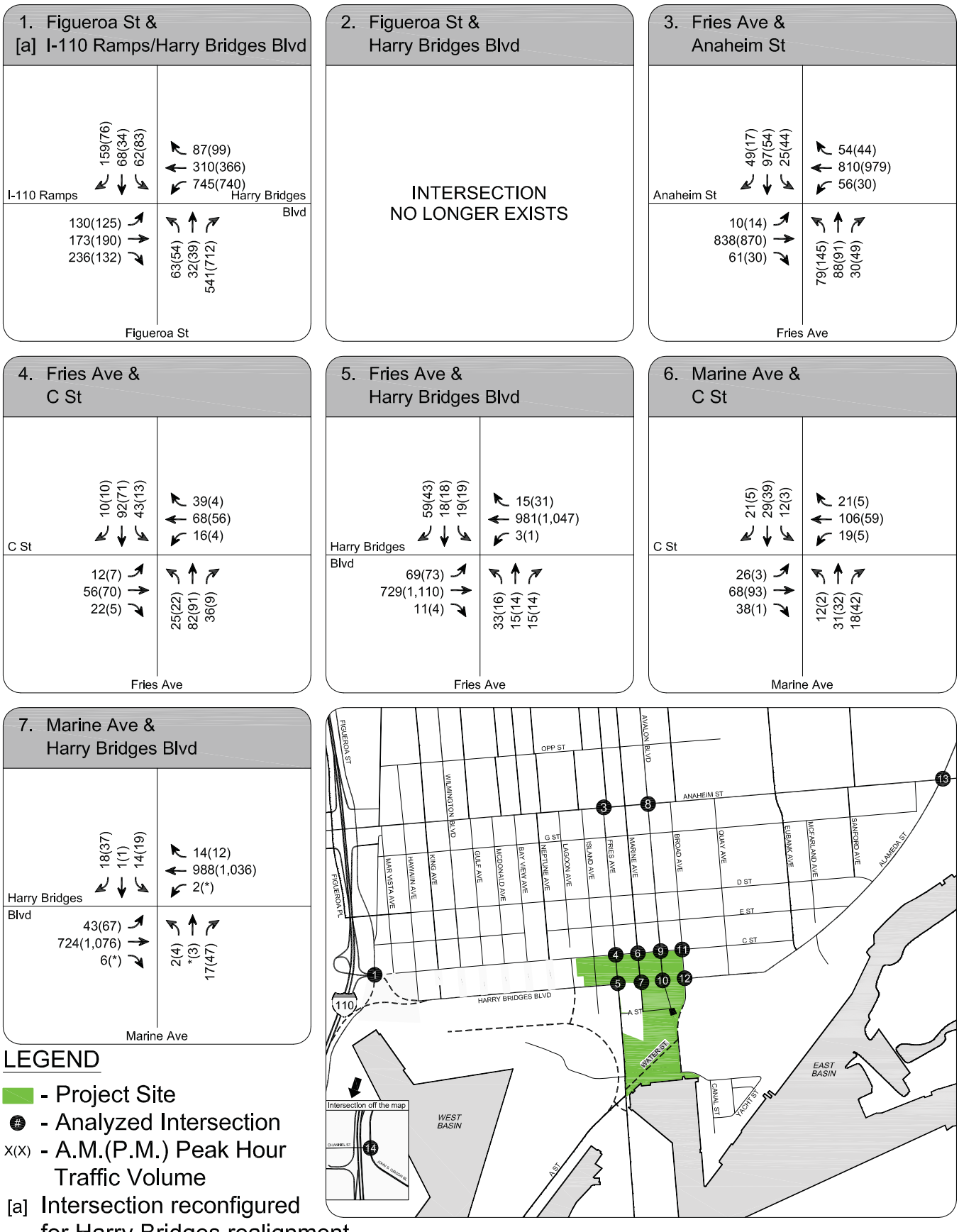
The geographic distribution of trips generated by the proposed Project is dependent on characteristics of the street system serving the site, the level of accessibility of routes to and from the proposed project site, the locations of employment and commercial centers to which residents of the proposed project would be drawn, and the geographic distribution of population from which employees and potential patrons of the proposed commercial elements of the proposed project would be drawn. The general distribution pattern used in this study was developed in consultation with LADOT and is illustrated in Figure 8 of the Traffic Study prepared for the proposed Project (Appendix I).

Proposed Project Traffic Assignment

The trip generation estimates were used to assign the proposed project–generated traffic to the local and regional street system. Figures 3.11-5 and 3.11-6 summarize the projected peak hour baseline traffic volumes for the years 2015 and 2020, respectively.

Projections of Total Traffic under the Proposed Project

The proposed project–generated traffic volumes were added to the Without Project traffic projections to develop the proposed project contribution forecasts for the interim year 2015 and buildout year 2020. The resulting forecasted traffic volumes listed in Table 3.11-11 provide the basis for roadway impact analysis of the proposed Project.



SOURCE: Fehr & Peers (2008)

Figure 3.11-3a
Cumulative Base Year 2015 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

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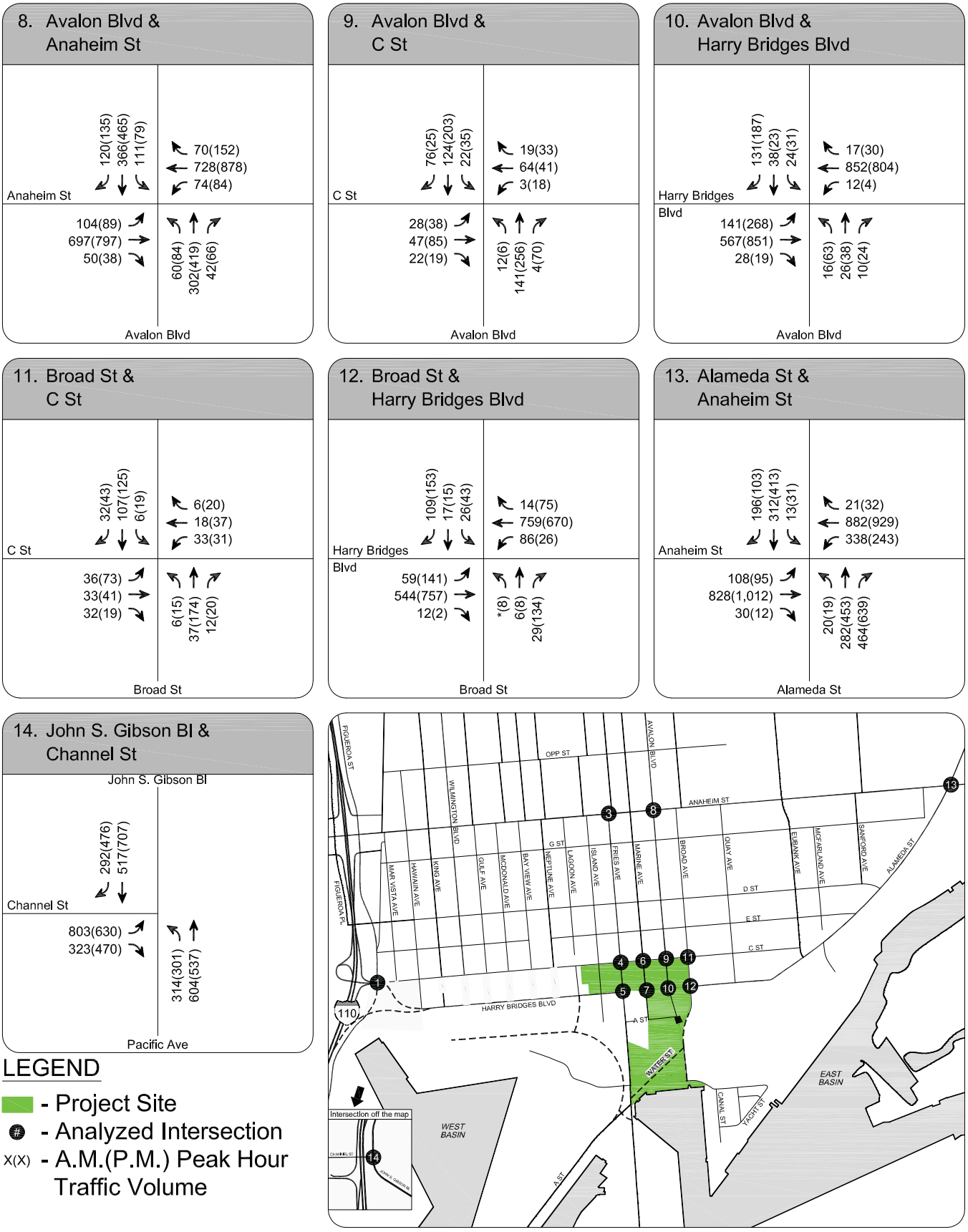

SOURCE: Fehr & Peers (2008)

Figure 3.11-3b
Cumulative Base Year 2015 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

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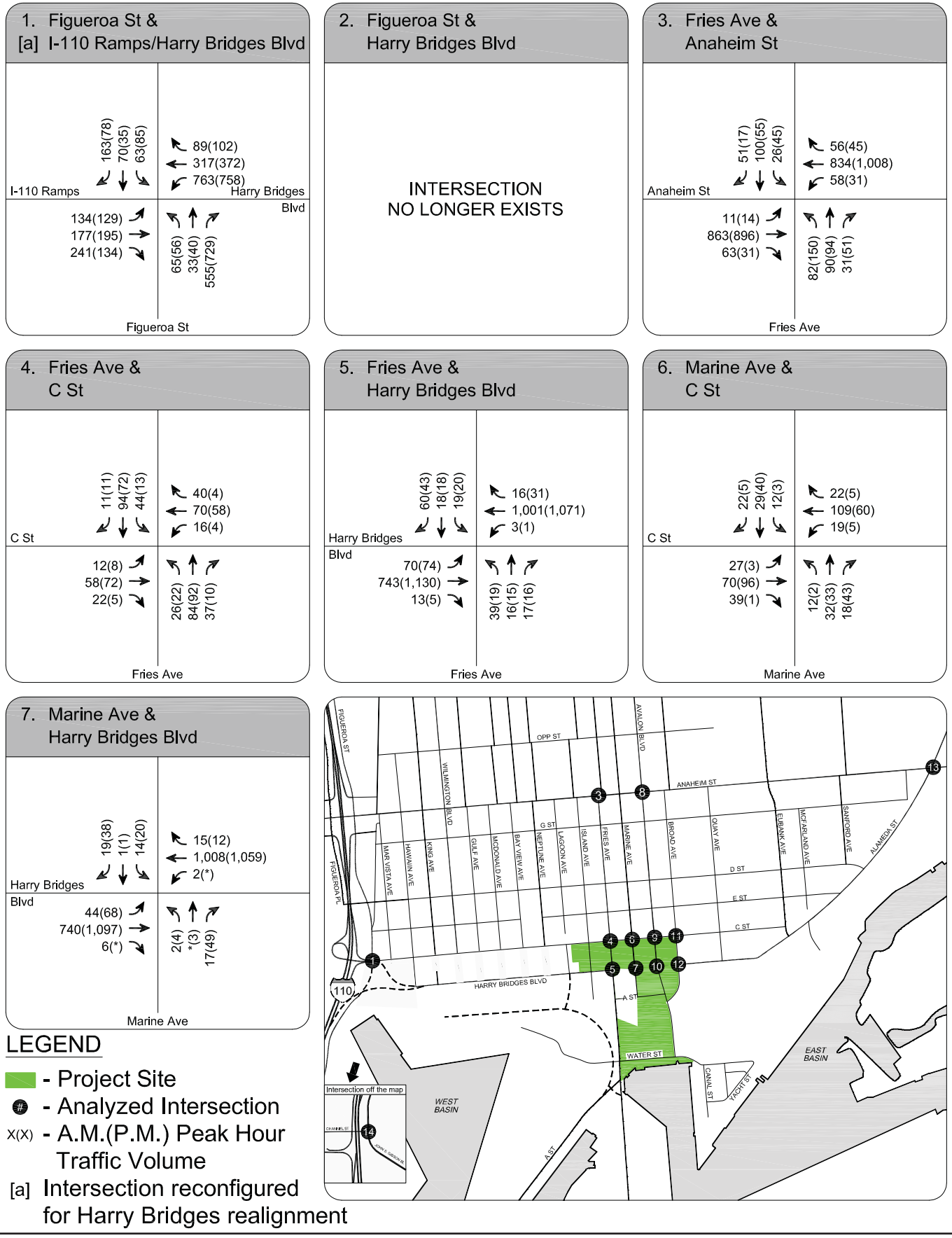

K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-4a.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

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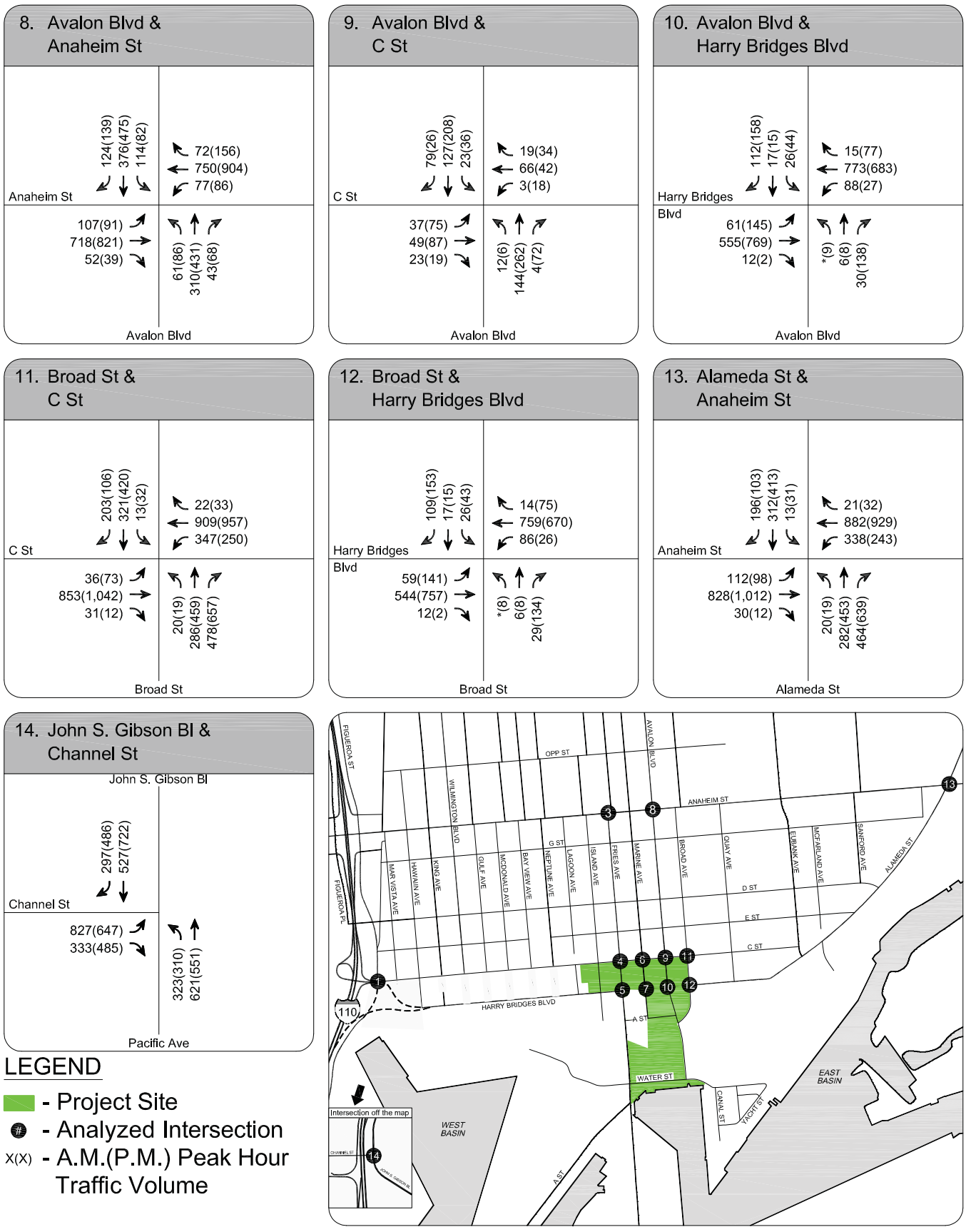
Figure 3.11-4a
Cumulative Base Year 2020 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project



K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-4b.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

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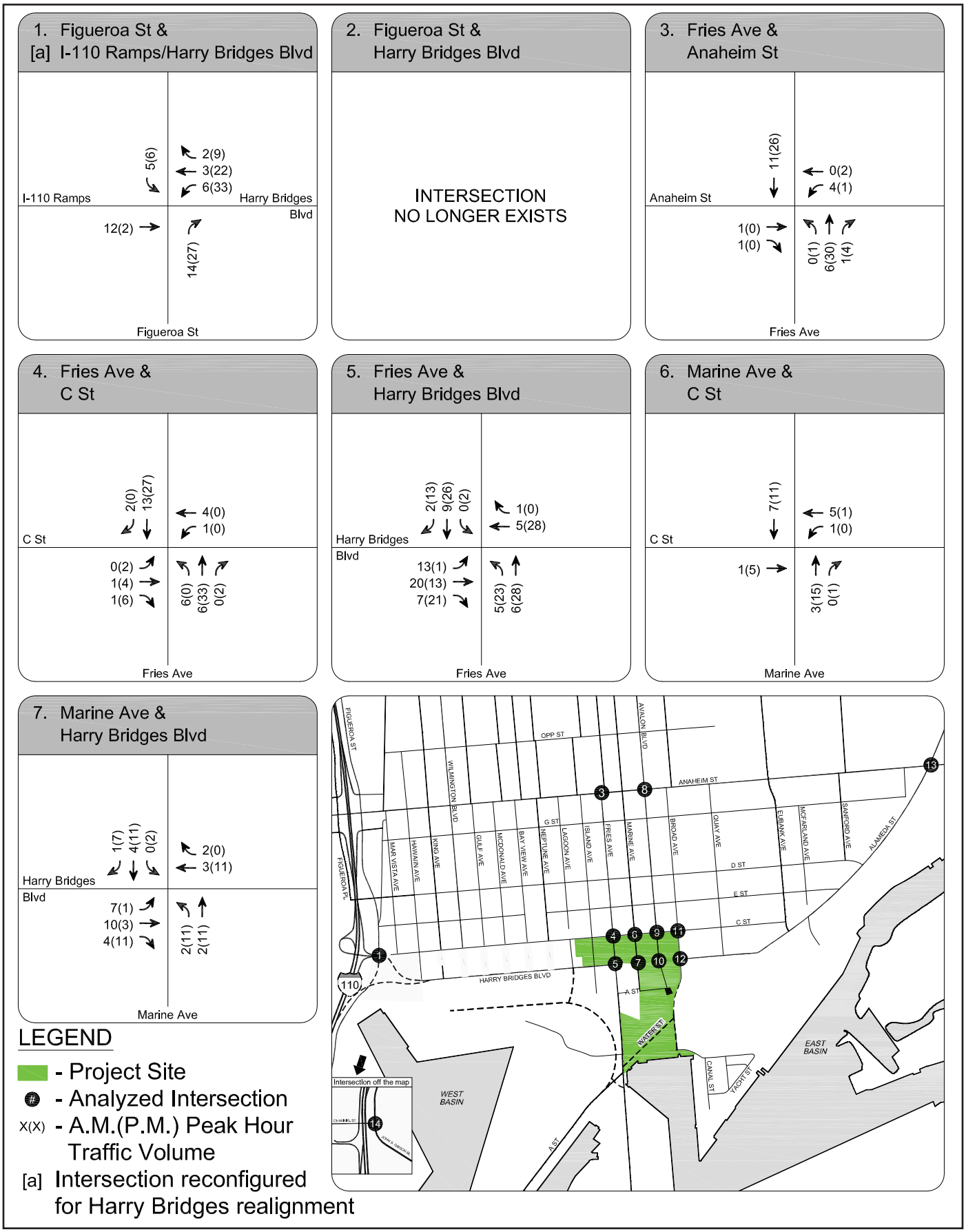
Figure 3.11-4b
Cumulative Base Year 2020 Peak Hour Traffic Volumes
Wilmington Waterfront Development Project



SOURCE: Fehr & Peers (2008)

Figure 3.11-5a
Year 2015 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

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SOURCE: Fehr & Peers (2008)

Figure 3.11-5b
Year 2015 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

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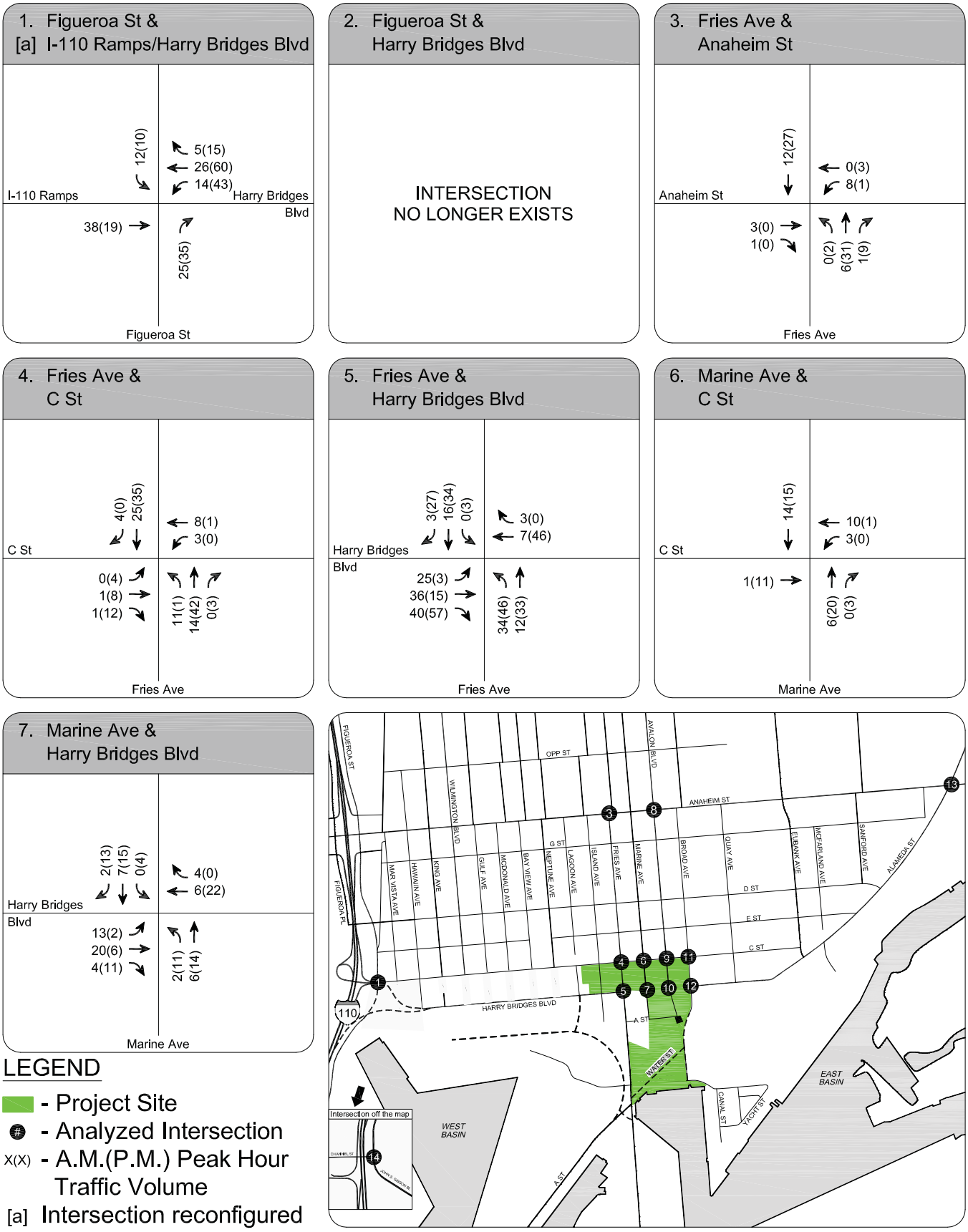

K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-6a.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

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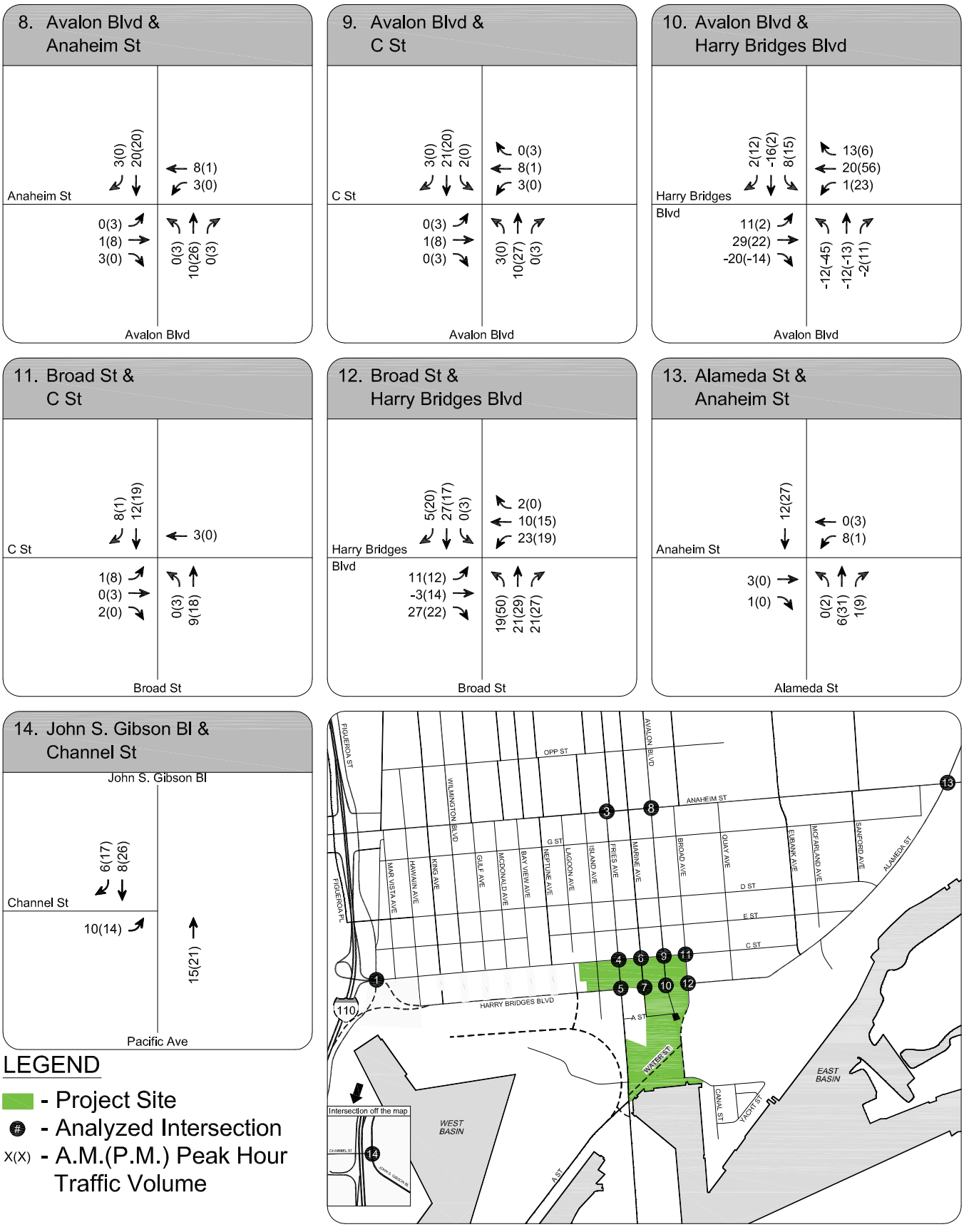
Figure 3.11-6a
Year 2020 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project



K:\GIS\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC\FIG3.11-6b.AI NB (09-16-08)

SOURCE: Fehr & Peers (2008)

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Figure 3.11-6b
Year 2020 Project Only Peak Hour Traffic Volumes
Wilmington Waterfront Development Project

Table 3.11-11. Trip Generation Summary for the Proposed Project

Land Use	*ITE Code*	*Unit*[2]	*Trip Generation Rates*[1]						
				AM Peak Hour			*PM Peak Hour*		
			Daily	*Total*	*In (%)*	*Out (%)*	*Total*	*In (%)*	*Out (%)*
1. Sit-Down Restaurant	932	KSF	127.15	11.52	52	48	10.92	61	39
2. Light Industrial	110	KSF	6.97	0.92	88	12	0.98	12	88
3. Retail	820	KSF	42.94	1.03	61	39	3.75	48	52
4. Open Space	(3)	Acres	5.00	0.2	50	50	0.4	50	50
2015 Trip Generation Estimates									
				AM Peak Hour			*PM Peak Hour*		
Land Use	*Size*	*Unit*	*Daily*	*Total*	*In*	*Out*	*Total*	*In*	*Out*
2. Light Industrial	75	KSF	2,491	60	37	23	218	105	113
3. Retail	58	KSF	523	69	61	8	74	9	65
4. Open Space	9.75	Acres	49	2	1	1	4	2	2
TOTAL			3,063	131	99	32	296	116	180
2020 Trip Generation Estimates									
				AM Peak Hour			*PM Peak Hour*		
Land Use	*Size*	*Unit*	*Daily*	*Total*	*In*	*Out*	*Total*	*In*	*Out*
1. Sit-Down Restaurant	12	KSF	1,526	138	72	66	131	80	51
2. Light Industrial	150	KSF	1,046	138	121	17	147	18	129
3. Retail	58	KSF	2,491	60	37	23	218	105	113
4. Open Space	15.45	Acres	77	3	2	1	6	3	3
TOTAL			5,140	339	232	107	502	206	296

[1]Trip rates obtained from *Trip Generation* (ITE 2003) except where noted.

[2]KSF = 1,000 square feet

[3]Trip rates for open space were not obtained from ITE; they were obtained from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG 2002).

Waterfront Red Car Line

As discussed in Chapter 2, "Project Description," the Waterfront Red Car Line is being assessed at the program level because of the following reasons:

- The alignment of the rail line is unknown and may vary within the existing APE.
- The operating details are unknown and therefore information such as frequency of trips, number of cars, hours of operation, trolley stops, and intersection crossings are not available at this time.

For the above reasons, impacts on transportation and circulation from the Waterfront Red Car Line are not analyzed at this time. Once critical information is available, a subsequent environmental review will be conducted, impacts assessed, and mitigation measures, if applicable, will be proposed.

3.11.4.1.2 Marine

Impacts on marine transportation were assessed by determining how increased vessel traffic resulting from the proposed Project would affect the ability of the harbor to safely handle vessel traffic; as well as the potential of proposed project–related construction or operational activities to increase risks to vessel traffic. Existing regulations regarding vessel safety are designed to avoid potential impacts and are considered standard practice.

3.11.4.2 Thresholds of Significance

3.11.4.2.1 Surface Transportation

A project or action is considered to have a significant transportation/circulation impact if the project or action would result in one or more of the following occurrences. These criteria were taken from the *L.A.CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applied to Port projects.

TC-1: A project would have a significant impact if construction of the project would result in a short-term, temporary increase in construction-related truck and auto traffic that could result in decreases in roadway capacity, potential safety hazards, and disruption of travel for vehicular and nonmotorized travelers.

TC-2: A project would have a significant impact if it would degrade the LOS of an intersection, neighborhood street, or CMP facility (described earlier in this section) beyond adopted guidelines, namely:

- **TC-2a:** A project would have a significant impact if an intersection would result in an increase in V/C ratio equal to or greater than 0.04 for intersections

operating at LOS C, equal to or greater than 0.02 for intersections operating at LOS D, and equal to or greater than 0.01 for intersections operating at LOS E or F (summarized in Table 3.11-9).

- **TC-2b**: A project would have a significant impact if a neighborhood street would have an ADT increase greater than 16% on roadways with current ADT under 1,000, an ADT increase greater than 12% on roadways with current ADT between 1,000 and 1,999, an ADT increase greater than 10% on roadways with current ADT between 2,000 and 2,999, or an ADT increase greater than 8% on roadways with current ADT at or above 3,000 (summarized in Table 3.11-10).
- **TC-2c:** A project would have a significant impact if a CMP facility would have an increase in V/C by 0.02 or greater and would cause the facility to operate at LOS F (V/C > 1.00) or, if the facility is already at LOS F, a significant impact would occur when the project increases V/C by 0.02 or greater (described in Section 3.11.3.1.3).

TC-3: A project would have a significant impact on local transit services if it would increase demand beyond the supply of such services anticipated at project buildout.

TC-4: A project would have a significant impact if it results in violation of the City's adopted parking policies, or if project parking demand would exceed supply.

TC-5: A project would have a significant impact if design elements of the project, or project construction, would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic. Elements that could result in safety impacts include poor sight distance, sharp curves, or substantial differences in speed between project-related and general-purpose traffic.

3.11.4.2.2 Marine

Under CEQA, potential impacts are identified by comparing conditions under the proposed Project to baseline conditions. According to the *L.A. CEQA Thresholds Guide*, the determination of significance for marine transportation impacts has to be made on a case-by-case basis. While this document does not include specific provisions regarding marine transportation, the following criterion was developed in cooperation with LAHD for previous projects:

VT-1: A project would have a significant impact on marine transportation if it would interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin Area, or precautionary areas.

3.11.4.3 Impacts and Mitigation

3.11.4.3.1 Proposed Project

Impact TC-1a: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and nonmotorized travel.

Demolition and landside construction associated with various elements of the proposed Project would generate truck and other vehicular traffic associated with construction worker commutes, transport and staging of construction equipment, transport of construction materials to the construction site, and hauling excavated and demolished materials away from the site. Most proposed project construction is expected to occur between 2009 and 2020. During the construction period, Port operations would continue at usual levels. The exact locations and extents of construction impacts will not be known until detailed construction timing and phasing plans are developed. However, potential construction effects on roadway operations include the following:

- A temporary increase in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel demand on roadways.
- Temporary roadway lane closures or narrowings in areas directly abutting construction activities would reduce capacity of roadways.
- Temporary roadway closures associated with the construction of transportation infrastructure would reduce the capacity of the roadway system and/or require detours that increase travel times.
- Temporary lane or road closures would require route detours or reduced service for transit routes that run adjacent to proposed project elements that are under construction—namely, Metro lines 202 and 446/447.
- During proposed project construction, parking demand would increase from construction workers and construction equipment that is not in use. In addition, parking spaces located adjacent to construction activities would be temporarily closed.
- Temporary sidewalk, lane, or road closures would occur adjacent to proposed project elements that are under construction, which would interfere with bicycle or pedestrian circulation within the proposed project vicinity.
- Travel disruptions would occur along the Class II bicycle lane along Avalon Boulevard.
- Heavy and slow-moving construction vehicles would mix with general-purpose vehicular and nonmotorized traffic in the area.

See Chapter 2, "Project Description," for detailed descriptions of the construction activities and planned phasing of the elements associated with the proposed Project.

Impact Determination

Proposed project construction would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures. The following impacts would result from the proposed Project.

- Reduced roadway capacity and an increase in construction-related congestion would result in temporary localized increases in traffic congestion that exceed applicable LOS standards.
- Construction activities would disrupt existing transit service in the proposed project vicinity. Impacts may include temporary route detours, reduced or no service to certain destinations, or service delays.
- Construction activities would increase parking demand in the proposed project vicinity and may result in parking demand exceeding the available supply.
- Construction activities would disrupt pedestrian and bicycle travel. Impacts include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and interfere with safe travel.
- Construction activities would increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

The impact of construction-generated traffic on transportation operations without mitigation is considered significant. Therefore, the following mitigation measure is proposed:

Mitigation Measure

MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction. In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City and County engineers) before construction. The traffic control plan will include:

- a street layout showing the location of construction activity and surrounding streets to be used as detour routes, including special signage;
- a tentative start date and construction duration period for each phase of construction;
- the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and
- written approval to implement traffic control from other agencies, as needed.

Additionally, the traffic control plan will include the following stipulations:

- provide access for emergency vehicles at all times;
- avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day;
- maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified;
- provide adequate off-street parking areas at designated staging areas for construction-related vehicles;
- maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway;
- utilize flag persons wearing OSHA–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity;
- maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured;
- post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area;
- post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the construction area;
- during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff's and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary;
- provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and
- repair or restore the road right-of-way to its original condition or better upon completion of the work.

Residual Impacts

With implementation of the mitigation measure described above, impacts would be less than significant.

Impact TC-2a: Proposed project operations would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.

The proposed Project would increase demand for expanded commercial, recreational, and other proposed waterfront facilities and would therefore increase the number of people traveling to and from the Wilmington Waterfront area. The resulting increase in traffic volumes on the surrounding roadways would in turn degrade intersection operations.

It is anticipated that approximately six times a year a special event could be held at the proposed Project with approximately 1,500 people in attendance. These events would occur at non-peak hours generally on certain holidays and would resemble events such as Lobster Fest in Ports O'Call in San Pedro. Traffic generated from these rare events would be temporary and at non-peak traffic hours. Furthermore, all special events planned at the proposed project site would have to comply with existing City of Los Angeles and LAHD Special Event regulations and obtain a special event permit which would require a traffic control plan, the identification of detour routes for non-attendees, provide emergency access routes to avoid emergency response disruption, and provide temporary parking locations with possible shuttle service to ensure compliance with local and state fire and emergency access and evacuation regulations.

Impact Determination

Tables 3.11-12 and 3.11-13 summarize the projected LOS at intersections within the vicinity for Without Project and With Project conditions, for the years 2015 and 2020, respectively. To determine whether significant impacts would occur at the study intersections, the proposed project operating conditions were compared to the baseline, or Without Project, operating conditions.

Table 3.11-12 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic are not expected to exceed the adopted thresholds. Thus, impacts through 2015 are less than significant.

Table 3.11-13 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic are expected to exceed the adopted threshold at one intersection. At the intersection of Avalon Boulevard and Anaheim Street, the projected V/C increase due to the proposed Project is 0.024 in the PM peak hour. This exceeds the threshold of 0.01 that is defined when an intersection is operating at LOS E or worse. This impact is identified as significant.

On rare occasions such as certain holidays, special events may be planned. All special events planned at the proposed project site would have to obtain a special event permit from the City of Los Angeles and LAHD, which would include a traffic control plan and off-site parking plan. These special events would be short in duration and would be limited to non-peak traffic hours (i.e. the special event traffic would not contribute to traffic at peak times). Any impacts would be temporary and

at times when the circulation system is operating at high LOS. The traffic control plan would ensure emergency access is maintained and detour routes are well planned minimizing impacts on the local community. Traffic impacts related to special events would be less than significant. Section 3.13, "Public Services," describes the existing regulations and permits required for special events.

Mitigation Measure

The following mitigation measure would be implemented to address the intersection impact identified in 2020.

MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim Street. Prior to the initiation of Phase II construction, LAHD will add a right-turn lane in the southbound direction. Currently the southbound approach consists of one through/left-turn lane and one through/right-turn lane. The mitigation will result in one right-turn lane, one through lane, and one through/left-turn lane. This proposed mitigation will require the removal of two metered parking spaces along Avalon Boulevard to allow for the right-turn lane and the restriping of the northbound approach to properly align with the reconfigured southbound approach. A conceptual drawing illustrating the feasibility of this mitigation is provided in Figure 12 of the traffic report prepared for this project (Appendix I).

Table 3.11-14 shows the projected LOS at this location with the proposed mitigation in place. The table shows that this improvement would fully mitigate the identified impact at Avalon Boulevard and Anaheim Street, reducing the projected LOS to less than Without Project levels. With mitigation in place, the intersection is projected to operate at LOS B (V/C = 0.656) during the AM peak hour, and at LOS D (V/C = 0.880) during the PM peak hour.

Residual Impacts

The reconfiguration of the southbound approach of Avalon Boulevard and Anaheim Street under MM TC-2 would remove a maximum of two metered parking spaces. As part of the traffic study, parking utilization counts were collected one block in each direction from this intersection on a weekday and Saturday during the period of 11am and 1pm. Additionally, a survey of the existing land-use types around the intersection that generated parking utilization within the immediate vicinity of the intersection was performed. The results of the count and survey indicated there is a surplus of metered parking spaces and the removal of a maximum of two metered parking spaces would not significantly impact the parking supply in this location. Therefore, the residual impacts of MM TC-2 would be less than significant. After implementation of MM TC-2, the significant impact at the intersection of Avalon Boulevard and Anaheim Street would be reduced to less than significant.

Table 3.11-12. Intersection LOS—Future (2015) Conditions

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2015 Without Project*		*2015 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
1	Figueroa Street/C Street	AM	Signal	0.403	A	0.409	A	0.006	No
		PM		0.342	A	0.358	A	0.016	No
2	Figueroa Street/Harry Bridges Boulevard	AM	Intersection will not exist in the future.[2]						
		PM							
3	N Fries Avenue/Anaheim Street	AM	Signal	0.492	A	0.510	A	0.018	No
		PM		0.494	A	0.534	A	0.040	No
4	Fries Avenue/C Street	AM	All-Way	0.268	A	0.282	A	0.014	No
		PM	Stop	0.184	A	0.223	A	0.039	No
5	Fries Avenue/Harry Bridges Boulevard	AM	Signal	0.355	A	0.406	A	0.051	No
		PM		0.469	A	0.524	A	0.055	No
6	Marine Avenue/C Street	AM	Two-Way	0.205	A	0.216	A	0.011	No
		PM	Stop	0.151	A	0.168	A	0.017	No
7	Marine Avenue/Harry Bridges Boulevard	AM	Two-Way	0.486	A	0.500	A	0.014	No
		PM	Stop	0.677	B	0.705	C	0.028	No
8	Avalon Boulevard/Anaheim Street	AM	Signal	0.664	B	0.671	B	0.007	No
		PM		0.878	D	0.894	D	0.016	No
9	Avalon Boulevard/C Street	AM	All-Way	0.198	A	0.208	A	0.010	No
		PM	Stop	0.301	A	0.314	A	0.013	No
10	Avalon Boulevard/Harry Bridges Boulevard	AM	Signal	0.393	A	0.395	A	0.002	No
		PM		0.649	B	0.643	B	-0.006	No

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2015 Without Project*		*2015 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
11	Broad Avenue/C Street	AM	All-Way	0.238	A	0.246	A	0.008	No
		PM	Stop	0.327	A	0.343	A	0.016	No
12	Broad Avenue/Harry Bridges Boulevard	AM	Signal	0.339	A	0.374	A	0.035	No
		PM		0.482	A	0.545	A	0.063	No
13	Alameda Street/Anaheim Street	AM	Signal	0.515	A	0.518	A	0.003	No
		PM		0.631	B	0.643	B	0.012	No
14	John S Gibson Boulevard/Channel Street	AM	Signal	0.612	B	0.616	B	0.004	No
		PM		0.689	B	0.696	B	0.007	No

[1]All signalized intersections assumed to be operating under ATSAC and ATSC systems in the future.
[2]Intersection to be reconfigured and combined as per the proposed conceptual plan for the Harry Bridges Boulevard realignment.

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Table 3.11-13. Intersection LOS—Future (2020) Conditions

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2020 Without Project*		*2020 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
1	Figueroa Street/C Street	AM	Signal	0.415	A	0.434	A	0.019	No
		PM		0.354	A	0.382	A	0.028	No
2	Figueroa Street/Harry Bridges Boulevard	AM	Intersection will not exist in the future.[2]						
		PM							
3	N Fries Avenue/Anaheim Street	AM	Signal	0.511	A	0.535	A	0.024	No
		PM		0.511	A	0.556	A	0.045	No
4	Fries Avenue/C Street	AM	All-Way	0.274	A	0.304	A	0.030	No
		PM	Stop	0.188	A	0.247	A	0.059	No
5	Fries Avenue/Harry Bridges Boulevard	AM	Signal	0.372	A	0.483	A	0.111	No
		PM		0.481	A	0.582	A	0.101	No
6	Marine Avenue/C Street	AM	Two-Way	0.210	A	0.233	A	0.023	No
		PM	Stop	0.155	A	0.183	A	0/028	No
7	Marine Avenue/Harry Bridges Boulevard	AM	Two-Way	0.497	A	0.521	A	0.024	No
		PM	Stop	0.691	B	0.728	C	0.037	No
8	Avalon Boulevard/Anaheim Street	AM	Signal	0.686	B	0.701	C	0.015	No
		PM		**0.905**	**E**	**0.929**	**E**	**0.024**	**Yes**
9	Avalon Boulevard/C Street	AM	All-Way	0.203	A	0.226	A	0.023	No
		PM	Stop	0.308	A	0.332	A	0.024	No
10	Avalon Boulevard/Harry Bridges Boulevard	AM	Signal	0.407	A	0.421	A	0.014	No
		PM		0.664	B	0.663	B	-0.001	No

ID	*Intersection*	*Peak Hour*	*Traffic Control*[1]	*2020 Without Project*		*2020 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*		
11	Broad Avenue/C Street	AM	All-Way	0.244	A	0.263	A	0.019	No
		PM	Stop	0.334	A	0.361	A	0.027	No
12	Broad Avenue/Harry Bridges Boulevard	AM	Signal	0.348	A	0.409	A	0.061	No
		PM		0.495	A	0.589	A	0.094	No
13	Alameda Street/Anaheim Street	AM	Signal	0.532	A	0.541	A	0.009	No
		PM		0.650	B	0.673	B	0.023	No
14	John S Gibson Boulevard/Channel Street	AM	Signal	0.631	B	0.638	B	0.007	No
		PM		0.711	C	0.720	C	0.009	No

[1]All signalized intersections assumed to be operating under ATSAC and ATSC systems in the future.
[2]Intersection to be reconfigured and combined as per the proposed conceptual plan for the Harry Bridges Boulevard realignment.

Table 3.11-14. Intersection LOS—Future (2020) Conditions with Mitigation

ID	*Intersection*	*Peak Hour*	*Traffic Control*	*Unmitigated*				*Mitigated*			
				2020 Without Project		*2020 With Project*		*2020 With Project*		*Project Increase in V/C*	*Significant Project Impact*
				V/C	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*		
8	Avalon Boulevard/Anaheim Street	AM	Signal	0.686	B	0.701	C	0.656	B	-0.045	No
		PM		**0.905**	**E**	**0.929**	**E**	0.880	D	-0.049	No

Impact TC-2b: Proposed project operations would not significantly increase traffic volumes or degrade operations on neighborhood streets within the proposed project vicinity beyond adopted thresholds.

The proposed Project would increase the number of people traveling to and from the Wilmington Waterfront area. The resulting increase in traffic volumes would increase traffic volumes and slightly degrade LOS on the surrounding neighborhood roadways. Table 3.11-15 summarizes the LOS expected to result from the proposed Project along the six analysis roadways in the future analysis years 2015 and 2020.

Impact Determination

To determine whether significant impacts would occur on neighborhood streets, the proposed project operating conditions were compared to the Without Project operating conditions. Table 3.11-15 shows that under both 2015 and 2020 conditions, projected increases on neighborhood streets due to the proposed Project would not exceed the identified significance thresholds. Thus, impacts from the proposed Project on neighborhood streets are considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Table 3.11-15. Neighborhood Street LOS—Future (2015 and 2020) Conditions

	Street Segment	Existing ADT (2008)	Projections of Daily Traffic (ADT)				Impact Assessment		
			Ambient Growth (%)	Total ADT - Without Project	Project Only Daily Traffic	Total ADT - Proposed Project	Project % of Total ADT	% Threshold	Significant Project Impact
2015 Conditions									
1	Mar Vista Avenue, north of C Street	322	4.6	215	13	228	5.7	16.0	No
2	Hawaiian Avenue, north of C Street	512	4.6	323	13	336	3.9	16.0	No
3	Gulf Avenue, north of C Street	299	4.6	255	13	268	4.9	16.0	No
4	McDonald Avenue, north of C Street	227	4.6	180	13	193	6.7	16.0	No
5	Bay View Avenue, north of C Street	487	4.6	392	13	405	3.2	16.0	No
6	C Street, east of Gulf Avenue	1,103	4.6	1,365	50	1,415	3.5	12.0	No
2020 Conditions									
1	Mar Vista Avenue, north of C Street	322	7.8	225	21	246	8.5	16.0	No
2	Hawaiian Avenue, north of C Street	512	7.8	340	21	361	5.8	16.0	No
3	Gulf Avenue, north of C Street	299	7.8	264	21	285	7.4	16.0	No
4	McDonald Avenue, north of C Street	227	7.8	188	21	209	10.0	16.0	No
5	Bay View Avenue, north of C Street	487	7.8	408	12	420	2.9	16.0	No
6	C Street, east of Gulf Avenue	1,103	7.8	1,401	81	1,482	5.5	12.0	No

Impact TC-2c: Proposed project operations would not significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds.

The proposed Project would increase the number of people traveling to and from the Wilmington Waterfront area. The resulting demand would increase traffic volumes and degrade operations on the regional CMP arterials or freeways (see Section 3.11.2.1.4).

The following trips were estimated to occur at the two CMP arterial monitoring stations as a result of the proposed Project:

- Figueroa Street and Pacific Coast Highway—The proposed Project is expected to add approximately 15 or fewer weekday peak hour trips in 2015 and 2020 at this intersection (see page 55 of the Traffic Study, included in this EIR as Appendix I).
- Alameda Street and Pacific Coast Highway—The proposed Project is expected to add approximately 30 or fewer weekday peak hour trips in 2015 and 2020 at this intersection (see page 55 of the Traffic Study, included in this EIR as Appendix I).

Impact Determination

Trip thresholds for arterial and freeway monitoring stations are defined in the CMP (Metro 2004) and described in Section 3.11.3.1.3 above. Since the proposed Project would add fewer than the arterial threshold of 50 vehicle trips through these arterial monitoring stations, the CMP thresholds are not exceeded and no further analysis of CMP arterial intersections is required. Thus, CMP arterial intersection impacts are considered to be less than significant.

The CMP mainline freeway monitoring station nearest to the proposed project site is I-110, south of C Street. According to the Traffic Study, the proposed Project would add fewer than the CMP freeway threshold of 150 trips through this station (see page 55 of the Traffic Study, included in this EIR as Appendix I). Since incremental proposed project–related traffic is projected to be less than the minimum criteria of 150 VPH, no further CMP freeway analysis is required, and CMP freeway impacts are considered to be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-3: Proposed project operations would not cause increases in demand for transit service beyond the supply of such services.

The proposed Project would increase transit demand due to an increase in the number of people traveling to and from the Wilmington Waterfront area, as described below.

Potential increases in transit person trips generated by the proposed Project were estimated according to a methodology provided in the CMP (Metro 2004) for estimating the number of transit trips expected to result from a project based on the projected number of vehicle trips.

The CMP methodology assumes an average vehicle ridership (AVR) of 1.4 persons per car, in order to estimate the number of person trips to and from a project. The nearest designated CMP transit corridor is the Harbor Freeway Corridor. Since the proposed project site is outside a ¼-mile boundary from this corridor, the CMP guidelines estimate that approximately 3.5% of the proposed project-generated person trips may use public transit to travel to and from the site.

As shown in Table 3.11-11, the proposed Project is projected to generate a net increase of approximately 131 vehicle trips during the AM peak hour and 296 vehicle trips during the PM peak hour in the interim year 2015; and it is projected to generate a net increase of approximately 339 trips during the AM peak hour and 502 trips during the PM peak hour in full buildout in year 2020. Applying the AVR of 1.4 to these vehicle estimates results in the following person trip estimates:

- 184 and 415 person trips are projected for the AM and PM peak hours, respectively, during the interim year 2015. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 7 persons during the AM peak hour and 15 persons during the PM peak hour.
- 475 and 703 person trips are projected for the AM and PM peak hours, respectively, during the buildout year 2020. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 17 persons during the AM peak hour and 25 persons during the PM peak hour.

As discussed in Section 3.11.2.1.5, four bus lines provide service in the vicinity of the proposed project site. Based on the existing operating schedules for these transit lines, approximately 11 buses serve the area during both the AM and PM peak hours. This results in the following conclusions:

- The proposed Project would add on average approximately 1 person trip per bus during the AM peak hour and 2 person trips per bus during the PM peak hour in the interim year 2015.

- The proposed Project would add on average approximately 2 person trips per bus during the AM peak hour and 3 person trips per bus during the PM peak hour in the buildout year 2020.

Finally, it is anticipated that approximately six times a year a special event could be held at the proposed Project with approximately 1,500 people in attendance. These events would occur at non-peak hours generally on certain holidays and would resemble events such as Lobster Fest in Ports O'Call in San Pedro. Transit use for these rare events would be temporary and at non-peak traffic hours. Furthermore, all special events planned at the proposed project site would have to comply with existing City of Los Angeles and LAHD Special Event regulations and obtain a special event permit that would provide temporary parking locations with possible shuttle service. Because events such as that those described herein would be rare and temporary, stress on the existing transit system would be negligible.

Impact Determination

Three people per bus amount to slightly less than 8% of the capacity of a typical 40-passenger bus. It is expected that the transit system could accommodate this small increase in demand; thus, proposed project-related impacts on the regional transit system would be considered less than significant in both the interim year 2015 and the buildout year 2020. Impacts from rare and temporary special events would be less than significant.

Therefore, operational impacts on transit ridership would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-4: Proposed project operations would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.

The proposed Project would increase parking demand in the Wilmington Waterfront area. Table 3.11-16 presents the parking requirements for the proposed Project at full buildout (year 2020). Parking requirements for the proposed Project were calculated using both the City of Los Angeles Zoning Code and the Harbor Enterprise Zone parking code. As can be seen in the table, a total of 440 parking spaces would be required per the Harbor Enterprise Zone parking requirement rates, and a total of 652 off-street parking spaces would be required per Section 12.21 of the Los Angeles Zoning Code. Special events would have to obtain a special event permit and be required to show adequate parking. Additionally, such events would be rare, temporary, and occur at off-peak hours and on weekends or holidays.

Impact Determination

The 506 proposed parking spaces would meet the off-street parking requirements per the Harbor Enterprise Zone code. If the Harbor Enterprise Zone were not renewed, the proposed Project's parking supply would be subject to the provisions of the Los Angeles Zoning Code and an additional 146 off-street parking spaces (beyond the 506 currently proposed) would be required. However, the Harbor Enterprise Zone code is the current adopted applicable code. Under the requirements of the Harbor Enterprise Zone, this impact is less than significant.

Table 3.11-16. Parking Assessment

		City of Los Angeles		*Harbor Enterprise Zone*		
Land Use	*Size*	*Required Rate*	*Parking Spaces Required*	*Required Rate*	*Parking Spaces Required*	*Supply Proposed by Project*
Retail	58,000 square feet	4 spaces/1,000 square feet	232	2 spaces/1,000 square feet	116	506
Restaurant	12,000 square feet	1 space/12,000 square feet	120	2 spaces/1,000 square feet	24	
Light Industrial	150,000 square feet	1space/ 500 square feet	300	2 spaces/1,000 square feet	300	
Park	15 acres	--	--	--	--	
TOTAL			652		440	

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic.

The proposed Project does not include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or nonmotorized travelers. Elements have been designed to comply with site access and roadway engineering requirements that avoid poor sight distance, sharp curves, or substantial differences in speed between project-related and general-purpose traffic.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact VT-1a: Construction of the proposed Project would not interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.

Dredging, waterside demolition, and waterside construction associated with various elements under the proposed Project would generate trips by barges and other boats used to transport and stage pile-driving and other construction equipment; to transport construction materials to the construction sites; and to haul dredged and demolished materials away from the sites. This would result in temporary increases in marine traffic. The exact number of vessels generated by proposed project construction will not be known until detailed construction timing and phasing plans are developed. However, Table 3.11-17 summarizes construction activities that would be expected to generate some level of marine traffic (see Chapter 2, "Project Description," for more detailed descriptions of construction activities).

Table 3.11-17. Marine-Side Construction Associated with the Proposed Project

Proposed Project Element	*Construction Activities*	*Duration of Activities*
Waterfront Promenade	Marine-side construction of the promenade: ■ construction of 43,220 square feet of new viewing piers (750 concrete pilings, 24 inches in diameter); ■ replacement of approximately 17,880 square feet of existing piers (478 concrete pilings, 24 inches in diameter); and ■ construction of two floating docks measuring 5,870 square feet for transient boats.	2009–2015

Impact Determination

In-water construction activities would require use of marine-based construction equipment. Thus, construction activities would create temporary increases in marine

vessels, which in turn would increase the potential for conflict between vessels. This could create in-water hazards related to construction vessel activity and increase the potential for accidents between vessel traffic within the harbor, Main Channel, West Basin, East Basin, and precautionary areas. However, these activities are routinely conducted in the harbor, and contractors performing in-water construction activities are subject to all applicable rules and regulations stipulated in all LAHD contracts (see Sections 3.11.3.2 and 3.11.2.2.1 for descriptions of standard safety precautions). Because the standard safety precautions would be utilized in piloting these vessels, the short-term presence of barges or boats would not reduce the existing level of safety for vessel navigation in the harbor. Therefore, construction impacts on vessel traffic would be less than significant.

Mitigation Measures

No mitigation is required beyond adherence to navigation regulations and implementation of the safety measures stipulated in all LAHD contracts.

Residual Impacts

Impacts would be less than significant.

Impact VT-1b: Operation of the proposed Project would not interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.

The proposed Project would provide new facilities to accommodate vessel traffic at the waterfront promenade. Construction of two floating docks for small vessels at the proposed new waterfront promenade would generate recreational vessel demand in the proposed project vicinity.

Proposed project operations would result in an estimated increase in vessel calls of up to 36 vessels per day. Small boat traffic in and out of the Wilmington Waterfront Development Program docks along the northern edge of Slip 5 would be from two sources: small pleasure craft using the public docks, and the possible future development of a water taxi linking the area with the San Pedro Waterfront. For the first source, 4 dock faces are available, with lengths of 166, 90, 90, and 30 feet. Assuming an average berthing length of 40 feet (based on a 30-foot boat and leaving sufficient mooring and maneuvering room), there are 9 berth spaces available. Assuming 12 hours of operation, and 3 hours of occupancy per visit (including arrival, departure, and tie up, as well as some period of vacancy), this works out to an average of 36 small pleasure craft visits per day (Brown pers. comm.).

Impact Determination

Adherence to HSP speed-limit regulations, traffic separation schemes, limited visibility guidelines, VTS monitoring requirements, and Port tariffs requiring vessels of foreign registry and U.S. vessels that do not have a federally licensed pilot on

board to use a Port pilot for transit in and out of the harbor and adjacent waterways would continue to be standard practice. Therefore, the expected increase in vessel traffic and changes in vessel traffic patterns would not significantly decrease the margin of safety for marine vessels in the harbor, Main Channel, or precautionary areas.

Operational impacts on vessel traffic would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.11.4.3.2 Summary of Impact Determinations

Table 3.11-18 summarizes the impact determinations of the proposed Project related to transportation and circulation, as described in the detailed discussion in Section 3.11.4.3.1. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria; LAHD criteria; and the scientific judgment of the report preparers based on substantial evidence gathered from relevant studies.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.11-18. Summary Matrix of Potential Impacts and Mitigation Measures for Transportation and Circulation (Ground and Marine) Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.11 Transportation and Circulation—Ground and Marine			
TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and nonmotorized travel.	Significant	**MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction.** In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City and County engineers) before construction. The traffic control plan will include: ■ a street layout showing the location	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		of construction activity and surrounding streets to be used as detour routes, including special signage; ■ a tentative start date and construction duration period for each phase of construction; ■ the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and ■ written approval to implement traffic control from other agencies, as needed. Additionally, the traffic control plan will include the following stipulations: ■ provide access for emergency vehicles at all times; ■ avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day; ■ maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified; ■ provide adequate off-street parking areas at designated staging areas for construction-related vehicles; ■ maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway; ■ utilize flag persons wearing	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		OSHA–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity; ■ maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured; ■ post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area; ■ post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the construction area; ■ during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff's and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary; ■ provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and ■ repair or restore the road right-of-way to its original condition or better upon completion of the work.	
TC-2a: Proposed project operations would increase traffic volumes and degrade LOS at	Significant	**MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim**	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
intersections within the proposed project vicinity.		**Street.** Prior to the initiation of Phase II construction, LAHD will add a right-turn lane in the southbound direction. Currently the southbound approach consists of one through/left-turn lane and one through/right-turn lane. The mitigation will result in one right-turn lane, one through lane, and one through/left-turn lane. This proposed mitigation will require the removal of two metered parking spaces along Avalon Boulevard to allow for the right-turn lane and the restriping of the northbound approach to properly align with the reconfigured southbound approach. A conceptual drawing illustrating the feasibility of this mitigation is provided in Figure 12 of the traffic report prepared for this project (Appendix I). Table 3.11-14 shows the projected LOS at this location with the proposed mitigation in place. The table shows that this improvement would fully mitigate the identified impact at Avalon Boulevard and Anaheim Street, reducing the projected LOS to less than Without Project levels. With mitigation in place, the intersection is projected to operate at LOS B (V/C = 0.656) during the AM peak hour, and at LOS D (V/C = 0.880) during the PM peak hour.	
TC-2b: Proposed project operations would not significantly increase traffic volumes or degrade operations on neighborhood streets within the proposed project vicinity beyond adopted thresholds.	Less than significant	No mitigation is required	Less than significant
TC-2c: Proposed project operations would not significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds.	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
TC-3: Proposed Project operations would not cause increases in demand for transit service beyond the supply of such services.	Less than significant	No mitigation is required	Less than significant
TC-4: Proposed project operations would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.	Less than significant	No mitigation is required	Less than significant
TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic.	Less than significant	No mitigation is required	Less than significant
VT-1a: Construction of the proposed Project would not interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.	Less than significant	No mitigation is required	Less than significant
Impact VT-1b: Operation of the proposed Project would not interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.	Less than significant	No mitigation is required	Less than significant

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3.11.4.4 Mitigation Monitoring

Table 3.11-19. Mitigation Monitoring for Transportation and Circulation

Impact TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and nonmotorized travel.	
Mitigation Measure	**MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction**.
Timing	Prior to construction activities, to be implemented during construction
Methodology	The construction contractor(s) will prepare a construction traffic control plan to be approved by LAHD Engineering and LADOT, detailing methods to minimize traffic congestion and access restrictions during construction.
Responsible Parties	LAHD Engineering Division, construction contractor(s)
Residual Impacts	Less than significant
Impact TC-2a: Proposed Project operations would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.	
Mitigation Measure	**MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim Street**.
Timing	Before buildout of proposed project, prior to 2020
Methodology	The LAHD will design the Avalon Boulevard/Anaheim Street intersection to add a right-turn lane in the southbound direction. This measure will be implemented prior to buildout of the proposed project, and will be a required condition of approval of the proposed project.
Responsible Parties	LAHD Engineering Division
Residual Impacts	Less than significant

3.11.5 Significant Unavoidable Impacts

No significant unavoidable transportation and circulation impacts were identified for the proposed Project.

3.12

UTILITIES

3.12.1 Introduction

This section identifies the existing utility service systems (water, wastewater, storm drains, solid waste, electricity, and natural gas) within the proposed project area, and addresses potential impacts on these systems that could result from development of the proposed Project. This section also describes the regulatory setting associated with utilities and the mitigation measures that would reduce impacts on utilities to less-than-significant levels.

3.12.2 Environmental Setting

For this EIR the proposed project's environmental setting generally consists of the Port of Los Angeles and the adjacent community of Wilmington. The public utility providers that serve this particular area include the City of Los Angeles Bureau of Sanitation, Los Angeles County Sanitation Districts, LADWP, and Southern California Gas Company. Each utility has been actively growing in concert with the growth experienced by the communities and region. The individual provisions for providing and delivering service within the particular geographic areas, as well as each utility's planning efforts to accommodate anticipated future growth are discussed in detail below.

The specific study area considered in this section encompasses proposed project elements that would use, change, remove, or affect public utilities in some physical capacity. Proposed project elements that have this potential include the development proposed within the Avalon Waterfront District, the Avalon Development District, and the Waterfront Red Car Line/California Coastal Trail (as identified in Figure 2-2). The proposed Project does not include any physical changes to the Avalon Triangle Park area, as explained below in Section 3.12.4.1, "Methodology." Therefore, this area would not have an impact on the utilities, and further analysis is not required.

3.12.2.1 Utilities

3.12.2.1.1 Water

Water service is provided to the proposed project area by LADWP, which is responsible for conserving, treating, and distributing water for domestic, industrial, agricultural, and firefighting purposes within the City of Los Angeles. Water sources utilized by LADWP consist of both local, such as wells and recycled water (for nonpotable uses), and imported water, including water obtained via the Los Angeles Aqueducts and purchases from the Metropolitan Water District (MWD) of Southern California. MWD imports water from the Colorado River via the Colorado River Aqueduct, from northern California via the State Water Project's California Aqueduct, and from various groundwater sources.

Water supply and conveyance structures comprise a series of reservoirs and a network of pipelines, including reservoir outlets, major trunk lines, and other delivery lines. In 2004, LADWP supplied 690,450 acre-feet of water in its service area (LADWP 2005).[1]

In a continuing effort to ensure a reliable water supply for future years, LADWP has invested in various sources, including groundwater, recycled water, and water conservation. Specific supply and demand side management strategies are designed to provide a "hedge" against droughts and variability of surface water. The 2005 Urban Water Management Plan (UWMP) estimates water demand and supply through a 25-year outlook period, and is updated every 5 years by LADWP. The UWMP assumes future development as prescribed by the General Plan of the City of Los Angeles when planning future water demand. Correspondingly, development projects that are consistent with the General Plan's land use designation and planned densities are taken into account in the calculations used to predict water demand for future years. Calculations are also based on assumptions regarding the various supplies of water available and existing and projected levels of water conservation. Based on these assumptions, LADWP has predicted service reliability for average and single dry-year conditions and expects to be able to meet future demand with a combination of existing supplies, planned supplies, and MWD purchases (LADWP 2005).

In the 2005 UWMP, LADWP forecasted that the City of Los Angeles would grow 0.4% annually over the next 25 years, or by approximately 368,000 persons over the next 25 years. Total citywide demand for water is predicted to be 755,000 acre-feet in 2025 and 766,000 acre-feet in 2030. According to the 2005 UWMP, under wet, average, and dry years throughout the 25-year projection period, LADWP'S supply portfolio is expected to be reliable, with adequate supplies available to meet projected demands through 2030 (LADWP 2005:ES-12).

Table 3.12-1 identifies the existing land uses, the square footages, and the water demand of the existing uses that would be altered, removed, or otherwise affected

[1]The 2005 MWD Urban Water Management Plan uses data from the 2003–2004 fiscal year.

under the proposed Project. Based on the existing land uses in the study area, the water demand of the study area is estimated to be 3,954 gallons per day (gpd).

Distribution water mains are located throughout the proposed project area. Six-inch lines are used along most north-south cross streets throughout the proposed project site, including Lagoon, Island, Fries, Marine, and Broad Avenues. An additional 6-inch line is located east of the proposed project site, along Harry Bridges Boulevard between Avalon Boulevard and Alameda Street (see Figure 3.12-1 for location of water lines). Water hydrants in the proposed project area include double 4-inch hydrants, single 2.5-inch hydrants, and double 4-inch plus 2.5-inch hydrants (Navigate LA 2008). The proposed project area also has an existing 24-inch recycled water mainline along Harry Bridges Boulevard and Lagoon Avenue. The recycled water in this line is provided from the TITP.

3.12.2.1.2 Sewer and Wastewater Treatment Service

The City of Los Angeles Department of Public Works, Bureau of Sanitation, provides wastewater treatment and sewer service to the City. The Bureau of Sanitation operates wastewater treatment and reclamation facilities that serve most of its incorporated areas and several other cities and unincorporated areas in the Los Angeles basin and San Fernando Valley. The existing system comprises two treatment plants; two water reclamation plants; a collection system consisting of over 6,500 miles of local, trunk, mainline, and major interceptor sewers; five major outfall sewers; and 48 pumping plants.

The sewer infrastructure in the vicinity of the proposed Project includes an existing 8-inch sewer line on Harry Bridges Boulevard and a 14-inch line on Avalon Boulevard. The sewage flows from the 8-inch line into the 14-inch line, which in turn feeds into an 18-inch sewer line on A Street, a 24-inch line on Fries Avenue, and a 30-inch sewer line on San Clemente Avenue, before discharging into the TITP. Based on available gauging information, the current flow level in 18-inch line is approximately 64% full and in 21-inch line is approximately 50% full. The design capacities (at depth/Diameter [d/D] ratio of 50%) of the 8-inch line is 162,156 gpd, 721,163 gpd for the 14-inch line, 996,714 gpd for the 18-inch line, 2.23 million gpd for the 21-inch line, 2.14 million gpd for the 24-inch line, and 3.01 million gpd for the 30-inch line (Lorscheider pers. comm. 2008). Based on the gauging information, the current flow level (d/D) in the 8-inch line on Harry Bridges Boulevard is approximately 75% full and the 14-inch line on Avalon Boulevard is flowing full (Lorscheider pers. comm. 2008).

The wastewater generated by existing uses in the study area that would be altered, removed, or otherwise affected under the proposed Project is estimated to be 4,562 gpd. See Table 3.12-2 for details.

Table 3.12-1. Existing Water Use in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Area (Square Feet)*	*Generation Factor Used to Estimate gpd*[1]	*Gallons per Day*
Avalon Development District	Bekins Warehouse Building	Warehouse	14,500	22.2 gpd/1000 gross square feet (gsf)	322
	Private buildings south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Warehouse	41,260	22.2 gpd/ 1000 gsf	916
	DWP-owned vacant lots south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Vacant, barren lots	48,930	Assume 0 gpd	0
	Police trailer at southeast corner of C Street and Marine Avenue	Office/ Commercial	1,440	88.8 gpd/ 1000 gsf	128
	All Port-owned property north of Harry Bridges Boulevard	Vacant, barren lots	325,540	Assume 0 gpd	0
	All Port- owned property south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue with no buildings	Vacant, barren lots	47,490	Assume 0 gpd	0
Avalon Waterfront District	DWP bulk oil storage tanks	Industrial	117, 930	Assume 0 gpd	0
	DWP oil tank supporting buildings	Warehouse	19,000	22.2 gpd/ 1000 gsf	422
	DWP-owned vacant lot along Avalon Boulevard	Vacant, barren lot	98,900	Assume 0 gpd	0
	1 small support building on DWP-owned vacant lot	Warehouse	875	22.2 gpd/ 1000 gsf	19

Location	*Existing Land Use*	*General Land Use*	*Area (Square Feet)*	*Generation Factor Used to Estimate gpd*[1]	*Gallons per Day*
	along Avalon Boulevard				
	Parking area south/southwest of Water Street and Railroad, north of Slip 5	Parking	50,850	22.2 gpd/ 1000 gsf	1,129
	Catalina Freight buildings	Warehouse	30,860	22.2 gpd/ 1000 gsf	685
	National Polytechnic College of Science, Hyperbaric Chamber Building	Trade or Vocational School (per students)	2,370 (assumes 25 students)	13.32 gpd/ student	333
	Southeast corner of Harry Bridges and Avalon Boulevards	Vacant, barren lot	58,609.36	Assume 0 gpd	0
				TOTAL	**3,954**

Notes:

[1]Water generation factors equivalent to 111% of the sewage generation factors provided in the *L.A. CEQA Thresholds Guide* (2006).

Compiled by ICF Jones and Stokes, 2008.

Table 3.12-2. Existing Wastewater Generation in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Generation Factor Used to Estimate gpd*[1]	*Gallons per Day*
Avalon Development District	Bekins Warehouse Building	Warehouse	14,500	20 gpd/1000 gsf	290
	Private buildings South of Harry Bridges Boulevard, North of A Street, between Avalon Boulevard and Marine Avenue	Warehouse	41,260	20 gpd/1000 gsf	825

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Generation Factor Used to Estimate gpd*[l]	*Gallons per Day*
	DWP-owned vacant lots south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Vacant, barren lot	41,260	Assume 0 gpd	0
	Police trailer at southeast corner of C Street and Marine Avenue	Office/ Commercial	1,440	80 gpd/1000 gsf	115
	All Port-owned property north of Harry Bridges Boulevard with no buildings	Vacant, barren lots	362,456	Assume 0 gpd	0
	All Port-owned property south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue with no buildings	Vacant, barren lots	55,162	Assume 0 gpd	0
Avalon Waterfront District	DWP Oil Tanks	Vacant, barren Lot	117, 930	Assume 0 gpd	0
	DWP oil tank supporting buildings	Warehouse	19,000	20 gpd/1000 gsf	380
	DWP-owned vacant lot along Avalon Boulevard	Vacant, barren lot	98,900	Assume 0 gpd	0
	1 small support building on DWP-owned vacant lot along Avalon Boulevard	Warehouse	875	20 gpd/1000 gsf	18
	Parking area south/southwest of Water Street and Railroad, north of Slip 5	Parking	50,850	20 gpd/1000 gsf	1,017
	Catalina Freight buildings	Warehouse	30,860	20 gpd/1000 gsf	617

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Generation Factor Used to Estimate gpd*[1]	*Gallons per Day*
	National Polytechnic College of Science, Hyperbaric Chamber Building	Trade or Vocational School (per students)	2,370 (assumes 25 students)	12 gpd/student	300
	Southeast corner of Harry Bridges and Avalon Boulevards	Vacant, barren lot	58,609.36	Assume 0 gpd	0
	Banning's Landing	Community Center	(250 occupants)	4 gpd/occupant	1000
				TOTAL	**4,562**

Notes:

[1]Wastewater generation factors are derived from the *L.A. CEQA Thresholds Guide* (2006).
Compiled by ICF Jones and Stokes, 2008.

Wastewater from the area flows to the TITP, located at 455 Ferry Street, which treats wastewater for the communities of Wilmington, San Pedro, a portion of Harbor City, and the heavily industrialized Terminal Island (LA Sewers 2008). The treatment process consists of pretreatment, primary sedimentation, secondary treatment, sludge digestion, and drying. The TITP treats all flow received to at least first-stage tertiary levels. Some wastewater is further treated for reuse in irrigation and industrial water supplies. TTIP has up to 5 million gpd advanced water treatment capability. The liquid effluent flows to the Los Angeles Outer Harbor to a point approximately 3,000 feet offshore via a 60-inch-diameter outfall. The TITP is designed to treat 30 million gpd. Currently, the plant is processing at approximately 58% capacity, or treating about 17.5 million gpd daily (City of Los Angeles Bureau of Sanitation 2008a).

3.12.2.1.3 Storm Drainage

Storm drains are located throughout the proposed project area and maintained by the LAHD, City of Los Angeles, and Los Angeles County. Storm drains within the proposed project vicinity have sufficient capacity to accommodate current demands and are designed to accommodate 10-year storm events (Zambrano pers. comm. 2007).

3.12.2.1.4 Solid Waste Service

Existing development in the proposed project area generates solid waste consisting of nonhazardous materials (e.g., food and beverage containers, paper products, and other

miscellaneous personal trash) and hazardous materials (diesel from railroads and the LADWP oil tanks). All solid waste generated by existing development must comply with federal, state, and local regulations and codes pertaining to nonhazardous and hazardous solid waste disposal.

Solid waste collection and disposal services for residential development in the Wilmington area are provided by the City of Los Angeles Bureau of Sanitation. Most of the nonhazardous solid waste generated within the proposed project area is disposed of at the Sunshine Canyon Sanitary Landfill (SLF) Canyon Extension, located at 14747 San Fernando Road in Sylmar, California. Sunshine Canyon is owned by Browning Ferris Industries (BFI) and has a maximum allotted throughput of 6,600 tons per day. Sunshine Canyon SLF has a remaining capacity of 111,200,000 cubic yards, a maximum allotted throughput of 12,100 tons per day, and an operation cease date of December 31, 2037 (California Integrated Management Waste Board [CIMWB] 2008a).

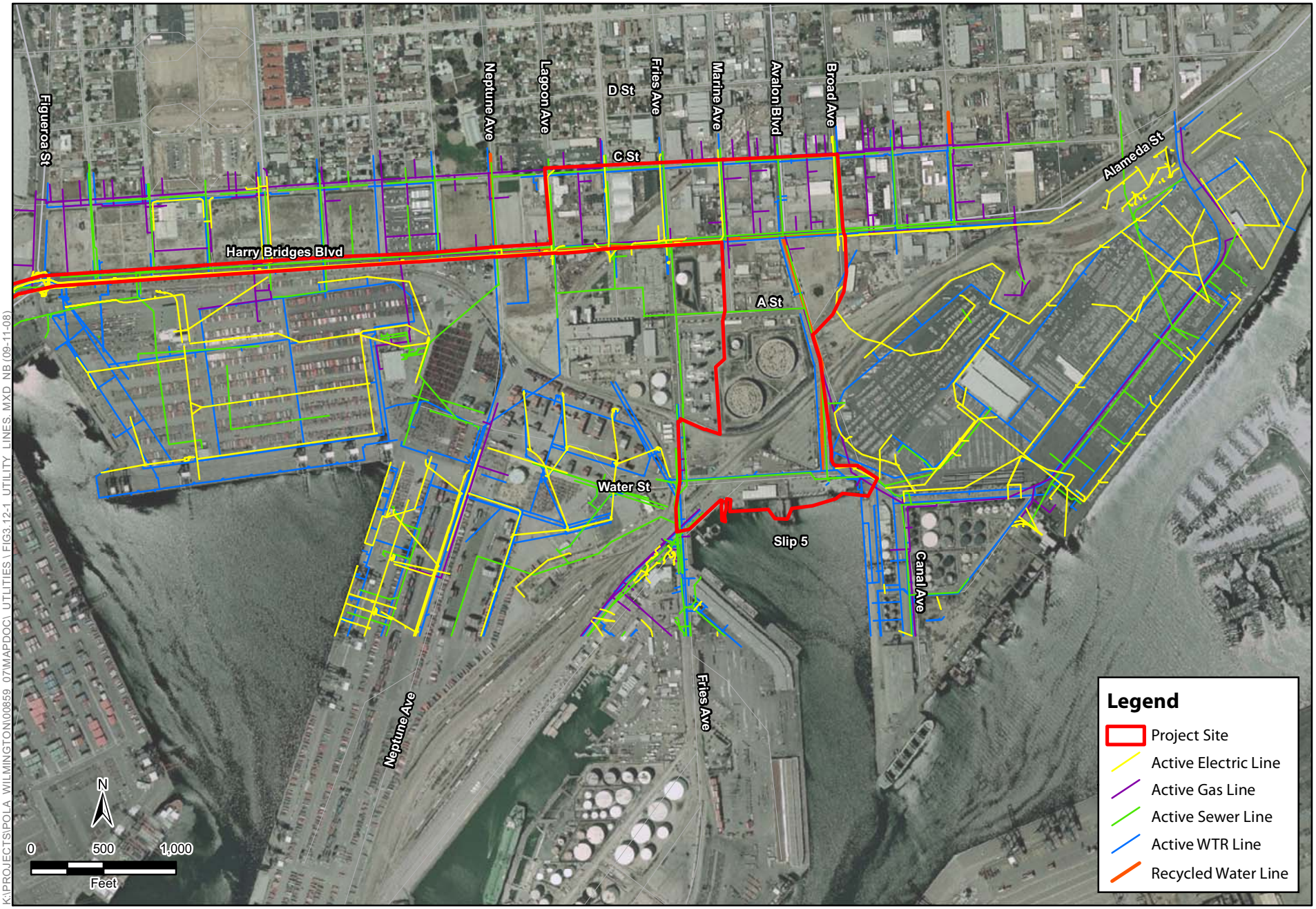
Additional landfills are available in Los Angeles County that could serve the proposed project area. Table 3.12-3 lists potential secondary landfills.

Table 3.12-3. Secondary Landfills for the Proposed Project

Landfill	*Maximum Permitted Throughput, Tons/Day*	*Remaining Capacity, Cubic Yards*	*Remaining Capacity Date*	*Operation Cease Date*
Azusa Land Reclamation Co. Landfill	6,500	34,100,000	March 31, 1996	January 1, 2025
Burbank Landfill Site No. 3	240	5,107,465	May 31, 2006	January 1, 2053
Calabasas Sanitary Landfill	3,500	16,900,400	October 14, 2004	January 1, 2028
Savage Canyon Landfill	350	7,419,580	July 15, 2006	January 1, 2025
Source: CIWMB (2008a).				

Additionally, the City of Industry is developing an EIR for a Puente Hills Intermodal Facility, which is expected to be approved by the summer of 2008. This is a waste-by-rail project, intended to accommodate the solid waste removal needs for Los Angeles County. The proposed facility would eventually have the capacity to handle up to two trains per day, transporting a total of 8,000 tons of municipal solid waste per day. If approved, it is anticipated to be in operation by 2011 (Puente Hills Intermodal Facility DEIR 2007).

Los Angeles County Ordinance 7A prohibits solid waste generated in the City of Los Angeles from being handled by or disposed of in facilities and landfills operated by the Los Angeles County Sanitation District. There are two transfer stations that serves the



K:\PROJECTS\POLA_WILMINGTON\00859_07\MAPDOC_UTILITIES_\FIG3.12-1_UTILITY_LINES_MXD_NB (09-11-08)

SOURCE: ESRI USA Imagery (2006), Port of Los Angeles (2008)

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Figure 3.12-1
Utility Lines
Wilmington Waterfront Development Project

proposed project area: the Falcon Refuse Center in the Wilmington Community and the Southeast Resource Recovery Facility in the City of Long Beach.

The Falcon Refuse Center is operated by Browning Ferris Industries, and it receives an average of 1,850 tons per day. The permitted capacity of this facility is 3,500 tons per day. The center accepts solid waste from construction and demolition activities, as well as industrial and mixed-municipal sources (CIMWB 2008b).

The Southeast Resource Recovery Facility (SERRF) is located in the City of Long Beach at 120 Pier S Avenue, west of the Terminal Island Freeway, just north of Ocean Boulevard on Pier S Avenue. The facility is owned by a separate authority created by a joint powers agreement between the Sanitation Districts and the City of Long Beach, but is operated under contract by a private company. The facility accepts only nonhazardous municipal solid waste (Sanitation Districts of Los Angeles County 2007). Currently the maximum daily permitted tonnage is 2,240 tons per day. The average daily tonnage being accepted is 1,900 tons per day; however, this fluctuates per season. The remaining lifespan of this facility is through 2018 (Amzcua pers. comm. 2007).

In order to comply with AB 939 and City of Los Angeles Solid Waste Management Policy Plan (CiSWMPP), a new waste generation study was conducted for 1999 and 2000 by the City of Los Angeles. The study included assessing the disposal and diversion for the tenants of the Port. In the year 2000, the Port alone disposed of approximately 5,791 tons of waste and diverted approximately 59,513 tons, achieving a diversion rate of 91%. The waste reduction and recycling assessments in 1999–2000 showed that the tenants audited disposed of 12,496 tons and diverted 12,291 tons, for an overall diversion rate of 49.6% (City of Los Angeles Bureau of Sanitation 2008b). Currently the Wilmington area has a diversion rate of 62%, with a goal of 70% by 2015, 90% by 2025, and an ultimate goal of zero waste by 2030 (Pereira pers. comm. 2008).

Additionally, LAHD's Construction and Maintenance Division recycles asphalt and concrete demolition debris by crushing and stockpiling the crushed material to use on other Port projects (City of Los Angeles Bureau of Sanitation 2007). In 2003, the Port's diversion rate was 41.8%, or 1,998.2 tons (Port 2005c). The following programs are implemented by the Port to assist in waste diversion (City of Los Angeles 2008b):

- Duplex Printing and Photocopying
- Wood Waste Diversion Program
- Green Waste Recycling Program
- Administrative Office Recycling Program
- Toner Cartridge Recycling
- Ferrous Metals Recovery Program
- Inerts Recycling Program
- Motor Oil Recycling Program

- Tire Recycling Program
- Office Paper
- Cardboard Recycling Program
- Scrap Metal
- Beverage Container Recycling
- Fish Sludge Recovery
- Wood Waste Collection Program
- Non-Food Donation
- Office Furniture Source Reduction

The estimated solid waste generated by existing uses in the study area that would be altered, removed, or otherwise affected under the proposed Project totals 1,193 pounds per day (Table 3.12-4).

Hazardous materials, such as contaminated soils and petroleum by-products generated as a result of ongoing soil and groundwater remediation and scheduled tank maintenance, are hauled to a Class I landfill that accepts hazardous waste for disposal. The closest Class I landfill is the Kettleman Hills facility in Kings County, which is the only such facility currently operating in southern California. The facility has a maximum permitted capacity of 10,700,000 cubic yards with a remaining capacity of 6,000,000 cubic yards. The landfill has maximum allotted throughput of 8,000 tons per day (CIMWB 2008c).

Table 3.12-4. Existing Solid Waste Generation in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Generation Factor Used to Estimate gpd*	*Pounds per Day*
Avalon Development District	Bekins Warehouse Building	Warehouse	14,500 (16 employees[1])	8.93 lbs/employee/day[2]	143
	Private buildings south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Warehouse	41,260 (46 employees[1])	8.93 lbs/employee/day[2]	411
	DWP-owned vacant lots south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Vacant, barren lot	41,260	Assume 0 lbs/day	0
	Police trailer on the southeast corner of C Street and Marine Avenue	Office/Commercial	1,440 (3 employees[1])	10.53 lbs/employee/day[3]	32
	All Port-owned property north of Harry Bridges Boulevard	Vacant, barren lots	362,456	Assume 0 lbs/day	0
	All Port-owned property south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue, with no buildings	Vacant, barren lots	55,162	Assume 0 lbs/day	0
Avalon Waterfront District	DWP oil tanks	Vacant, barren lot	117, 930	Assume 0 lbs/day	0
	DWP oil tank supporting buildings	Warehouse	19,000 (3 employees[1])	8.93 lbs/employee/day[2]	27

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Generation Factor Used to Estimate gpd*	*Pounds per Day*
	DWP-owned vacant lot along Avalon Boulevard	Vacant, barren lot	98,900	Assume 0 lbs/day	0
	1 small support building on DWP-owned vacant lot along Avalon Avenue	Warehouse	875 (1 employee)	8.93 lbs/employee/day[2]	9
	Parking area south/southwest of Water Street and Railroad, north of Slip 5	Parking	50,850 [1.17 acres]	Assume 0.372 tons/year/acre or 2.5 lbs/day/acre[4]	3
	Catalina Freight buildings	Warehouse	30,860 (34 employees[1])	8.93 lbs/employee/day[2]	304
	National Polytechnic College of Science, Hyperbaric Chamber Building	Commercial	2,370 (5 employees[1])	10.53 lbs/employee/day[3]	53
	Southeast corner of Harry Bridges and Avalon Boulevards	Vacant, barren lot	58,609.36	Assume 0 lbs/day	0
	Banning's Landing	Community Center	10,000 (20 employees [1])	10.53 lbs/employee/day[2]	211
				TOTAL	**1,193**

Notes:

[1]Median Employees per Acre for Commercial/Retail land uses (broad polygon selection) for five-county region was 585 square feet per employee; rounded up to 500 square feet per employee to assume worst case scenario. Median Employees per Acre for Light Industrial land uses (broad polygon selection) for five county region was 924 square feet per employee; rounded up to 900 square feet per employee to assume worst case scenario.
[2]Solid Waste generation factors for industrial land use are from the *L.A. CEQA Thresholds Guide* (2006).
[3]Solid Waste generation factors for commercial land use are from the *L.A. CEQA Thresholds Guide* (2006).
[4]Port of Los Angeles, Recycling and Waste Diversions (2005).

3.12.2.1.5 Electrical Service

The proposed project site is located within the service area of LADWP, which maintains various generating and distribution substations throughout the greater Los Angeles area, including generating and distribution centers within and near the Port that serve the proposed project site. LADWP supplies electricity generated by its system of resources, which consists of a mix of renewable energy, hydro generation, gas-fired generation, coal-fired generation, nuclear generation, and purchases from others within the west.

The industrial power station closest to the Port has four main 138-kV supply lines, two from the Harbor Generating Station and two from North Wilmington. Several other electrical power cables are distributed throughout the harbor area. LADWP maintains the Harbor Generating Station at the intersection of Island Avenue and Harry Bridges Boulevard (refer to Figure 3.13-1). Receiving Station Q and numerous above- and below-ground electrical transmission lines are located in the proposed project area. Overall, LADWP supplies nearly 22 billion kilowatt (kW) hours of electricity a year to the City's 1.4 million electric customers. (LADWP 2008a)

LADWP has adequate generation to serve the current customer load. LADWP has produced a plan called the Integrated Resource Plan, which anticipates load growth and includes plans for new generating capacity or demand side management programs to meet load requirements for future customers (LADWP 2008b). In 2015, the peak demand for the LADWP service area is estimated to be 6,546 megawatts (MW) per day with available resources of 8,129 MW per day (LADWP 2007:27). In 2020, the peak demand is estimated to be 6,876 MW per day; total resources available are estimated to be 7,721 MW per day (LADWP 2007:21).

The estimated electricity consumption by existing uses in the study area that would be altered, removed, or otherwise affected under the proposed Project totals 835,472 Kilowatt hours (kWh). See Table 3.12-5 for details.

29 **Table 3.12-5.** Existing Electricity Consumption in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Consumption Factor Used to Estimate*	*Electricity Consumption (kWh/day)*
Avalon Development District	Bekins Warehouse Building	Warehouse	14,500	4.35 kWh/ gsf/year[1]	63,075
	Private buildings south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Warehouse	41,260	4.35 kWh/ gsf/year[1]	179,481
	DWP-owned vacant lots south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Vacant, barren lot	41,260	Assume 0 kWh/ gsf/year	0
	Police trailer on the southeast corner of C Street and Marine Avenue	Office/Commercial	1,440	12.95 kWh/ gsf/year[2]	18,648
	All Port-owned property north of Harry Bridges Boulevard	Vacant, barren lots	362,456	Assume 0 kWh/ gsf/year	0
	All Port-owned property south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue, with no buildings	Vacant, barren lots	55,162	Assume 0 kWh/ gsf/year	0
Avalon Waterfront District	DWP oil tanks	Vacant, barren lot	117, 930	Assume 0 kWh/ gsf/year	0
	DWP oil tank supporting buildings	Warehouse	19,000	4.35 kWh/ gsf/year[1]	82,650
	DWP-owned vacant lot along Avalon Boulevard	Vacant, barren lot	98,900	Assume 0 kWh/ gsf/year	0

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Consumption Factor Used to Estimate*	*Electricity Consumption (kWh/day)*
	1 small support building on DWP-owned vacant lot along Avalon Avenue	Warehouse	875	4.35 kWh/ gsf/year[1]	3,806
	Parking area south/southwest of Water Street and Railroad, north of Slip 5	Parking	50,850 (1.17 acres)	4.35 kWh/ gsf/year[1]	221,198
	Catalina Freight buildings	Warehouse	30,860	4.35 kWh/ gsf/year[1]	134,241
	National Polytechnic College of Science, Hyperbaric Chamber Building	Commercial	2,370	11.55kWh/ gsf/year[3]	27,374
	Southeast corner of Harry Bridges and Avalon Boulevards	Vacant, barren lot	58,609.36	Assume 0 kWh/ gsf/year	0
	Banning's Landing	Community Center	10,000	10.50 kWh/ gsf/year[4]	105,000
				TOTAL	**835,472**

Notes:

[1]Electricity Consumption factors for Warehouse use from CEQA Air Quality Handbook (SCAQMD 1993).
[2]Electricity Consumption factors for Office use from SCAQMD (1993).
[3]Electricity Consumption factors for College/University from SCAQMD (1993).
[4]Electricity Consumption factors for Miscellaneous use from SCAQMD (1993).

3.12.2.1.6 Natural Gas Service

Natural gas service to the proposed project site would be supplied by the Southern California Gas Company (Gas Company). As a public utility, the Gas Company is under the jurisdiction of the state PUC and can be affected by actions of federal regulatory agencies. While regulatory actions may affect the regional and local supply and pricing of natural gas, substantial changes in this utility supply are not anticipated at this time based on current supply and demand projections. (Gas Company 2007)

California's existing gas supply is regionally diverse (the southwestern United States, the Rocky Mountains, and Canada) and includes supplies from on- and offshore sources. Southern California currently operates in an environment where interstate pipeline capacity is in excess of anticipated demand. The interstate pipeline systems, along with local California gas supplies, deliver gas to Los Angeles area customers through the Gas Company. Interstate pipeline delivery capability into Southern California for the Gas Company is over 4,000 million cubic feet (MMcf) per day, with approximately 3,230 MMcf per day available directly to Gas Company customers (the remaining interstate capacity serves non-local distribution company customers;Gas Company 2007:61). In 2015 and 2020, the total firm capacity for natural gas supply would be 4.675 MMcf per day (Gas Company 2007:70). The estimated natural gas consumption by existing uses in the study area that would be altered, removed, or otherwise affected under the proposed Project totals 12,977 cubic feet (cf) per day (4,736,532 cf per year). Table 3.12-6 lists existing (estimated) gas consumption on site.

The major natural gas line in the area is a 16-inch high pressure line that extends diagonally in a northeasterly direction near the intersection of John S. Gibson Boulevard and Pacific Avenue toward Berth 127. From there it continues in a northwesterly direction to rejoin John S. Gibson Boulevard near Berth 131. Smaller distribution lines (usually 2- or 4-inch) are located along other streets, such as Pier A Street, Pier A Place, Neptune Avenue, and Front Street. (TraPac 2008)

3.12.3 Applicable Regulations

3.12.3.1 Federal Regulations

3.12.3.1.1 Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) was created through the Department of Energy Organization Act on October 1, 1977, and assumed the responsibilities of its predecessor, the Federal Power Commission. FERC's legal authority comes from the Federal Power Act of 1935, the Natural Gas Act (NGA) of 1938, and the Natural Gas Policy Act of 1992. It is an independent regulatory agency within the Department of Energy that:

- regulates the transmission and sale of natural gas for resale in interstate commerce;
- regulates the transmission of oil by pipeline in interstate commerce;
- regulates the transmission and wholesale of electricity in interstate commerce;
- licenses and inspects private, municipal, and state hydroelectric projects;
- oversees environmental matters related to natural gas, oil, electricity, and hydroelectric projects;
- administers accounting and financial reporting regulations and conduct of jurisdictional companies; and
- approves site choices as well as abandonment of interstate pipeline facilities.

Table 3.12-6. Existing Natural Gas Consumption in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Consumption Factor Used to Estimate*	*Electricity Consumption (cf/year)*
Avalon Development District	Bekins Warehouse Building	Warehouse	14,500	24 cf/gsf/year[1]	348,000
	Private buildings south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Warehouse	41,260	24 cf/gsf/year[1]	990,240
	DWP-owned vacant lots south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue	Vacant, barren lot	41,260	Assume 0 cf/gsf/year	0
	Police trailer on the southeast corner of C Street and Marine Avenue	Office/ Commercial	1,440	24 cf/gsf/year[2]	34,560
	All Port-owned property north of Harry Bridges Boulevard	Vacant, barren lots	362,456	Assume 0 cf/gsf/year	0
	All Port-owned property south of Harry Bridges Boulevard, north of A Street, between Avalon Boulevard and Marine Avenue, with no buildings	Vacant, barren lots	55,162	Assume 0 cf/gsf/year	0

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage (Occupants)*	*Consumption Factor Used to Estimate*	*Electricity Consumption (cf/year)*
Avalon Waterfront District	DWP oil tanks	Vacant, barren lot	117, 930	Assume 0 cf/gsf/year	0
	DWP oil tank supporting buildings	Warehouse	19,000	24 cf/gsf/year[1]	456,000
	DWP-owned vacant lot along Avalon Boulevard	Vacant, barren lot	98,900	Assume 0 cf/gsf/year	0
	1 small support building on DWP-owned vacant lot along Avalon Avenue	Warehouse	875	24 cf/gsf/year[1]	21,000
	Parking area south/southwest of Water Street and Railroad, north of Slip 5	Parking	50,850 [1.17 acres]	34.8 cf/gsf/year[3]	1,769,580
	Catalina Freight buildings	Warehouse	30,860	24 cf/gsf/year[1]	740,640
	National Polytechnic College of Science, Hyperbaric Chamber Building	Commercial	2,370	57.6 cf/gsf/year[4]	136,512
	Southeast corner of Harry Bridges and Avalon Boulevards	Vacant, barren lot	58,609.36	Assume 0 cf/gsf/year	0
	Banning's Landing	Community Center	10,000	24 cf/gsf/year[5]	240,000
				TOTAL	**4,736,532**

Notes:

[1]Natural Gas Consumption factors for Warehouse use from CEQA Air Quality Handbook (SCAQMD 1993).
[2]Natural Gas Consumption factors for Office use from SCAQMD (1993).
[3]Natural Gas Consumption factors for Miscellaneous from SCAQMD (1993).
[4]Natural Gas Consumption factors for College/ University from SCAQMD (1993).

3.12.3.2 State Regulations

3.12.3.2.1 SB 610 Water Supply Assessment

Senate Bill 610 (Costa) became effective January 1, 2002. When a city or county determines that a project is subject to CEQA and meets the definition of Water Code Section 10912, this bill requires the project to identify any public water system that

may supply water for the project and to request that the public water supplier prepare a specified water supply assessment. The assessment is required to include an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. The assessment must be approved by the governing body of the public water system supplying water to the project. If the projected water demand associated with the project was included as part of the most recently adopted Urban Water Management Plan (UWMP), the public water system may incorporate the requested information from the urban water management plan in the water supply assessment. The bill requires the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation.

If the public water system concludes that water supplies are or will be insufficient, plans for acquiring additional water supplies are required to be submitted to the city or county. The city or county must include the water supply assessment in any environmental document prepared for the project pursuant to the act. It also requires the city or county to determine whether project water supplies will be sufficient to satisfy the demand of the project, in addition to existing and planned future uses.

3.12.3.2.2 California Urban Water Management Act

The California Urban Water Management Planning Act requires urban water suppliers to initiate planning strategies that make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry-water years. LADWP would be the water supplier, and as such the proposed Project would be under the jurisdiction of the LADWP UWMP, prepared pursuant to the California Urban Water Management Planning Act.

3.12.3.2.3 AB 1327: California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act of 1991 required each jurisdiction to adopt an ordinance by September 1, 1994, requiring any "development project" for which an application for a building permit is submitted to provide an adequate storage area for collection and removal of recyclable materials. AB 1327 regulations govern the transfer, receipt, storage, and loading of recyclable materials at the Port.

3.12.3.2.4 AB 939: California Integrated Waste Management Act

The State of California requires that all jurisdictions achieve compliance with AB 939, a state mandate that requires reaching 50% diversion of solid waste from landfills by 2000. AB 939 further requires each city to conduct a Solid Waste Generation Study and to prepare annually a Source Reduction and Recycling Element (SRRE) to describe how it will reach its goals. AB 939 was designed to focus on source reduction, recycling and composting, and environmentally safe landfilling and transformation activities. This act required cities and counties to divert 25% of all solid waste from landfills and transformation facilities by 1995, and 50% by 2000. The City of Los Angeles met and exceeded the year 2000 goals; in 2003, the City's diversion rate was 95.2%. In 2003, the Port's diversion rate was 41.8% (Port 2005c).

3.12.3.2.5 California's Building Code 24 CCR 6

Title 24, Part 6 of the CBC describes California's energy efficiency standards for residential and nonresidential buildings. These standards were established in 1978 in response to a legislative mandate to reduce California's energy consumption and have been updated periodically to include new energy efficiency technologies and methods. Title 24 requires building according to energy efficient standards for all new construction, including new buildings, additions, alternations, and, in nonresidential buildings, repairs.

3.13.3.2.6 Standard Urban Stormwater Mitigation Plan

On December 13, 2001, the RWQCB issued a Municipal Storm Water NPDES Permit (CAS004001) that requires new development and redevelopment projects to incorporate stormwater mitigation measures.

A Standard Urban Stormwater Mitigation Plan (SUSMP) is generally required to reduce the quantity and improve the quality of rainfall runoff that leaves a site. Developers are encouraged to begin work on complying with these mandatory regulations by consulting with the RWQCB Watershed Protection Division (WPD) in the design phase of their projects.

3.12.3.3 Regional and Local Regulations

3.12.3.3.1 LADWP Urban Water Management Plan

Consistent with the California Urban Water Management Planning Act, LADWP has prepared an UWMP to describe how water resources are used and to present strategies that will be used to meet the City's current and future water needs. To meet the objectives of the California Urban Water Management Planning Act, the

LADWP UWMP focuses primarily on water supply reliability and water use efficiency measures. The California Urban Water Management Planning Act requires water suppliers to develop water management plans every five years. LADWP most recently completed this 5-year update in 2005. This plan, the *2005 Urban Water Management Plan*, was completed as an update to the previous 2000 UWMP. LADWP also published annual fiscal year updates in the 2005 UWMP. The plan projects water demand and supplies through 2030; total demand for water is predicted to be 755,000 acre-feet in 2025 and 766,000 acre-feet in 2030. LADWP expects it will be able meet this demand with a combination of existing supplies, planned supplies, and MWD purchases (existing and planned) (LADWP 2005).

3.12.3.3.2 Wastewater Facilities Plan

The current Wastewater Facilities Plan, which addresses the City's wastewater treatment and collection needs over a 2010-planning horizon, was adopted by the City Council on January 22, 1991. The Plan is currently being revised through an integrated resource planning effort to address demand and capacity through 2020 with new construction and expansion of facilities and operations, water reclamation, and conservation (Integrated Plan for the Wastewater Program).

3.12.3.3.3 Sewer Allocation Ordinance

In 1990, City Ordinance No. 166,060 (also known as Sewer Allocation Ordinance) was adopted, which established regulations for projects that discharge into the Hyperion Treatment System (HTS). The ordinance established an annual sewage allotment of 5 million gpd, of which 34.5% is allocated for priority, 8% for public benefits, and 57.5% for nonpriority projects (of which 65% are residential and 35% are nonresidential projects).

3.12.3.3.4 City of Los Angeles Solid Waste Management Policy Plan (CiSWMPP)

The CiSWMPP is a long-term planning document adopted by the City Council in November 1994 containing goals, objectives, and policies for solid waste management for the City. It specifies Citywide diversion goals and disposal capacity needs. The mandate was enacted to encourage reduction, recycling, and reuse of solid waste generated in the state to preserve landfill capacity, conserve water, energy, and other natural resources, and to protect the state's environment. (City of Los Angeles 2006)

3.12.4 Impact Analysis

3.12.4.1 Methodology

Assessment of the proposed Project's impacts on utilities (water, wastewater, solid waste) and energy providers (electricity and natural gas) varies depending on the utility but generally includes a comparison of the project-generated demand against existing and anticipated resource supplies and/or conveyance and storage capacities. Quantifications of demands and generations were included based on factors provided by the applicable agencies, as shown in Tables 3.12-7 through 3.12-12. Only the existing uses that would be altered, removed, or otherwise affected under the proposed Project were used for calculation of existing demand. Uses and buildings which would not be affected by the proposed Project have not been included for comparison of project-generated demand against existing uses demand calculations.

The proposed Project includes changing the Port of Los Angeles Plan and Port Master Plan boundaries to include the Avalon Triangle Park area. The change in boundaries itself would be administrative in nature and would not involve any physical alterations to the existing onsite uses or their operational characteristics. Thus, the boundary changes would not have an impact on utility consumption.

For the purposes of this section, only impacts associated with the development in the Avalon Waterfront District, the Avalon Development District, and the Waterfront Red Car Line/California Coastal Trail (as identified in Figure 2-2) are analyzed. These three areas comprise the study area for this section,

The 150,000 square feet of proposed light industrial uses in the Avalon Development District, the 70,000 square feet of commercial uses in the Avalon Development District and Avalon Waterfront District, and the Waterfront Red Car Line/California Coastal Trail are analyzed programmatically for the purposes of this document. These components will require additional environmental analysis and evaluation under CEQA at the time specific projects are proposed and prior to actual construction or project-related changes; therefore, they are necessarily analyzed in less detail in this document than the other proposed project components.

The assessment of impacts is based on regulatory controls and on the assumptions that the proposed Project would include the following:

- **Prepare a Public Services Relocation Plan (PSRP)**. LAHD will prepare a PSRP as part of the proposed Project to address the public utilities that would be affected by proposed project construction, which would be reviewed by the service providers and City departments prior to implementation.

- **Employ Energy Conservation Design Features.** During the design process, LAHD will consult with LADWP's Efficiency Solutions Business Group regarding possible energy efficiency measures. LAHD and its tenants will incorporate measures to meet or, if possible, exceed minimum efficiency

standards for CCR Title 24 and the Los Angeles Green Building Program and Ordinance Section 16.10 and 16.11, such as the following:

a. Use built-in appliances, refrigerators, and space-conditioning equipment that exceed the minimum efficiency levels mandated in the California Code of Regulations.

b. Install high-efficiency air conditioning controlled by a computerized energy-management system in office and retail spaces that provides the following:

   - A variable air-volume system that results in minimum energy consumption and avoids hot water energy consumption for terminal reheat.
   - A 100% outdoor air-economizer cycle to obtain free cooling in appropriate climate zones during dry climatic periods.
   - Sequentially staged operation of air-conditioning equipment in accordance with building demands.
   - The isolation of air conditioning to any selected floor or floors.
   - Consideration of the applicability of the use of thermal energy storage to handle cooling loads.

c. Cascade ventilation air from high-priority areas before being exhausted, thereby decreasing the volume of ventilation air required. For example, air could be cascaded from occupied space to corridors and then to mechanical spaces before being exhausted.

d. Recycle lighting system heat for space heating during cool weather. Exhaust lighting-system heat from the buildings, via ceiling plenums, to reduce cooling loads in warm weather.

e. Install low- and medium–static pressure terminal units and ductwork to reduce energy consumption by air-distribution systems.

f. Ensure that buildings are well sealed to prevent outside air from infiltrating and increasing interior space-conditioning loads. Where applicable, design building entrances with vestibules to restrict infiltration of unconditioned air and exhausting of conditioned air.

g. A performance check of the installed space-conditioning system will be completed by the developer/installer prior to issuance of the certificate of occupancy to ensure that energy-efficiency measures incorporated into the proposed Project operate as designed.

h. Finish exterior walls with light-colored materials and high-emissivity characteristics to reduce cooling loads. Finish interior walls with light-colored materials to reflect more light and thus increase light efficiency.

i. Use a white reflective material for roofing that meets California standards for reflectivity and emissivity to reject heat.

j. Install thermal insulation in walls and ceilings that exceeds requirements established by the CCR.

k. Design window systems to reduce thermal gain and loss, thus reducing cooling loads during warm weather and heating loads during cool weather.

l. Install heat-rejecting window treatments, such as films, blinds, draperies, or others on appropriate exposures.

m. Install fluorescent and high-intensity discharge (HID) lamps that give the highest light output per watt of electricity consumed wherever possible, including all street and parking area lighting, to reduce electricity consumption. Use reflectors to direct maximum levels of light to work surfaces.

n. Install photosensitive controls and dimmable electronic ballasts to maximize the use of natural daylight available and reduce artificial lighting load.

o. Install occupant-controlled light switches and thermostats to permit individual adjustment of lighting, heating, and cooling to avoid unnecessary energy consumption.

p. Install time-controlled interior and exterior public area light limited to that necessary for safety and security.

q. Control mechanical systems (HVAC and lighting) in the building with timing systems to prevent accidental or inappropriate conditioning or lighting of unoccupied space.

r. Incorporate windowless walls or passive solar inset of windows.

s. Design the proposed Project to focus pedestrian activity within sheltered outdoor areas.

3.12.4.1.1 Water Supply

Water supply or conveyance impacts are typically evaluated by estimating water consumption factors associated with proposed project site land uses or, for nonresidential development, unit demand factors per acre or gross square foot, as established by the City of Los Angeles (L.A. CEQA Thresholds Guide 2006:M.1-4). Water demand estimations for the proposed Project have been based on the expected amount of wastewater production. Water use is proportionate to wastewater discharge and is calculated as such. Water consumption is 111% (1.11) of wastewater production (Akhter pers. comm. 2008).

The proposed Project includes a restroom with six toilets, two urinals, and four sinks. Restroom demand is based on expected daily use of the park. This value is expected to vary greatly during the various seasons of a year, and would also be greatly influenced by the scheduling of events at the park that may draw greater crowds. The water feature daily demands are based on evaporation rates, and seepage and splashing rates, which have been established based on typical conditions for the region. The irrigation daily demands are based on typical numbers for the different surface covers:

- 1,600,000 gallons per acre per year for lawns or 1 inch per week.
- 800,000 gallons per acre per year for shrubs and trees, or 0.5 inch per week

Table 3.12-7 shows the water demand that would be generated from the proposed Project.

In accordance with LAHD's commitment to reduce and conserve the amount of water used in the proposed project area, infrastructure would be incorporated to support the use of reclaimed water for landscaping purposes (in parks and road medians for example). Therefore, the proposed Project would use recycled water from the Terminal Island Reverse Osmosis facility. The proposed Project would include adding several mainlines off of the existing 24-inch recycled water mainline so that all landscaping and water features would be supplied with recycled water (per Table 3.12-7, a total of 27,865 gpd in 2015 and 59,479 gpd in 2020).

Table 3.12-7. Proposed Project Water Demand

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Area Units in 2015 in Square Feet*	*Area Units in 2020 in Square Feet*	*Consumption Factor Used to Estimate gpd*[1]	*Gallons per Day in 2015*	*Gallons per Day in 2020*
Industrial Avalon Development District	Restaurant (assuming 100 seats)	Commercial	12,000	12,000	33.3 gpd/seat for full service indoor restaurants	3,330	3,330
	Mercado	Commercial	58,000	58,000	88.8 gpd/1,000 gsf	5,150	5,150
	Light Industrial	Light industrial	75,000	150,000	88.8 gpd/1000 gsf	6,660	13,320
	Adaptive reuse of Bekins Storage property	Museum	14,500	14,500	22.2 gpd/1,000 gsf	322	322
	Lagoon water feature	Water feature	N/A	N/A	See text above	435	435
	Railroad Green	Open lawn	43,560 (1 acre)	43,560 (1 acre)	See text above	8,930	38,220
Avalon Waterfront District	Land bridge and other Wilmington Waterfront landscaped areas		76,230 (1.75 acres)	372,873.6 (7.56 acres)			
	Southeast Corner of Avalon and Harry Bridges Boulevards						
Waterfront Red Car Line/California Coastal Trail	Shrub vegetation	Shrub vegetation	0 (0 acres)	45,302.4 (1.04 acres)	See text above	0	2,324
Avalon Waterfront District	South water features	Water feature	N/A	N/A	See text above	1,715	1,715
	North water feature	Water feature	N/A	N/A	See text above	1,715	1,715
	Upper Plaza water feature	Water feature	N/A	N/A	See text above	5,950	5,950

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Area Units in 2015 in Square Feet*	*Area Units in 2020 in Square Feet*	*Consumption Factor Used to Estimate gpd*[1]	*Gallons per Day in 2015*	*Gallons per Day in 2020*
Entire Project Area	Trees	Trees	Individual trees: 456	Individual trees: 456	See text above	9,120	9,120
	1 restroom	Restroom	534.8	534.8	See text above	1,500	1,500
	3 parking areas	Parking	52,000	98,000	22.2 gpd/1,000 sf	1,154	2,176
	Various locations of hardscaped plazas, sidewalks, etc.	Parking	348,480 (8 acres)	431,244 (9.9 acres)	22.2 gpd/1,000 sf	7,736	9,574
					Total Water Use	**53,717**	**94,851**

Notes:

[1]Water generation factors are based on 111% of sewage generation factors given for different land uses in the *L.A. CEQA Thresholds Guide.*
Source: Compiled by ICF Jones and Stokes, 2008

3.12.4.1.2 Wastewater

Assessment of impacts on sewers or wastewater treatment systems generally includes the comparison of the project-related, land use–based wastewater flow generation to the existing and projected wastewater treatment capacity of the treatment plant. The wastewater generation factors, as stated in the *L.A. CEQA Thresholds Guide* (2006:Exhibit M.2-12), are as follows:

- Commercial/Retail: 80 gpd/1,000 square feet
- Manufacture/Industrial: 80 gpd/1,000 square feet
- Museum: 20 gpd/1,000 square feet
- Surface Parking: 20 gpd/1,000 square feet

Table 3.12-8 shows the total wastewater that would be generated under all conditions.

3.12.4.1.3 Storm Drainage Facilities

The proposed project would include any required installation and expansion of storm water drainage facilities necessary to accommodate any stormwater runoff. The proposed Project would also include design elements for capturing stormwater for reuse, as well as permeable paving and bio-swales in parking areas to reduce the stormwater drainage requirements of the proposed Project. Thus, storm drainage facilities will not be discussed further in the document. For additional details regarding the existing hydrology and storm drainage characteristics of the area, please refer to Section 3.14, "Water Quality, Sediments, and Oceanography."

3.12.4.1.4 Solid Waste

Impacts related to solid waste generally involve the estimation of the project-related, land use–based, solid waste generation compared to the capacity of the landfills serving the project area. The solid waste generated under the proposed Project was determined using a generation factor provided by the Port. For all other land uses, there were multiple conversion factors:

- Commercial: 10.53 pounds per day per employee
- Industrial: 8.93 pounds per day per employee

The percent contribution to the permitted daily throughputs of the Sunshine Canyon Landfill, minus the anticipated recycle diversion rate, was then determined based on the solid waste generation, as shown in Table 3.12-9.

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Table 3.12-8. Wastewater Generation from the Proposed Project (Estimated)

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Units in Square Feet in 2015*	*Units in Square Feet in 2020*	*Generation Factor Used to Estimate gpd*	*Gallons per Day[1] (2015)*	*Gallons per Day[1] (2020)*
Industrial Avalon Develoment District	Restaurant (assuming 100 seats)	Commercial	Buildings: 0	Buildings: 12,000	300 gpd/1,000 sf	0	3,600
	Mercado	Commercial	Buildings: 58,000	Buildings: 58,000	80 gpd/1,000 gsf	4,640	4,640
	Light industrial	Light industrial	Buildings: 75,000	Buildings: 150,000	80 gpd/1,000 gsf	6,000	12,000
	Adaptive reuse of Bekins Storage property	Museum	Buildings: 14,500	Buildings: 14,500	150 gpd/1,000 sf	2,175	2,175
	Lagoon water feature	Water feature	N/A	N/A	Assume 0 gpd	0	0
	Railroad Green	Open lawn	43,560 (1 acre)	43,560 (1 acre)	Assume 0 gpd	0	0
Avalon Waterfront District	Land bridge and other Avalon Waterfront District landscaped areas	Open lawn	372,873.6 (7.56 acres)	372,873.6 (7.56 acres)	Assume 0 gpd	0	0
	Southeast corner of Avalon and Harry Bridges Boulevards		43,000 (1-acre)	43,000 (1-acre)	Assume 0 gpd	0	0

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Units in Square Feet in 2015*	*Units in Square Feet in 2020*	*Generation Factor Used to Estimate gpd*	*Gallons per Day[1] (2015)*	*Gallons per Day[1] (2020)*
Waterfront Red Car Line/California Coastal Trail	Shrub vegetation	Shrub vegetation	45,302.4 (1.04 acres)	45,302.4 (1.04 acres)	Assume 0 gpd	0	0
Avalon Waterfront District	South water features	Water feature	N/A	N/A	Assume 0 gpd	0	0
	North water feature	Water feature	N/A	N/A	Assume 0 gpd	0	0
	Upper Plaza water feature	Water feature	N/A	N/A	Assume 0 gpd	0	0
Entire Project Area	Trees	Trees	Individual trees: 456	Individual trees: 456	Assume 0 gpd	0	0
	3 parking areas	Parking	98,000	98,000	20 gpd/1,000 sf	1,960	1,960
	Various locations of hardscaped plazas, sidewalks, etc.	Parking	431,244 (9.9 acres)	431,244 (9.9 acres)	20 gpd/1,000 sf	8,625	8,625
					TOTAL	**23,400**	**33,000**

Notes:

[1]Wastewater generation factors are derived from the *L.A. CEQA Thresholds Guide* (2006).

Compiled by ICF Jones and Stokes, 2008.

Table 3.12-9. Solid Waste Generation from the Proposed Project (Estimated)

Proposed Project Designated Land Uses Generating Solid Waste	*Units (Square Feet)/Employees in 2015*	*Units (Square Feet)/Employees in 2020*	*Generation Factor Used to Estimate*	*Solid Waste Generated in 2015 (lbs/day)*	*Solid Waste Generated in 2020 (lbs/day)*
Restaurant (assuming 100 seats)	Buildings: 0	12,000/24[1]	10.53 lbs/employee/day[2]	0	252.7
Mercado	58,000/116[1]	58,000/116[1]	10.53 lbs/employee/day[2]	1,221.5	1,221.5
Light Industrial	75,000/83[1]	150,000/167[1]	8.93 lb/employee/day[3]	741.2	1,491.3
Adaptive Reuse of Bekins Storage Property	14,500 /29 [1]	14,500/29[1]	10.53 lbs/employee/day[2]	305.4	305.4
Rail Road Green + Other Landscaping	119,790 (2.75 acres)	372,438 (8.55 acres)	Assume 0.372 tons/year/acre or 2.5 lbs/day/acre[4]	6.9	21.4
Waterfront Red Car Line/ California Coastal Trail	0 acres	32 acres	Assume 0.372 tons/year/acre or 2.5 lbs/day/acre[4]	0	80.0
3 Parking Areas	52,000 (1.2 acres)	98,000 (2.25 acres)	Assume 0.372 tons/year/acre or 2.5 lbs/day/acre[4]	3.0	5.6
Hardscaped Plazas, Sidewalks, etc.	8 acres	9.9 acres	Assume 0.372 tons/year/acre or 2.5 lbs/day/acre[4]	20.00	24.8
			TOTAL	**2297.92**	**3402.6**

Notes:

[1]Median Employees per Acre for Commercial/Retail land uses (broad polygon selection) for five-county region was 585 square feet per employee; rounded up to 500 square feet per employee to assume worst case scenario. Median Employees per Acre for Light Industrial land uses (broad polygon selection) for five county region was 924 square feet per employee; rounded up to 900 square feet per employee to assume worst case scenario.
[2]Solid Waste generation factors for commercial land use are from the *L.A. CEQA Thresholds Guide* (2006).
[3]Solid Waste generation factors for industrial land use are from the *L.A. CEQA Thresholds Guide* (2006).
[4]Port of Los Angeles, Recycling and Waste Diversions, 2005.

3.12.4.1.5 Energy

The determination of impacts on electricity and natural gas supplies depends on an estimation of demand generated by the proposed Project uses compared to availability and capacity of existing supplies and the conveyance infrastructure. Table 3.12-10 presents a Load Summary for the proposed project elements based on the preliminary design of the proposed Project.

Table 3.12-10. Load Summary for the Proposed Project

Description	*Load (kVA[1])*
Bridge Water Features	23.2
Upper Plaza Water Feature	52
Lagoon Water Feature	3
Lighting Load	173.06
Miscellaneous Load-FA/Security	30
Elevator at 16-Story Tower	103
Total Load	**384.26**

[1]kVA = Kilovolt-Amps

Source: Port of Los Angeles, 2008

The electricity consumption rates, as stated in the *CEQA Air Quality Handbook (SCAQMD* 1993, Table A9-11), are as follows:

- Restaurant: 47.45 kWh/square feet/year
- Commercial/Retail: 13.55 kWh/square feet/year
- Manufacture/Industrial: 5.3 kWh/square feet/year
- Office: 12.95 kWh/square feet/year
- Warehouse: 4.35 kWh/square feet/year
- Miscellaneous: 10.50 kWh/square feet/year

The landscaping, hardscaping and parking element of the proposed Project would require minimal electricity, mainly for lighting purposes. Therefore, the warehouse electricity consumption factor has been used for these elements' electricity consumption calculations.

Table 3.12-11 shows the electricity consumption for the proposed Project and Table 3.12-12 shows the natural gas consumption for the proposed Project.

Table 3.12-11. Electricity Consumption of the Proposed Project (Estimated)

Proposed Project Designated Land Uses Consuming Electricity	*Units in 2015 (Square Feet)*	*Units in 2020 (Square Feet)*	*Consumption Factor Used to Estimate (kWh/gsf/year)*	*Electricity Consumption in 2015 (kWh/year)*	*Electricity Consumption in 2020 (kWh/year)*
Restaurant (assuming 100 seats)	N.A.	12,000	47.45[1]	0	569,400
Commercial	58,000	58,000	13.55[2]	785,900	785,900
Light Industrial	75,000	150,000	5.3[3]	397,500	795,000
Adaptive Reuse of Bekins Storage Property	14,500	14,500	4.35[4]	63,075	63,075
Rail Road Green+ Other Landscaping	119,790 (2.75 acres)	372,438 (8.55 acres)	4.35[4]	521,087	1,620,10[5]
Waterfront Red Car Line/California Coastal Trail	0 acres	(32 acres)		0	370,512[5]
3 Parking Areas	52,000 (1.2 acres)	98,000 (2.25 acres)	4.35[4]	226,200	426,300
Hardscaped plazas, sidewalks, etc.	348,480 (8 acres)	431,244 (9.9 acres)	4.35[4]	1,515,888	1,875,911
			TOTAL	**3,509,650**	**6,135,692**

Notes:

[1]Electricity Consumption factors for Restaurant from SCAQMD (1993).
[2]Electricity Consumption factors for Retail from SCAQMD (1993).
[3]Electricity Consumption factors for Miscellaneous use from SCAQMD (1993).
[4]Electricity Consumption factors for Warehouse use from SCAQMD (1993).
[5]Smatlak (pers. comm. 2008).
[6]Electricity Consumption factors for Office use from SCAQMD (1993).

Table 3.12-12. Natural Gas Consumption of the Proposed Project (Estimated)

Proposed project Designated Land Uses consuming Electricity	*Units/ Employees in 2015*	*Units/ Employees in 2020*	*Consumption Factor Used to Estimate*	*Natural Gas Consumption in 2015 (cf/year)*	*Natural Gas Consumption in 2020 (kWh/year)*
Restaurant assuming 100 seats	N.A.	12,000 square feet	57.6 cubic feet (cf))/ gsf/year[1]	0	569,400
Commercial	58,000 square feet	58,000 square feet	34.8 cf/ gsf/year[2]	2,018,400	2,018,400
Light Industrial	75,000 square feet	150,000 square feet	40 cf/ gsf/year[3]	3,000,000	6,000,000
Adaptive Reuse of Bekins Storage Property	14,500 square feet	14,500 square feet	24 cf/ gsf/year[4]	348,000	348,000
Rail Road Green + Other Landscaping	2.75 acre (119,790 square feet)	8.55 acre (372,438 square feet)	34.8 cf/ gsf/year[5]	4,168,692	12,960,842
Waterfront Red Car Line/California Coastal Trail	0 acres	32 acres	N.A.	N.A.	N.A.
3 Parking Areas	52,000 square feet (1.2 acres)	98,000 square feet (2.25 acres)	34.8 cf/ gsf/year[5]	1,809,600	3,410,400
Hardscaped plazas, sidewalks, etc.	8 acres (348,480 sf)	9.9 acres (431,244sf)	34.8 cf/ gsf/year[5]	12,127,104	15,007,291
TOTAL				**23,471,796**	**40,314,334**

Notes:

[1]Natural Gas Consumption factors for Restaurant from CEQA Air Quality Handbook (SCAQMD 1993).
[2]Natural Gas Consumption factors for Retail from SCAQMD (1993).
[3]Natural Gas factors for Industrial use from SCAQMD (1993).
[4]Natural Gas Consumption factors for Warehouse use from SCAQMD (1993).
[5]Natural Gas Consumption factors for Miscellaneous use from SCAQMD (1993).
[6]Natural Gas Consumption factors for Office use from SCAQMD (1993).

Appendix F of the CEQA Guidelines states that EIRs are required to 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 (see Appendix C of the CEQA Guidelines for those regarding energy conservation). A discussion is provided in Impact UT-3 below.

3.12.4.2 Thresholds of Significance

The following significance criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applicable to Port projects. According to the *L.A. CEQA Thresholds Guide*, a project would normally be considered to have a significant impact on utilities based on several underlying factors that can affect the need for additional infrastructure to maintain service.

The proposed Project would have a significant impact on public utilities if the project would:

UT-1: Require or result in the construction or expansion of utility lines or facilities, the construction of which would cause significant environmental effects

UT-2: Exceed existing water supply, wastewater, or landfill capacities.

UT-3: Require new, off-site energy supply and distribution infrastructure, or require additions to existing facilities that are not anticipated by adopted plans or programs.

3.12.4.3 Impacts and Mitigation

3.12.4.3.1 Proposed Project

Impact UT-1: The proposed Project would not require or result in the construction or expansion of utility lines or facilities, the construction of which would cause significant environmental effects.

The proposed Project is located within an existing industrial area, and significant water, wastewater, gas and electricity mains already exist along the streets. The proposed Project would include commercial and industrial development, demolition of existing structures, acquisition of LADWP property, removal of LADWP liquid bulk storage tanks, remediation of the LADWP site, building a land bridge and Observation Tower, and extension of the CCT and the Waterfront Red Car along Harry Bridges Boulevard, John S. Gibson Boulevard, and Front Street. All these activities would require construction of new onsite utility lines (water, wastewater, and storm drains) to serve the proposed project operations; the relocation and/or extension of some existing utility lines would also be required. These new utilities would tie into the

existing utility lines that currently serve the proposed Project site. The proposed Project would retain, relocate or rebuild, and protect utilities as appropriate as part of the proposed Project (Brown 2008). The proposed Project would include adding several mainlines off of the existing 24-inch recycled water main line so that all landscaping and water features would be supplied with recycled water.

Based on the estimated wastewater flows and the current flow capacity of the existing sewer lines, the existing sewer system would not be able to accommodate the total flow from the proposed Project. This would be a significant impact on the existing conveyance system. Individual project components such as future industrial development projects, restaurant uses, and the restroom facility associated with the Observation Tower would be connected to the existing mains, as part of the proposed Project. Specific needs for industrial tenants would be analyzed at a later stage in separate environmental documents as individual projects are proposed.

The impacts associated with utility line relocation and rebuilding would include lane closures and affect access to commercial and industrial establishments and other land uses in the proposed project vicinity. Construction-related impacts may also involve interruption of service to surrounding developments and would likely result in traffic diversions as a result of trenching and laying down and installation or relocation of utility lines. LAHD would prepare a Public Services Relocation Plan as part of the proposed Project to address the above-mentioned temporary impacts due to construction of utility lines. The Public Services Relocation Plan would be reviewed by the service providers and City departments prior to implementation. All infrastructure improvements and connections would occur within City streets or public right-of-way, would comply with the City's municipal code, and would be performed under permit by the City Bureau of Engineering and/or LADWP. The impacts of the utility line relocation and rebuilding, including services disruption, would be temporary and for a short duration, and any customers affected would be forewarned with notices. Impacts on cultural resources, including buried artifacts, or from soil or groundwater contamination, are addressed in Section 3.4, "Cultural Resources," and Section 3.6, Groundwater and Soils," respectively. Impacts from construction would be less than significant.

Impact Determination

Impacts of the proposed project operation on the existing sewer conveyance system in the area would be significant without mitigation. Implementation of Mitigation Measure UT-1 would ensure available sewer conveyance capacity.

Mitigation Measures

MM UT-1: Secondary Sewer Line Installation. Once the design and utility connections are finalized, LAHD will build a secondary sewer line of sufficient capacity to support the nearest, largest sewer line. The construction of the secondary sewer line would be carried out within public right-of-way or existing City streets. This line will comply with the City's municipal code, and will be built under permit by the City Bureau of Engineering.

Residual Impacts

Impacts related to the construction of the secondary sewer line would be within the public right-of-way and with the analyzed Project area of effect (APE). Impacts from the construction of the secondary sewer line are analyzed in the affected resource sections. For instance, impacts related to temporary traffic disturbances are addressed in the MM TC-1, while impacts related to unknown buried cultural resources that may be encountered during trenching are addressed in MM CUL-5. After mitigation, impacts related to both inadequate sewer line capacity and the impacts associated with its installation would be less than significant.

Impact UT-2: The proposed project construction and operation would not exceed existing water supply, wastewater treatment, or landfill capacities.

Water Supply

The proposed Project would use water during construction for various purposes, such as dust suppression, mixing and pouring concrete, and other construction-related activities. Typically, the majority of water use during construction is associated with dust suppression during grading or trenching, which is generally performed by water trucks that use non-potable water from off-site sources. The additional water use would not be substantial and no impact on water supply would occur.

Operation of the proposed Project would demand about 44,180 gpd or 50 acre-feet per year (afy) of water in 2015 and about 85,312.5 gpd or 96.5 afy in 2020. The projected year 2015 and 2020 water demand represents an increase of 435 and 645% over the existing conditions, respectively. The projected year 2015 and 2020 water demands represent an increase of 44.5 afy and 91.1 afy from the baseline water demand (4.5 afy), respectively. In accordance with LAHD's commitment to reduce and conserve the amount of water used in the proposed project area, infrastructure would be incorporated to support the use of reclaimed water for landscaping purposes (parks, road medians). The proposed Project would utilize 20.7 afy and 56.5 afy of recycled water in 2015 and 2020, respectively, from the Terminal Island Reverse Osmosis facility. Currently, there is a 24-inch recycled water mainline that runs from Terminal Island to Harry Bridges Boulevard and along Broad Avenue. The proposed Project would include constructing several mainlines off of this existing line so that all landscaping and water features would be supplied with recycled water (per Table 3.12-7 a total of 49,950 gpd). The 2015 water demand of the proposed Project after use of recycled water would represent 0.004% of the estimated water demand of 705,000 afy for the LADWP service area in 2015. The 2020 water demand of the proposed Project after use of recycled water would represent 0.005% of the estimated water demand of 731,000 afy for the LADWP service area in 2020.

Pursuant to State CEQA guidelines Section 15155(a)(1)(G), the proposed Project would consume an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project. For this reason, LAHD would need to comply with the water supply assessment (WSA) requirements of the State Water

Code (Section 10910-10915). The WSA is being prepared by LADWP and will not be available until early 2009. The results of the WSA will be included in the Final EIR and the report will be appended to the EIR. However, given the relatively small increase placed on the current water demand, it is anticipated that water will be available for the proposed Project.

Therefore, the proposed Project's increased water demand would not exceed existing or future supplies. In addition, coordination with the LADWP would ensure that the increased demands would be accommodated by existing infrastructure. Implementation of Mitigation Measure MM UT-2 would ensure that the water demand from the proposed Project is minimized.

Wastewater Treatment

Proposed project activities would generate about 24,400 gpd of wastewater in 2015 and about 34,000 gpd in 2020. The projected year 2015 and 2020 wastewater flows represent an increase of 435 and 645% over the existing conditions, respectively. However, the projected flow represents 0.14 and 0.19%, respectively, of the existing daily flow of 17.5 million gallons per day (mgd) at the TITP. As the TITP currently operates at 58% capacity, these increases would be considered negligible. The proposed Project would not exceed the capacity of the TITP (Lorscheider pers. comm. 2008).

Implementation of Mitigation Measure MM UT-2 would ensure that the wastewater treatment impacts from the proposed Project would be less than significant.

Solid Waste/Landfills

Construction and demolition activities would generate debris that would require disposal in a landfill. Construction and demolition materials would include asphalt, concrete, building materials, and solids. Construction debris is one of the greatest individual contributors to solid waste generation, making up approximately 22% of the State of California's waste disposal demand (CIWMB 2004b). Due to lower disposal costs, asphalt and concrete are typically recycled for aggregate base or disposed of at inert landfills instead of municipal facilities. In the event unidentified hazardous materials are encountered during proposed roadway improvements and/or proposed project construction, recycling options would be explored. However, if recycling is not an option, disposal of hazardous materials at a Class I landfill would be based on facility and hazardous material requirements.

The proposed Project would generate 2,420,000 cf of construction debris between 2009 and 2020.[2] All recyclable waste would be accounted for, documented, and removed from the proposed project site by a qualified recycling provider. The City

[2] The construction would include 130,000 square feet of demolition of regular buildings. Buildings to be demolished are assumed to be 10-feet high (1-storey) with 50% void space. Hence, construction debris amounts to 650,000 cf due to demolition of regular buildings. The proposed project construction activities also include demolition of the marine oil tanks. The tanks cover an area of 118,000 square feet and are assumed to be 30 feet high. Assuming 50% of the building to be void space, Phase 2 would generate 1,770,000 cf of construction debris. Thus, total construction debris is assumed to be 2,420,000 cf.

of Los Angeles Construction and Recycling Guide provides reuse and recycling options for construction and demolition waste. It also provides a list of companies handling the materials for recycling (City of Los Angeles 2006). Assuming LAHD's current diversion rate of 41.8%, 1,067,970 cf of construction debris would be diverted to the landfill from the proposed Project's construction activities. The construction waste sent to the landfill would be 0.031% of the estimated remaining capacity of 111,200,000 cubic yards of the Sunshine Canyon SLF. Thus, after recycling, the amount of construction waste that would reach the landfill would not be substantial. The proposed Project would not result in significant solid waste impacts during the construction phase. Implementation of mitigation measures MM UT-3 and MM UT-4 would ensure that the impacts of solid waste generated as a result of construction and demolition remains less-than-significant.

The proposed project operations would generate approximately 1.25 tons (2,508.52 lbs/day) of solid waste per day in 2015 and 1.81 tons per day (3,613.2 lbs/day) in 2020. The projected volumes represent an increase of 110.7 and 203.5% over the existing conditions, respectively. The Bureau of Sanitation has a current recycle diversion rate of 62%, with a goal of 70% by 2015 and 100% by 2030. With the current recycle diversion rate of 62%, the amount of solid waste that would go to the Sunshine Canyon landfill in 2015 would represent 0.004% of the permitted daily throughput of 12,100 tons (24.2 million lbs) and 0.006% in 2020. If the goal of 70% diversion is achieved by 2015, that amount would be reduced to 0.003% and 0.005% in 2020.

The open space element of the proposed Project would not generate a substantial amount of solid waste. The proposed green spaces would grasscycle their green waste, that is, leaving clippings on the lawn, and open spaces would have recycle bins and minimal trash. The commercial waste hauler for the proposed project area would collect park trash.

During 2013–2015, the operations of the proposed project components developed under the interim plan would overlap with demolition, and site remediation if deemed necessary, of the LADWP Marine Tanks. During this period, operation of the proposed Project would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Titles 22 and 26. Please see Section 3.6, "Groundwater and Soils," as well as Section 3.7, "Hazards and Hazardous Materials," for a more detailed discussion of these regulations and the proposed project elements that must comply with them.

The negligible increases in operation-generated solid waste that would be diverted to the Sunshine Canyon SLF are considered less than significant. The proposed Project would adhere to all the applicable City and state goals for minimizing the waste sent to landfills. As stated above, Sunshine Canyon SLF would be able to accommodate the negligible increase in solid waste generated by proposed project operations. Furthermore, if recycle diversion goals are attained by their estimated date, there would be no impact by 2030.

Compliance with mitigation measure MM UT-5 would ensure that the impacts on solid waste remain less than significant.

Impact Determination

Based on the discussions above, the proposed project operations would result in less-than-significant impacts on existing water supply, wastewater, or landfill capacities.

Mitigation Measures

MM UT-2: Water Conservation and Wastewater Reduction. The LAHD and Port tenants will implement the following water conservation and wastewater reduction measures to further reduce impacts on water demand and wastewater flows.

a. The landscape irrigation system will be designed, installed, and tested to provide uniform irrigation coverage for each zone. Sprinkler head patterns will be adjusted to minimize over spray onto walkways and streets. Each zone (sprinkler valve) will water plants having similar watering needs (do not mix shrubs, flowers and turf in the same watering zone). Automatic irrigation timers will be set to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Irrigation run times for all zones will be adjusted seasonally, reducing watering times and frequency in the cooler months (fall, winter, spring). Sprinkler timer run time will be adjusted to avoid water runoff, especially when irrigating sloped property. Sprinkler times will be reduced once drought-tolerant plants have been established.

b. Selection of drought-tolerant, low-water-consuming plant varieties will be used to reduce irrigation water consumption. For a list of these plant varieties, refer to *Sunset Magazine*, October 1988, "The Unthirsty 100," pp. 74–83, or consult a landscape architect.

c. The availability of recycled water will be investigated as a source to irrigate large landscaped areas.

d. Ultra-low-flush water closets, ultra-low-flush urinals, and water-saving showerheads must be installed in both new construction and when remodeling. Low-flow faucet aerators will be installed on all sink faucets.

e. Significant opportunities for water savings exist in air conditioning systems that utilize evaporative cooling (i.e., employ cooling towers). LADWP will be contacted for specific information of appropriate measures.

f. Recirculating or point-of-use hot water systems will be installed to reduce water waste in long piping systems where water must be run for a considerable period before heated water reaches the outlet.

MM UT-3: Recycling of Construction Materials. Demolition and/or excess construction materials will be separated on site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of construction materials will be provided on site.

MM UT-4: Recycled Content Materials Use. Materials with recycled content, such as recycled steel from framing and recycled concrete and asphalt from roadway construction, will be used in project construction. Wood chippers registered through the California Air Resources Board's Portable Equipment Registration Program will

be used on site during construction, using wood from tree removal, not from demolished structures, to further reduce excess wood for landscaping cover.

MM UT-5: AB 939 Compliance. The LAHD and Port tenants will implement a Solid Waste Management Program including the following measures to achieve a 50% reduction of current waste generation percentages by the buildout year of 2020 and ensure compliance with the California Solid Waste Management Act (AB 939).

a. Provide space and/or bins for storage of recyclable materials within the proposed project site. All garbage and recycle bin storage space will be enclosed, and plans will show equal area availability for both garbage and recycle bins within storage spaces.
b. Establish a recyclable material pick-up area for commercial buildings.
c. Participate in a curbside recycling program to serve the new development.
d. Develop a plan for accessible collection of materials on a regular basis.
e. Develop source reduction measures that indicate the method and amount of expected reduction.
f. Implement a program to purchase materials that have recycled content for project construction and operation (i.e., lumber, plastic, office supplies).
g. Provide a resident-tenant/employee education pamphlet to be used in conjunction with available Los Angeles County and federal source reduction educational materials. The pamphlet will be provided to all commercial tenants by the leasing/property management agency.
h. Include lease language requiring tenant participation in recycling/waste reduction programs, including specification that janitorial contracts support recycling.

Residual Impacts

Impacts would be less than significant.

Impact UT-3: The proposed Project would not require new, off-site energy supply and distribution infrastructure, or require additions to existing facilities that are not anticipated by adopted plans or programs.

Energy (diesel fuel and electricity) would be used during construction of the proposed Project. Energy expenditures during construction would be short term, occurring periodically during each of the proposed project construction phases. Construction would not result in substantial waste or inefficient use of energy because construction would be competitively bid, which would facilitate efficiency in all construction stages. Current LAHD bid specifications include provisions to reduce energy consumption, such as staging work during non-peak hours when appropriate. Additionally, construction of modern buildings and structures incorporates energy-efficient designs that are mandated by current building codes. LAHD policies such as the Construction Recycling

Program would aim to make construction and development projects more energy efficient.

Proposed project operations would generate demands for electricity associated with commercial use, industrial use, parking areas, the Observation Tower, street lighting, and Waterfront Red Car uses. The Wilmington leg of the Waterfront Red Car Line would consume an estimated 370,500 kWh of electricity per year (Smatlak pers.comm. 2008). Proposed project activities would consume about 3,614,650 kWh of electricity in 2015 and about 6,240,700 kWh in 2020. The projected year 2015 and 2020 electricity consumption rates represent an increase of 333 and 647% over the existing conditions, respectively. The proposed Project's electricity demand represents 0.12 and 0.22% of the total daily supply from LADWP resources in 2015 and 2020, respectively (8,129 MW available in 2015 and 7,721 MW available in 2020). The proposed Project would also have a total electrical load of 384.26 kVA (see Table 3.12-10). Newly constructed buildings would adhere to the Port's Green Building Policy of implementation of LEED-certified ratings wherever applicable. LAHD also plans to install solar panels on the shade pavilion as part of the proposed Project with the goal of achieving up to 14% of the proposed Project's energy demand needs, which has not been factored into the consumption numbers above. Thus, the total proposed project electricity demand would be minimal in relation to the overall existing output.

There are no known electricity deficiencies in the study area and LADWP would be able to supply the electricity demand generated by the proposed Project (Gupta pers. comm. 2008). The study area has existing power lines within or immediately adjacent to the proposed Project that could be extended so that extensive off-site improvements would not be required (Gupta pers. comm. 2008). However, the proposed Project would require an onsite transformation facility to step down the voltage of LADWP high voltage distribution lines (Gupta pers. comm. 2008). Thus, a 300 kVA transformer facility is proposed as part of the proposed Project.

LADWP has drafted an Integrated Resource Plan that anticipates load growth and plans new generating capacity or demand side management programs to meet load requirements for future customers. Furthermore, the proposed Project would incorporate energy conservation measures in compliance with California's Building Code CCR Title 24 that requires building energy efficient standards for new construction (including requirements for new buildings, additions, alterations, and, in nonresidential buildings, repairs). Incorporation of these design standards, as required by state law, would reduce wasteful energy consumption. In addition, energy conserving design features discussed under the Methodology section above would help further minimize effects of the proposed Project on energy supply.

Proposed project operations would generate demands for natural gas associated with commercial use, industrial use, parking areas, the Observation Tower, street lighting, and open space. Proposed project activities would consume about 64,964 cf per day (23,711,800 cf per year) of natural gas in 2015 and about 111,108 cf per day (40,554,300 cf per year) in 2020. The projected year 2015 and 2020 electricity consumption rates represent an increase of 400 and 756%, respectively, over the existing conditions. The proposed Project's natural gas demand represents 0.001 and

0.002% of the total daily capacity of the Gas Company in 2015 and 2020, respectively (4,675 MMcf per day available in 2015 and 2020). This natural gas demand generated from the proposed Project would be minimal in the context of the scale of operations of the utilities. Additionally, specific tenant needs for industrial components would be analyzed at a later stage in separate environmental documents. The increased demand for natural gas would be accommodated by the Gas Company via the existing infrastructure located adjacent to and within the proposed project site. The proposed Project would provide new energy distribution infrastructure required to support proposed project operations. Natural gas demands for the proposed Project (space heating and water heating) would not exceed available supplies because the increase in square footage is negligible compared to the existing square footage being served by the utility providers.

Impact Determination

The proposed Project would not require new, off-site energy supply and distribution infrastructure, or require additions to existing facilities that are not anticipated by adopted plans or programs. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.12.4.3.2 Summary of Impact Determinations

Table 3.12-13 summarizes the impact determinations of the proposed Project related to utilities, as described in the detailed discussion in Section 3.12.4.3.1.

Table 3.12-13. Summary Matrix of Potential Impacts and Mitigation Measures for Utilities Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.12 Utilities			
UT-1: The proposed Project would not require or result in the construction or expansion of utility lines or facilities, the construction of which would cause significant environmental effects.	Significant	**MM UT-1: Secondary Sewer Line Installation.** Once the design and utility connections are finalized, the LAHD will build a secondary sewer line of sufficient capacity to support the nearest, largest sewer line. The construction of the secondary sewer line would be carried out within public right-of-way or existing City streets. This line will comply with the City's municipal code, and will be built under permit by the City Bureau of Engineering.	Less than significant
UT-2: The proposed project construction and operation would not exceed existing water supply, wastewater treatment, or landfill capacities.	Less than significant	**MM UT-2: Water Conservation and Wastewater Reduction.** The LAHD and Port tenants will implement the following water conservation and wastewater reduction measures to further reduce impacts on water demand and wastewater flows. a. The landscape irrigation system will be designed, installed, and tested to provide uniform irrigation coverage for each zone. Sprinkler head patterns will be adjusted to minimize over spray onto walkways and streets. Each zone (sprinkler valve) will water plants having similar watering needs (do not mix shrubs, flowers and turf in the same watering zone). Automatic irrigation timers will be set to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Irrigation run times for all zones will be adjusted seasonally, reducing watering times and frequency in the cooler months (fall, winter, spring). Sprinkler timer run time will be adjusted to avoid water runoff, especially when irrigating sloped property. Sprinkler times will be reduced once drought-tolerant plants have been established. b. Selection of drought-tolerant, low-water-consuming plant varieties will be used to reduce	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		irrigation water consumption. For a list of these plant varieties, refer to *Sunset Magazine*, October 1988, "The Unthirsty 100," pp. 74–83, or consult a landscape architect. c. The availability of recycled water will be investigated as a source to irrigate large landscaped areas. d. Ultra-low-flush water closets, ultra-low-flush urinals, and water-saving showerheads must be installed in both new construction and when remodeling. Low flow faucet aerators will be installed on all sink faucets. e. Significant opportunities for water savings exist in air conditioning systems that utilize evaporative cooling (i.e., employ cooling towers). LADWP will be contacted for specific information of appropriate measures. f. Recirculating or point-of-use hot water systems will be installed to reduce water waste in long piping systems where water must be run for a considerable period before heated water reaches the outlet. **MM UT-3: Recycling of Construction Materials**. Demolition and/or excess construction materials will be separated on site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of construction materials will be provided on site. **MM UT-4: Recycled Content Materials Use**. Materials with recycled content, such as recycled steel from framing and recycled concrete and asphalt from roadway construction, will be used in project construction. Wood chippers registered through the California Air Resources Board's Portable Equipment Registration Program will be used on site during construction, using wood from tree removal, not from demolished structures, to further reduce excess wood for landscaping cover. **MM UT-5: AB 939 Compliance**. The LAHD and Port tenants will implement a Solid Waste Management Program including the following measures to achieve a 50% reduction of current waste generation percentages by the build out year of 2020 and ensure compliance with the California Solid Waste Management Act (AB 939). a. Provide space and/or bins for storage of recyclable materials within the proposed project site. All garbage and recycle bin storage space will be	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		enclosed and plans will show equal area availability for both garbage and recycle bins within storage spaces. b. Establish a recyclable material pick-up area for commercial buildings. c. Participate in a curbside recycling program to serve the new development. d. Develop a plan for accessible collection of materials on a regular basis. e. Develop source reduction measures that indicate the method and amount of expected reduction. f. Implement a program to purchase materials that have recycled content for project construction and operation (i.e., lumber, plastic, office supplies). g. Provide a resident-tenant/employee education pamphlet to be used in conjunction with available Los Angeles County and federal source reduction educational materials. The pamphlet will be provided to all commercial tenants by the leasing/property management agency. h. Include lease language requiring tenant participation in recycling/waste reduction programs, including specification that janitorial contracts support recycling.	
UT-3: The proposed Project would not require new, off-site energy supply and distribution infrastructure, or require additions to existing facilities that are not anticipated by adopted plans or programs.	Less than significant	No mitigation is required	Less than significant

1

3.12.4.4 Mitigation Monitoring

Impact UT-1: The proposed Project would not require or result in the construction or expansion of utility lines or facilities, the construction of which would cause significant environmental effects.	
Mitigation Measure	**MM UT-1: Secondary Sewer Line Installation.**
Timing	During engineering design and prior to approval of utility plans by the City Engineer, implemented during and after construction
Methodology	Construct a secondary sewer line to provide additional wastewater conveyance capacity
Responsible Parties	LAHD and Contractor(s)
Residual Impacts	Less than significant
Impact UT-2: The proposed project would not exceed existing water supply, wastewater, or landfill capacities.	
Mitigation Measure	**MM UT-2: Water Conservation and Wastewater Reduction.** **MM UT-3: Recycling of Construction Materials.** **MM UT-4: Recycled Content Materials Use**. . **MM UT-5: AB 939 Compliance**.
Timing	During project design and prior to approval of development and construction plans, implemented during and after construction
Methodology	Implement water conserving features, use recycled materials for and during construction, and develop a recycling program for the operational phase to reduce project waste
Responsible Parties	LAHD and Contractor(s)
Residual Impacts	Less than significant

3.12.5 Significant Unavoidable Impacts

There would be no significant unavoidable impacts.

3.13

PUBLIC SERVICES

3.13.1 Introduction

This section identifies the existing public services (fire protection and medical services, police protection, and parks/recreation) within the proposed project area, and addresses potential impacts on public services that could result from development of the proposed Project. The section also describes the regulatory setting associated with public services. No significant impacts on public services would occur from the construction and operation of the proposed Project.

3.13.2 Environmental Setting

The proposed project area encompasses approximately 94 acres within the Port of Los Angeles and the southern portion of the Wilmington community. Of these 94 acres, approximately 60 acres comprise the Avalon Development District and Avalon Waterfront District, an area defined by Lagoon Avenue to the west, Broad Avenue to the east, C Street to the north, and Bannings Landing and the waterfront to the south. In addition, the proposed Project includes the Waterfront Red Car Line/California Coastal Trail extension, which begins at Avalon Boulevard and runs along Harry Bridges Boulevard, continuing on to John S Gibson Boulevard, and then on to Front Street, before terminating at Swinford Street.

A boundary change to the Port Plan, Wilmington-Harbor City CP, and Port Master Plan would occur as an action under the proposed Project. The jurisdictional boundary change proposes to extend the Port Plan and PMP to Harry Bridges Boulevard, including the Avalon Triangle Park site. The Wilmington-Harbor City CP would be retracted to the north of Harry Bridges Boulevard.

For this EIR, the environmental setting for public services encompasses the Port of Los Angeles and the community of Wilmington. The public services for this area are provided by the Port Police, LAPD, LAFD, USCG, LAHD, and the City of Los Angeles. Each public service has been actively growing in concert with the growth

experienced by the communities and region. The discussion below describes the individual provisions for providing and delivering public services within the particular geographic areas and the planning efforts to accommodate anticipated future growth.

3.13.2.1 Police Protection

The proposed project site is located in the LAPD's Harbor Division, which includes a 27.5 square-mile area within Harbor City, Harbor Gateway, San Pedro, Wilmington, and Terminal Island. Police protection for the proposed Project would be provided by the LAPD and the Port Police. In addition to City and Port Police protection, each tenant occupying a berth or berths in the Port maintains its own internal security staff. (LAHD 2008.)

3.13.2.1.1 Los Angeles Police Department

The LAPD Harbor Community station is currently located at 221 N. Bayview Avenue in Wilmington and includes a staff of 300 persons (including about 260 officers). Figure 3.13-1 shows the location of this station. Patrols are divided into two watches, and both radio-dispatched cars and traffic-control motorcycles are used on patrols. The harbor area utilizes a fleet of all-terrain vehicles, a mounted unit, and a bicycle unit (Plows pers. comm. 2008). The harbor area has an officer-to-population ration of 1 officer for every 450 people (Plows pers. comm. 2008). Average emergency response time for the area is approximately 10.6 minutes (LAPD 2005). The department-wide response time is 7 minutes (LAPD 2007). Although this response time is adequate, the department is currently working on ways to decrease that time (LAPD 2007). LAPD's level of service and response times in the proposed project area are considered adequate (Plows pers. comm. 2008).

Scheduled improvements to LAPD facilities in the Harbor Community area include building a new facility for the Harbor Station at an existing LAPD property at the intersection of John S. Gibson Boulevard and Channel Street in Fall 2008 (Plows pers. comm. 2008). This will further reduce response times in the area because the new site will consolidate all Harbor Station functions, including patrol, detectives, special investigations, commanding officers' offices, community relations, records, and so on. A 60-prisoner jail will also be constructed at the new station. Scheduled occupancy for the new station is October 2008. (LAPD 2008)

3.13.2.1.2 Port Police

The Port Police are responsible for patrol and surveillance of Port property including 12 square miles of landside property and 43 miles of waterfront. The Port Police do not have jurisdiction over the Wilmington community (Provinchain pers. comm. 2008). However, the Port Police do patrol and maintain the security of Port-owned properties within the communities of Wilmington, San Pedro, and Harbor City

K:\PROJECTS\POLA_WILMINGTON\000859_07\MAPDOC\PUB_SER\FIG3.13-1_PUBLIC_FAC.MXD NB (09-11-08)

SOURCE: ESRI Streetmap USA (2007)

ICF Jones & Stokes
an ICF International Company

Figure 3.13-1
Public Services
Wilmington Waterfront Development Project

(Brown pers. comm. 2008). The Port Police enforce federal, state, and local public safety statutes as well as environmental and maritime safety regulations. Their primary goal is to protect the Port against all criminal activity to ensure free flow and protection of commerce, and to identify, apprehend, and prosecute persons who would participate in criminal activity on LAHD properties, Port customers and visitors, or Port industrial and commercial tenants (LAHD 2008). Emergency response to the Wilmington Marinas is primarily provided via water by Port Police patrol boats.

Port Police offices are located in the Harbor Administration Building at 425 South Palos Verdes Street in San Pedro. Dive Unit facility boats and offices/lockers are located on 954 South Seaside Avenue on Terminal Island. Marine Unit boats and a small office are located at Berth 84, with additional offices in the Crowley Building nearby. An Interagency Task Force Unit is located at 239 North Avalon Boulevard in Wilmington, and there is a Port Police training facility located at 300 Ferry Street. (Provinchain pers. comm. 2008)

Port Police are authorized for a total of 223 positions in the 2007–2008 fiscal year. The amount of total sworn staff is 142; however, the Board of Harbor Commissioners has approved the growth of sworn staff to 212 (Provinchain pers. comm. 2008). The Port Police do not estimate the number of employed officers based on proposed development or anticipated population for a given area. Their staff/sworn officer totals are based on current Homeland Security data and levels of security at other ports of corresponding size and activity (Provinchain pers. comm. 2008). Port Police are not a police agency driven by calls for service. Their mission is the safety of the Port and the protection of economic assets that LAHD owns and operates. Therefore, response times are not used by the Port Police as a metric or measure of services (Provinchain pers. comm. 2008).

A new Wilmington substation has been established at 300 Water Street around Berth 195, which opened on January 2, 2008. There are 30 civilian personnel occupying the substation, and the number is expected to reach 100 overall personnel by December 31, 2008. The Port police have two beat/patrol areas in Wilmington, and are in the process of building a new station at 330 S. Centre Street (between 3rd and 5th Streets). The new station is expected to be completed in 2010.

Other improvements include expanding facilities to house mobile incident command vehicles, bicycle unit equipment, security officer equipment and vehicles, hazardous material response vehicles, an expanded marine unit facility, a marine mammal facility, K-9 kennel and K-9 training centers, and a Port Police dive and in-water training center (Provinchain pers. comm. 2008). Port Police service levels in the Port areas adjacent to the proposed project site are considered adequate (Provinchain pers. comm. 2008).

3.13.2.2 Fire Protection

LAFD provides fire protection and emergency services for the proposed project site. Fire protection capabilities are based on the distance from the emergency to the

nearest fire station and the number of simultaneous emergency or fire-related calls. (Roupoli pers. comm. 2008)

LAFD has 106 fire stations spread throughout the City of Los Angeles. Of these, 51 are single-engine houses, while the remainder are task force houses. A single-engine house normally has one engine company, while a task force house has a truck company and two engines. Paramedic and emergency medical technician (EMT) ambulances, battalion chiefs, division chiefs, and special apparatus are also assigned to the various stations. An engine company is the basic "put water on the fire" unit and is typically staffed by a captain, an engineer, and two firefighters. The fire engine carries up to 500 gallons of water and can pump up to 1,500 gallons per minute (gpm). A task force consists of three pieces of apparatus: an aerial truck, an engine company, and a single pump apparatus. A captain, an apparatus operator, and three firefighters work on the truck (LAFD 2004).

LAFD facilities in the vicinity of the proposed project site include land-based fire stations and fireboat companies. In the Harbor area, Battalion 6 is responsible for all of Wilmington and its waterfronts, Terminal Island and all of the surrounding water, San Pedro, Harbor City, and Harbor Gateway. All of these areas are occupied and controlled by Battalion 6. There are 10 fire stations within these geographical areas, and they include fire boats, hazardous material squads, paramedic and rescue vehicles, three truck companies, an urban search and rescue unit, and a foam tender apparatus (Roupoli pers. comm. 2008). Figure 3.13-1 illustrates the location of the 10 fire stations (City of Los Angeles 2006: K.2-6 through K.2-12).

The 10 fire stations in the Port area include:

- Station 49 at 400 Yacht Street, Berth 194 in Wilmington has a single engine company, two boats, a rescue ambulance, and is Battalion 6 Headquarters. There are 13 staff members at this station. This would be the primary responding fire station to the proposed Project. (Roupoli pers. comm. 2008)
- Station 38 at 124 East I Street, Wilmington, is a task force station with a staff of nine that maintains a truck and engine company and paramedic ambulance. This would be the secondary responding fire station to the proposed project. (Roupoli pers. comm. 2008)
- Station 110 at 2945 Miner Street, San Pedro, has one fireboat and a staff of three.
- Station 111 at 1444 S. Seaside Avenue on Terminal Island has one fireboat and three staff members.
- Station 40 at 330 Ferry Street on Terminal Island is equipped with a fire engine and two ambulances and has four firefighters and two paramedics on staff.
- Station 112 at 444 S. Harbor Boulevard, Berth 86, San Pedro, has a staff of 15, including an emergency medical services supervisor. It is a single engine company with a paramedic rescue ambulance and one fireboat.
- Station 36 will be located at 1005 N. Gaffey Street, San Pedro. This fire station is currently under construction.

- Station 48 at 1601 S. Grand Avenue, San Pedro, is a task force house with a staff of 16. It maintains a truck and engine company and a hazardous materials unit.
- Station 101 at 1414 25th Street, San Pedro, is staffed by six firefighters and two paramedics. This station has an engine company and paramedic ambulance.
- Station 85, at 1331 W. 253rd Street, Harbor City, is a task force station and has a paramedic ambulance, urban search and rescue unit, a medical supply trailer, and an emergency lighting trailer.

LAFD response time is 5 minutes or less by land and up to 10 minutes by water. The citywide average response time is approximately 6 to 8 minutes. This response time is considered adequate. (Roupoli pers. comm. 2008)

The amount of fire flow necessary for site-specific fire protection varies and is based on land use type, size, occupancy, type of construction, and degree of fire hazard present. Required fire flow is defined as the rate of water flow, measured in gallons per minute and duration, needed for firefighters to contain a major fire to the buildings within a surrounding block (City of Los Angeles 2001a). City of Los Angeles Fire Code standards require that a minimum residual water pressure of 20 psi remain in the water system in excess of the required fire flow. Typical urban fire flow requirements vary from 2,000 gpm in low-density areas to 12,000 gpm in high-density commercial and industrial areas.

3.13.2.3 U.S. Coast Guard

The mission of the USCG is maritime safety, maritime law enforcement, protection of natural resources, maritime mobility, national defense, and homeland security. The USCG maintains a post within the Port on Terminal Island. Within the Port area, USCG's primary responsibility is to ensure the safety of vessel traffic in Port channels and coastal waters. The 11th USCG District provides support to the Port, including the proposed project area. In cooperation with the Marine Exchange, USCG also operates the Vessel Traffic Service (VTS).

The USCG visits Slip No. 5 of the Port for the facilities under its regulation via land and water to ensure compliance with federal regulations. In addition, Station Los Angeles is responsible for providing waterside search and rescue to the area of Slip No. 5. USCG Sector Los Angeles–Long Beach is responsible for overseeing pollution response in the proposed project area (Gooding pers. comm. 2008.).

It should be noted, however, that the proposed Project and its components are public access facilities and would not be subject to any Coast Guard regulations or require new personnel (Gooding pers. comm. 2008).

3.13.2.4 Parks

The area around the proposed Project has primarily been developed with industrial uses and is generally not used for parks and recreational purposes. Recreation and park facilities in the vicinity of the proposed project site include the 7½-acre Wilmington Recreation Center, the 10,000-square-foot Banning's Landing Community Center, and the 3-acre temporary grass field called the Bay View Field (see Figure 3.13-1 for location). These recreational facilities are operated and maintained by LAHD and the City of Los Angeles. Additionally, the area contains a Class II bike lane that runs parallel to John S. Gibson Boulevard and Pacific Avenue just east of the Harbor Belt Line tracks (Class II bike lanes are narrow lanes set aside in city streets exclusively for bicycle use). The bike lane then parallels Front Street and, after crossing under the Seaside Freeway, runs south along Harbor Boulevard, east of the railroad tracks.

Avalon Triangle Park, at the intersection of Harry Bridges and Avalon Boulevards (see Figure 3.13-1 for location), is currently in the planning stage and is expected to be completed within the next few years. The development of Avalon Triangle Park is not part of the proposed Project and has independent utility; however, the proposed Project could include an expansion of the jurisdictional boundary of the Port. If this jurisdictional boundary change occurs, the area that would comprise Avalon Triangle Park would be included in the boundary change.

Furthermore, the Harry Bridges Boulevard Buffer is a project element of the Berths 136–147 Container Terminal (TraPac) project. The EIS/EIR for that project was approved and certified in 2008. The Harry Bridges Boulevard Buffer will provide public open space between Port operations and adjacent residences, and will offer a 30-acre, largely contiguous, open space immediately to the west of the proposed project site (see Figure 3.13-1 for location). There will be public places for informal play, gatherings, community events, and seating, as well as a promenade. While part of the overall conceptual Wilmington Waterfront Development Program planning documents, the development of the Harry Bridges Boulevard Buffer is not part of the proposed Project and has progressed separately under the TraPac development project and associated EIS/EIR due to its immediate adjacency to the TraPac project.

3.13.3 Applicable Regulations

LAHD is directed by internal standards and policies that guide the provision of service to its customers. Each agency charged with protecting the public (LAFD, LAPD, Port Police, and USCG) maintains specific standards, such as response times and levels of service that must be adhered to during construction and operation of a project.

3.13.3.1 State Regulations

3.13.3.1.1 California Building Code CCR, Title 24, Part 9

Title 24, Part 6 of the California's Building Code contains fire-safety–related building standards referenced in other parts of Title 24. This Code is preassembled with the 2006 International Fire Code by the International Code Council. Title 24 requires building according to fire safety standards for all new construction, including new buildings, additions, alterations, and, in nonresidential buildings, repairs.

3.13.3.2 Local Regulations

3.13.3.2.1 Fire Protection and Prevention Plan

Fire prevention, fire protection, and emergency medical services within the City of Los Angeles operate under the Fire Protection and Prevention Plan, an Element of the General Plan, and the Fire Code section of the Los Angeles Municipal Code. The Fire Protection and Prevention Plan serves as a guide for the construction, maintenance, and operation of fire protection facilities in the City (City of Los Angeles 2001a). The plan sets forth policies and standards for fire station distribution and location, fire suppression water-flow (or fire flow), fire hydrant standards and locations, firefighting equipment access, emergency ambulance services, and fire prevention activities. LAFD also considers population, density, nature of onsite land uses, and traffic flow in evaluating the adequacy of fire protection services for a specific area or land use.

3.13.3.2.2 Special Event Regulations and Permits

Both the City of Los Angeles and the Port have regulations and permitting in place for a variety of special events. The City (2008) defines a special event as:

> …any activity which occurs upon public or private property that will affect the standard ordinary use of public streets, rights-of way, or sidewalks, and/or which requires extraordinary levels of City services. This includes, but is not limited to: fairs, festivals, carnivals, sporting events, foot races, run/walk/bike-a-thons, markets, parades, street fairs, exhibitions, auctions, dances, and motion picture filming.

The Port identifies a special event as being a "Temporary Entry and Use of Port Property, in which an applicant is seeking short term use or right of entry to the Port" (Port of Los Angeles 2008).

Depending on the nature of the special event, the City requires permits to be obtained from the Police Commission (parade permits), Board of Public Works (street closure permits), and/or the City Council (motions declaring gatherings as special events).

Most special events typically require the deployment of LAPD and LADOT resources, and in some cases other City departments such as LAFD may be required. Working with event sponsors, LAPD develops plans for security, crowd control, and critical asset protection. (City of Los Angeles 2008)LAPD operates the Special Events Permit Unit (SEPU) within the emergency Operations Division of the Department. SEPU accepts a Special Event Permit Application for processing and helps the event sponsor hold the event, while ensuring the resources of the City are expended for the greatest good and the rights of all people are respected. In assessing an event, the SEPU determines the effect the event will have on:

- location,
- area traffic,
- residential and business access in the area,
- activity levels and noise in residential and business areas,
- Police Department personnel resources, and
- Department of Transportation (traffic and parking control) resources.

The Los Angeles Board of Police Commissioners has the ultimate authority to approve or deny a permit (LAPD 2008).

The Port requires all applicants of a temporary use (including special event applicants) to submit an application of Temporary Entry and Use of Port Property to the Real Estate Division. The application must include a description of the number of daily attendance and daily work force, a parking plan, and a waste management plan. (Port of Los Angeles 2008).

Furthermore, an application must include the following information so that the Port can evaluate the permit and grant temporary access:

- Site layout plan, with parking and circulation,
- City of Los Angeles Business License (Business Tax Certificate),
- City of Los Angeles General/Auto Liability,
- Los Angeles County Public Health Operating License (for food/beverage handlers),
- State of California Seller's permit, and
- Alcoholic Beverage Control License/Permit.

3.13.4 Impact Analysis

3.13.4.1 Methodology

The proposed Project was evaluated to determine if police, USCG, and fire protection facilities were adequately staffed and located so they could respond to an emergency situation in a timely manner, without the provision of additional physical facilities. All agencies were contacted to obtain information regarding their existing and projected service capacity, as well as the projected impacts that would result from implementation of the proposed Project. Wherever possible (i.e., for agencies that provided a demand factor or service ratio), quantifications were included to demonstrate specific demands.

In addition to emergency services, Parks were also evaluated to ensure that an increased demand due to the proposed Project would not require additional facilities on- or off-site that could result in additional significant environmental impacts.

The following impact assessment and significance determinations are based on regulatory controls and on the assumptions that the proposed Project would include the following:

- LAHD would prepare a manual in compliance with the Work Area Traffic Control Handbook (WATCH) to coordinate with LAFD, LAPD, and Port Police prior to commencement of construction activities. This manual will identify alternative response routes, ensuring continuous adequate emergency vehicular access.
- Water mains would be updated and resized, including ensuring that locations of fire hydrants conform with Los Angeles Fire Code, Division 9.

The public services impact analysis presented below addresses those impacts that the IS/NOP determined to be potentially significant, or that were identified by reviewing agencies, organizations, or individuals commenting on the IS/NOP, and that made a reasonable argument that an issue was potentially significant (see Appendix A).

The IS/NOP determined that the proposed Project would have less-than-significant impacts on the following public service issues; therefore, they will not be discussed in the impact analysis below:

- Schools, and
- Other Public Facilities, specifically the USCG.

3.13.4.2 Thresholds of Significance

The following significance criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applicable to LAHD projects.

According to the *L.A. CEQA Thresholds Guide*, a project would potentially have a significant impact on fire protection and law enforcement services if it would require additional infrastructure to maintain emergency public services to the proposed project site or surrounding area. Although the Guide does not address thresholds of significance in regards to the Port Police and the USCG, these law enforcement agencies serve the proposed Project and would potentially be affected by proposed project activities. Accordingly, LAHD has included the USCG and Port Police in the analysis.

The proposed Project would have a significant impact on public services if it would:

- **PS-1:** Substantially reduce public services such as law enforcement, emergency services, and park services during construction of the proposed Project.
- **PS-2:** Burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.
- **PS-3:** Require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.
- **PS-4:** Increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities.

3.13.4.3 Impacts and Mitigation

3.13.4.3.1 Construction Impacts

Impact PS-1: Construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.

Construction and implementation of the proposed Project would not substantially affect response times for LAFD, LAPD, or the Port Police. As identified above, LAHD would be required pursuant to the WATCH Manual to coordinate with the law enforcement agencies (LAPD and Port Police) and emergency response providers (LAFD) during construction of all improvements, ensuring continuous law enforcement and emergency access to surrounding areas. The WATCH Manual would include temporary traffic controls such as alternate response routes and maintain emergency vehicular access through tapers, diversions and detours, hand signaling controls, barricades, lighting devices, and sign placement to ensure minimum response times during utility construction. Proposed project construction and demolition activities would be subject to emergency response systems implemented by the Port Police and LAFD. During construction and/or demolition activities, LAFD would require that adequate vehicular access to the proposed project area be provided and maintained. This would be ensured and enforced via the construction traffic control plan required for the proposed Project. Additionally,

LAFD would be responsible for waterside first response in the event of an emergency, deploying their fireboats if need be. The Port Police would also support LAFD in the event of a waterside emergency. For further discussion of the construction traffic control plan, refer to Section 3.11, "Transportation and Circulation—Ground and Marine." Any disruptions to emergency access due to the construction of the proposed Project would be temporary and accounted for in the traffic control plan.

Access to the proposed park and recreational space, such as the land bridge and waterfront promenade, once Phase I is operational would not be affected for extended periods by Phase II construction activities, nor would construction interfere with park services or increase demand on park services.

Impact Determination

Implementation of a traffic control plan and compliance with the Watch Manual during construction activities would ensure that construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services. Impacts from construction would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

3.13.4.3.2 Operational Impacts

Impact PS-2: The proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.

Los Angeles Police Department

The Port Police is the primary police service provider in the Port area. However, LAPD does have jurisdiction over the privately owned properties in the proposed project area. The proposed Project does not involve any development that would directly increase the local residential population. However, the proposed Project would result in overall increases in the daytime population in the proposed project area. The inclusion of light industrial uses, commercial uses such as a Mercado, and retail development would add new employees to the area during the workday. In addition, the public amenities (e.g., observation tower, waterfront promenade, and

land bridge) would bring the visiting public and recreators to the area throughout the day. These types of visitors may be more highly concentrated on the weekends. Furthermore, the proposed Project could support a variety of public events within the open space areas that would increase the daytime population over a certain period of time (e.g., weekends).

The increased daytime population associated with the proposed project development and the public amenities would not burden LAPD, and they would maintain an adequate level of service (e.g. sufficient police officers to respond to emergencies) (Plows pers. comm. 2008). LAPD would not require additional officers to serve the proposed Project (Plows pers. comm. 2008). The proposed Project (and individual elements on privately owned land) would support crime prevention through environmental design approaches such as adequate security lighting and highly visible open space areas. Furthermore, any special event which would take place within City and LAPD jurisdiction would require a special event permit from LAPD SEPU. These permits would ensure that appropriate City resources (LAPD, LAFD, LADOT, etc.) could adequately support each special event, and that LAPD resources would not be burdened by such special events.

Therefore, new or expanded LAPD police protection services would not be required to serve the operation of the proposed Project. Also, no new or expanded facilities would be constructed that could result in significant environmental effects.

Port Police

Port Police do not base staff levels on the amount of development or anticipated population of a given area. Their staff totals are based on current Homeland Security data and levels of security at other ports of corresponding size and activity. Port Police are not a police agency driven by calls for service. Their mission is the safety of the Port and the protection of the economic assets LAHD owns and operates. Therefore, response times are not estimated as a ratio of measurement and are also not estimated for the proposed Project. The Port Police have an estimated 223 positions authorized for fiscal year 2007–2008, which includes 142 total sworn officers (recently approved to grow to 212). A needs assessment is conducted by the Intelligence/Information Coordination unit of the Port Police when necessary to determine the adequacy of its service levels (Provinchain pers. comm. 2008).

The Port Police maintains 24-hour land and water patrols. The proposed Project would not burden the Port Police such that they would not be able to maintain an adequate level of service. Although the proposed Project would result in increased daytime population (i.e., new employees and visitors), due to constant patrol of land and water and the Port Police's expanding and constantly updated resources, the proposed project area can be adequately served (Provinchain pers. comm. 2008). The Port Police are adequately staffed with 260 sworn officers to provide for the activities of the Port, and there are no projected changes in their ability to serve the Port due to the operation of the proposed Project.

The potential exists for the proposed Project to generate a temporary increase in demand for Port police services during events in open spaces. Any special event

taking place within Port jurisdiction would require a special event permit from the LAHD Real Estate Division. These permits would ensure that appropriate Port security would adequately support each special event, and would also ensure that Port Police resources are not burdened by such special events. In addition, the demand created from such events would be temporary and short-term.

Therefore, new or expanded Port Police protection services would not be required to serve the operation of the proposed Project. Also, no new or expanded facilities would be constructed that could result in significant environmental effects.

Impact Determination

The proposed Project would not increase demand for additional law enforcement services. LAPD and Port Police would maintain an adequate level of service and would not need to construct additional facilities. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-3: The proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

The proposed Project would be designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection. Although the proposed Project would result in increased daytime population, the increase and other elements would not require more firefighting personnel or equipment to respond to fire or health emergencies (Roupoli pers. comm. 2008). The proposed Project would be required to update and resize water mains, including ensuring that the locations of fire hydrants conform with requirements (Roupoli pers. comm. 2008). Additionally, all the industrial and commercial development would be required to comply with the fire code. All buildings plans would be subject to review by LAFD prior to approval, and all buildings would be subject to fire inspections after they are built and in operation

Occasional large-scale events in the proposed project area have a potential to create temporary demand for firefighting and emergency medical services. Any special event taking place within LAFD jurisdiction would require a special event permit from LAPD SEPU. These permits would ensure appropriate City resources (LAPD, LAFD, LADOT, etc.) could adequately support each special event and would also ensure that LAFD resources are not burdened by such special events.

Therefore, the operation of the proposed Project, including the waterfront promenade, the commercial and industrial development, and the open space, starting in 2013 would not result in an increase in average emergency response times. The LAFD would be able to accommodate proposed project–related fire protection demands (Roupoli pers. comm. 2008). Therefore, the proposed Project would not result in a significant impact on fire protection staffing and facilities.

Impact Determination

The proposed Project would not increase the demand for fire services. Therefore, the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-4: The proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities.

The proposed Project would develop recreational facilities and open spaces such as parks, promenades, bike and pedestrian trails, and plazas. These new recreational amenities would relieve the burden on existing recreation facilities and open spaces. LAHD would be responsible for ongoing maintenance and operation of the open spaces and recreational facilities for the proposed Project.

Operation of park facilities would require active maintenance, security, marketing, event master planning, and administration. LAHD would adequately provide resources for the maintenance and operation of the proposed Project and the proposed Project would not rely on the City of Los Angeles Department of Recreation and Parks for financial or maintenance services. Financing of the operations and ongoing maintenance activities would be funded by LAHD investment and through publicly available resources such as the Port Harbor Revenue Fund, state, local, and federal grants, state bond financing, Infrastructure Facilities Districts, and Tax Increment Districts (Wilmington Waterfront Master Program 2007).

Impact Determination

The proposed Project would increase available park and recreational uses in the proposed project area; therefore, impacts on existing park and recreational services and facilities would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

3.13.4.3.3 Summary of Impact Determinations

Table 3.13-1 summarizes the impact determinations of the proposed Project related to Public Services, as described in the detailed discussion in Sections 3.13.4.3.1 and 3.13.4.3.2. Identified potential impacts are based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the impact determination, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.13-1. Summary Matrix of Potential Impacts and Mitigation Measures for Public Services Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.13 Public Services			
PS-1: Construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.	Less than significant	No mitigation is required.	Less than significant
PS-2: The proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effect**s.**	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
PS-3: The proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.	Less than significant	No mitigation is required.	Less than significant
PS-4: The proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than significant	No mitigation is required.	Less than significant

3.13.4.4 Mitigation Monitoring

No mitigation is required for Public Services for the proposed Project.

3.13.5 Significant Unavoidable Impacts

The proposed Project would not result in any significant and unavoidable impacts on public services.

3.14

WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY

3.14.1 Introduction

This section describes the existing environmental and regulatory setting for water quality, sediments, and oceanography, as well as the impacts on water quality, sediments, and oceanography that would result from the proposed Project, and the mitigation measures that would reduce these impacts to a level below significance.

As discussed below in Section 3.14.4.3, "Impact Analysis," construction and operational impacts from the proposed Project on water quality, sediments, and oceanography would be less than significant. No mitigation measures are required.

3.14.2 Environmental Setting

The following discussion addresses the existing water quality, sediments, and oceanography within and near the proposed project area. The discussion relies upon data that represent the environmental baseline date of March 2008, with most of the described data having been collected between 2001 and 2007. This time period represents an interval with relatively representative climate and homogeneous patterns of harbor utilization, and is thus presumed to be representative of environmental baseline conditions. The area has a Mediterranean climate with wet, cool winters, and warm, dry summers. Most rainfall (90%) occurs between the beginning of November and the end of April with an average annual rainfall of 12.1 inches (MEC 2004:2–3). The 50-year, 24-hour estimated precipitation[1] is 4.4 to 4.6 inches (MEC 2004:2–6).

[1] The 50-year, 24-hour precipitation estimate refers to the approximate amount of rainfall that is expected to fall over a 24-hour period during a 50-year storm event or an event that has a 2% probability of occurring during a during a normal year.

3.14.2.1 Regional Setting

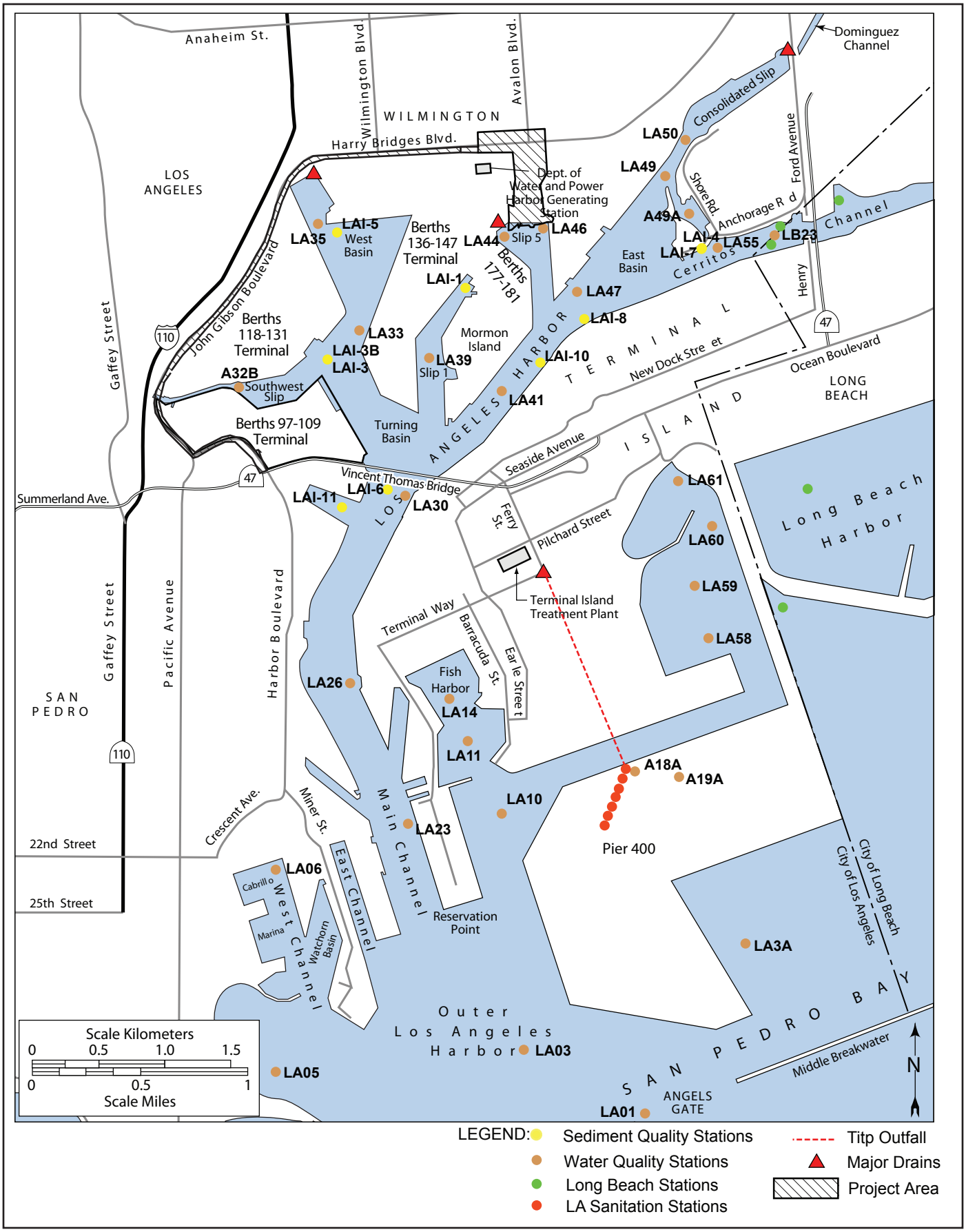
Los Angeles Harbor is located in the Dominguez Watershed, which drains approximately 832 square miles including the harbor area itself. Los Angeles Harbor has been physically modified through previous dredging and filling projects as well as construction of breakwaters and other structures. Los Angeles Harbor is adjacent to Long Beach Harbor. Both function oceanographically as one unit due to an inland connection via Cerritos Channel and because they share Outer Harbors behind the San Pedro, Middle, and Long Beach breakwaters.

The combined Los Angeles/Long Beach Harbor oceanographic unit has two major hydrologic divisions: marine and freshwater. The marine hydrologic division is primarily influenced by the Southern California coastal marine environment known as the Southern California Bight. The main freshwater influx into the Los Angeles Harbor is through the Dominguez Channel Estuary, which enters the harbor about 1 mile east of the waterfront portion of the proposed project area. The estuary extends approximately 8 miles north of the harbor and receives freshwater inputs from approximately 80 square miles of drainage. Another freshwater contributor to the harbor is the discharge of treated sewage from TITP into the Outer Harbor, about 7 miles south of the waterfront portion of the proposed project area (Figure 3.14-1). Sheet runoff and storm drain discharges during and after storm events also add freshwater to the harbor.

3.14.2.1.1 Surface Freshwater

Surface freshwater in the proposed project area is primarily from stormwater runoff, which enters the harbor from numerous storm drains or drainage systems. Slip 5 receives one such drain at its northwest corner. Stormwater systems in the vicinity of the proposed Project are relatively old and have no associated treatment systems, discharging directly to the harbor via a system of catch basins, ditches, and culverts. There are no lakes, streams, or other natural surface water bodies in the proposed project area. The largest stormwater conveyance is the Dominguez Channel, which drains into the East Basin of the harbor. The proposed Project is within the Dominguez Watershed (California State Water Resources Control Board (SWRCB) Hydrologic Unit 405.12), in and adjacent to the Los Angeles Harbor. The watershed (has an area of 133 square miles and is roughly bordered by Inglewood on the north, Compton on the east, Torrance on the west, and the federal breakwaters of Los Angeles and Long Beach Harbors on the south (MEC 2004:1–5). Most land in the watershed is developed (93%), and 62% of stormwater runoff from these lands drains to the Dominguez Channel, which drains to the Los Angeles Harbor. The remaining runoff drains to retention basins into Wilmington Drain, which in turn drains to Machado Lake, or directly into the Los Angeles and Long Beach Harbors (MEC 2004:1–3).

The Dominguez watershed comprises five subwatersheds. Two of these (the Upper Channel and the Lower Channel) drain directly into the Dominguez Channel. The remaining subwatersheds are the retention basins, Machado Lake, and Harbors



Source: Los Angeles Harbor Department (unpublished data)

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Figure 3.14-1
Water Quality and Sediment Sampling Locations
Wilmington Waterfront Development Project

subwatersheds (MEC 2004:2–94). The proposed project area occurs within the Harbors subwatershed, which includes portions of the cities of Los Angeles, Long Beach, Rancho Palos Verdes, and Rolling Hills; has an area of 36.7 square miles; and drains directly into the harbor (MEC 2004:2–100).

All of the developed upland areas in the Dominguez Watershed have storm drains that are designed for a 10-year event and comply with the County's standard urban storm water mitigation plan (see Section 3.14.3.3). These drains are inspected at least annually and maintained as necessary.

The proposed Project includes the San Pedro Buffer Linkage, from which runoff flows primarily to the Southwest Slip and the West Basin; and Wilmington portions of the proposed project area, from which runoff flows primarily to the East Basin. All of these receiving waters are in the Inner Harbor.

3.14.2.1.2 Marine Waters

The Los Angeles Harbor has been physically modified through past dredging and filling projects, as well as construction of breakwaters and other structures. Los Angeles Harbor is adjacent to Long Beach Harbor, and oceanographically they function as one unit. This is due to an inland connection via Cerritos Channel and because they share Outer Harbors behind the San Pedro, Middle, and Long Beach Breakwaters. In addition, there is an opening in the causeway leading to Pier 400 that was designed to enhance circulation.

The existing beneficial uses of coastal and tidal waters in the Inner Harbor areas of Los Angeles Harbor, as identified in the Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), include industrial service supply, navigation, water contact recreation, non-contact water recreation, commercial and sport fishing, preservation of rare and endangered species, marine habitat, and shellfish harvesting (LARWQCB 1994). Waters in the proposed project area that are 303(d)-listed for impairment include the Los Angeles/Long Beach Inner Harbor (California State Water Resources Control Board 2006). Other 303(d)-listed waters in Los Angeles Harbor are summarized in Table 3.14-1. Additionally, certain water quality limited waters have designated plans, called Total Maximum Daily Load (TMDL) plans, designed to limit further impairments and to bring the affected waters into compliance with applicable water quality criteria. A TMDL is the amount of a particular pollutant that a stream, lake, estuary, or other water body can assimilate without violating state water quality standards. Once a TMDL is approved by the LARWQCB responsibility for reducing pollution among both point sources (wastewater NPDES permit holders) and diffuse sources (such as runoff from urban and agricultural sources, leaking underground storage tanks, and septic systems) is assigned so that water quality standards are no longer violated. A TMDL for bacteria has been completed and has been in effect since March 10, 2005, for the waters of Los Angeles Harbor (LARWQCB 2008). This TMDL is implemented as an amendment to the Basin Plan (LARWQCB 2004) and thus follows the same mechanisms for implementation as the Basin Plan. When LARWQCB issues permits such as NPDES permits or Clean Water Act Section 401

certifications, they include permit conditions that ensure compliance with the TMDL. TMDLs for other pollutants in the Dominguez watershed are in development but have not yet been approved (LARWQCD 2008).

The water and sediment quality parameters that could be affected directly by the proposed Project include dissolved oxygen (DO), hydrogen ion concentration (pH), turbidity/transparency, contaminants, and nutrients. Other parameters commonly used to describe marine water quality include salinity and temperature. While the proposed Project would not directly affect salinity and temperature, they are addressed because stormwater runoff from the proposed project area could affect these conditions in receiving waters. Oceanographic conditions that could be affected by the proposed Project include circulation (current patterns) as it may affect water exchange within Slip 5.

Table 3.14-1. Section 303(d)-Listed Waters in Los Angeles Harbor

Listed Waters/Reaches	*Impairments*
Cabrillo Marina (77 acres)	DDT, PCBs
Outer Cabrillo Beach (0.5 miles)	DDT, PCBs
Inner Cabrillo Beach Area (82 acres)	Copper, DDT, PCBs
Los Angeles/Long Beach Outer Harbor, inside breakwater (4,042 acres)	DDT, PCBs, sediment toxicity
Fish Harbor (91 acres)	benzo[a]anthracene, benzo[a]pyrene, chlordane, chrysene, copper, DDT, dibenz[a,h]anthracene, lead, mercury, PAHs, PCBs, phenanthrene, pyrene, sediment toxicity, zinc
Los Angeles/Long Beach Inner Harbor (3,003 acres)	Beach closures, benthic community effects, copper, DDT, PCBs, sediment toxicity, zinc
Los Cerritos Channel (31 acres)	Ammonia, bis(2ethylhexyl)phthalate/DEHP, chlordane (sediment), coliform bacteria, copper, lead, trash, zinc
Consolidated Slip (36 acres)	2-Methyanphthalene, benthic community effects, benzo[a]anthracene, benzo[a]pyrene, cadmium (sediment), chlordane (tissue and sediment), chromium (sediment), chrysene, copper (sediment), DDT (tissue and sediment), dieldrin, lead (sediment), mercury (sediment), PAHs, PCBs (tissue and sediment), phenanthrene, pyrene, sediment toxicity, toxaphene (tissue), zinc (sediment)
Domínguez Channel from Vermont to Estuary (8.3 miles)	Ammonia, benthic community effects, PAHs (benzo[a]pyrene, benzo[a]anthracene, chrysene, phenanthrene, pyrene), chlordane (tissue), coliform bacteria, DDT (tissue and sediment), dieldrin (tissue), lead (tissue), PCBs, zinc (sediment)

Notes:
PCBs = polychlorinated biphenyls
DDT = dichloro-diphenyl-trichloroethane
DEHP = di(2-ethylhexyl)phthalate released from polyvinyl chloride (PVC)
PAHs = polycyclic aromatic hydrocarbons

*Fish consumption advisory
Source: LARWQCB 2007c.

3.14.2.1.3 Water Quality

Water quality conditions in the harbor complex and proposed project area have been summarized from a 2000 baseline study (MEC 2002) and other sources as cited below. Water and sediment quality sampling throughout the harbor is not undertaken on an annual basis, and the most recent comprehensive sediment quality surveys were completed in 2000. The Port has been conducting voluntary monthly monitoring of physical parameters since the late 1960s at approximately 30 stations distributed throughout the harbor. The Port began a Port Wide Water Quality study in 2004 to establish a baseline of chemical parameters in the ambient water for use in future water quality programs. This expanded sampling includes organic and inorganic priority pollutants and analytes of interest in TMDLs and is conducted generally twice per year (one during wet season and one during dry season). Other water quality sampling programs include those related to the Main Channel and Inner Cabrillo Beach bacteria TMDL. The Port cooperated with the City and County of Los Angeles in implementing a study plan to assess bacterial levels in the Main Channel and Inner Harbor along with special focused studies at selected areas. The Port along with the City/County working group is continuing to investigate four areas that were determined to be isolated bacterial hot spots. Additionally, the Port was a participant in the Bight '03 Regional Monitoring Program managed by Southern California Coastal Water Research Project and is also involved in the Bight '08 Program. This program has water, sediment, and biological monitoring components.

Port water quality sampling data was reviewed for 2000 to 2008. No trend is apparent in the data, so all appear to represent baseline conditions. Additionally, detailed sampling for water quality was performed throughout the harbor in January 2008 (LAHD 2008; A. Jirik, pers. comm. 2008).

Water quality in the Los Angeles Harbor is influenced by a number of factors including climate, circulation, biological activity, surface runoff, effluent discharges, and accidental discharges of pollutants related to shipping activities. Parameters such as salinity, pH, temperature, and transparency/turbidity are influenced primarily by large scale oceanographic and meteorological conditions, while dissolved oxygen and nutrients are related to local processes in addition to regional conditions.

Surface runoff, effluent discharges, and historical and recent watershed inputs affect water and sediment quality within the harbor. As of 2008, there were a total of 62 active NPDES permitted discharges in the Dominguez Watershed (LARWQCB 2007b).

Discharge permits typically specify maximum allowable concentrations and mass emission rates for effluent constituents. Numeric criteria for priority pollutants in discharge permits may be based on limits contained in the California Ocean Plan or by the California Toxics Rule (65 FR 31681-31719). The relative contributions (i.e., loadings) to the Los Angeles Harbor from regulated point source and unregulated non-point sources are expected to vary for individual contaminants. Specific loadings for stressors identified on the 303(d) list are not well-characterized, but they are expected to be addressed by future TMDL studies.

Discharges from storm drains into the Southwest Slip, West Basin, and Slip 5 also can affect water quality in receiving waters for the proposed Project. Information to characterize the quality of this storm runoff is unavailable. However, Los Angeles County Department of Public Works (LACDPW 2002) evaluated water quality at a sampling location on the Dominguez Channel by comparing sampling data to the Ocean Plan, Basin Plan, California Toxics Rule, and AB411 standards. LACDPW concluded the following: coliform levels exceeded AB411 standards; ammonia levels exceeded Basin Plan objectives; dissolved copper exceeded Basin Plan objectives, and total copper concentrations exceeded Ocean Plan objectives; and total zinc concentrations exceeded Ocean Plan objectives. Another study performed at the Port of Long Beach in 2005 (MBC 2005) examined storm drain runoff from port facilities and found pollutants such as metals and semi-volatile organic compounds (SVOCs). At a few sample locations copper, lead, mercury, nickel, and zinc occurred in stormwater samples at concentrations that exceeded the standards for marine waters. Existing conditions for runoff into Southwest Slip, West Basin, and Slip 5 are expected to be similar to those for Dominguez Channel and the Port of Long Beach because land uses are similar.

As mentioned above, the LAHD has been monitoring water quality on a monthly basis in the harbor since 1967. In 2000, the Ports of Los Angeles and Long Beach completed water quality measurements for the harbor complex for the Year 2000 baseline study (MEC 2002), and additional measurements were collected for the Ports in 2008 (LAHD 2008). Nine monitoring stations were located in the immediate vicinity of the proposed Project, in the Main Channel, the Southwest Slip, the West Basin, Slip 1, Slip 5, and East Basin (see Figure 3.14-1). Water quality parameters measured at these stations included dissolved oxygen, biochemical oxygen demand, temperature, and transparency. The Port of Los Angeles has been collecting data for these stations at approximately monthly intervals for many years. Arithmetic mean values of selected surface water quality constituents at these locations, for the period from January 2000 to July 2008 (the most recent available data), are shown in Table 3.14-2. In addition, in January 2008 the Port performed a detailed analysis of water quality that measured contaminant levels at all stations mentioned above. The sampling included a very wide array of compounds including measurement of 13 general chemistry parameters, 172 organic compounds, 4 butyltins, both dissolved and total content of 21 metals, and bacteria. Detailed results of that sampling are presented in Appendix J. No PAHs, PCBs, pesticides, or other organic compounds were detected. Butyltins were not detected. Metals and bacteria were detected in varying amounts that did not exceed water quality criteria.

Table 3.14-2. Arithmetic Mean of Monthly Measured Values of Water Quality Constituents in Surface Waters near the Proposed Project Area, 2000–2008.

	Habitat/ Station	*LA30*	*LA32B*	*LA33*	*LA35*	*LA39*	*LA41*	*LA44*	*LA46*	*LA47*
Dissolved Oxygen (mg/l)	Surface	6.4	6.5	6.6	6.5	6.6	6.5	6.4	6.3	6.4
	Bottom	6.7	6.7	6.7	6.6	6.7	6.5	6.5	6.5	6.6
Biochemical Oxygen Demand	Surface	0.9	0.9	1.1	0.9	1.8	1.0	0.9	0.8	0.9
	Bottom	0.8	0.8	0.9	0.7	1.3	0.8	0.6	0.6	0.9
Temperature (^oC)	Surface	16.4	16.2	16.0	16.2	16.0	16.9	16.8	16.9	16.9
	Bottom	16.8	16.1	16.0	16.1	16.0	16.9	16.8	16.9	16.9
Transparency (feet)	Surface	8.4	7.1	7.5	9.0	9.2	9.2	9.7	10.5	9.1
Source: Port of Los Angeles 2008.										

Dissolved Oxygen

Dissolved oxygen (DO) is a principal indicator of water quality. The EPA and the Los Angeles RWQCB (LARWQCB) have established a DO concentration of 5 milligrams per liter (mg/l) as the minimum allowable concentration for aquatic habitats (U.S. Environmental Protection Agency 1986:211; LARWQCB 1994). The LARWQCB also requires that the mean annual DO concentration be 7 mg/l or greater, with no event less than 5 mg/l and a mean annual DO concentration in the Outer Harbor of 6 mg/l. DO concentrations may vary considerably based on the influence of a number of parameters:

- respiration of plants and other organisms,
- waste (nutrient, oxygen demanding substances) discharges,
- surface water mixing through wave action,
- diffusion rates at the water surface,
- water depth, and
- disturbance of bottom sediments that contain oxidizable material.

As recently as the late 1960s, DO levels at some locations in Los Angeles Harbor were so low that little or no marine life could survive. Since that time, regulations have reduced direct waste discharges into the harbor, resulting in improved DO levels throughout the harbor (MEC 2002).

Algal (dinoflagellate) blooms occur occasionally within the harbor, typically associated with high solar radiation and nutrient levels, such as on sunny days following storm events. These blooms can severely reduce DO levels, but the effects

are usually localized and short-lived. Disturbances of anaerobic sediments by dredging activities also result in short-term, localized DO reductions due to resuspension of materials with a high oxygen demand. Water quality monitoring associated with a dredging operation at Southwest Slip in June 2003 recorded DO concentrations from 7.8 to 7.9 mg/l throughout the water column (POLA 2007). In this case, dredging did not result in reduced DO concentrations.

Water quality monitoring from 2000 to 2007 found DO levels generally greater than the water quality criterion of 5.0 mg/l at the three water quality stations (LA-44, LA-46, and LA-47) near or within Slip 5 (Tables 13.4-2 and 3.14-3). Out of 294 surface DO measurements at these three sites since January 2000, there have been 12 measurements below 5 mg/l, and two below 4 mg/l. In the same period, 294 bottom DO measurements have recorded seven measurements below 5 mg/l, and two below 4 mg/l. There have been no noteworthy spatial patterns in the measured DO concentrations at the sampling locations. The lowest and highest DO concentrations at the three sampling locations occurred during October–November and June–July, respectively (POLA 2008), with fall minima averaging 5.8 mg/l and summer maxima averaging 7.2 mg/l. Overall, DO concentrations near the proposed project area are at levels below LARWQCB standards about 3% of the time (POLA 2008).

This is documented by monthly measurements of dissolved oxygen at three sites in the vicinity of the proposed Project: LA44, in the northwest corner of Slip 5; LA 46, in the northeast corner of Slip 5; and LA 47, in the inner harbor just outside of Slip 5. The recorded dissolved oxygen measurements shown in Table 3.14-3 indicate considerable variability (scatter), but no trend over the past several years. This pattern indicates that it is reasonable to use data collected since 2000 to assist in characterizing the 2008 baseline water quality conditions.

Table 3.14-3. Port of Los Angeles, Inner Harbor Water Quality Data—Surface Dissolved Oxygen Ranges, 2000–2008

Year	*Station LA-44 (mg/l)*	*Station LA-46 (mg/l)*	*Station LA-47 (mg/l)*
2000	5.0–8.5	5.8–7.4	5.0–8.6
2001	5.2–8.0	3.7–7.8	4.0–7.8
2002	5.2–7.3	4.8–7.5	4.5–7.3
2003	4.6–7.9	0.8–7.7	4.3–7.6
2004	6.3–7.9	6.3–8.0	6.1–8.4
2005	5.1–8.6	5.0–7.9	4.9–8.5
2006	5.2–7.7	5.4–7.3	5.3–8.1
2007	5.6–6.8	5.0–6.9	5.4–6.7
2008 (January–July)	5.4–8.5	5.7–7.6	5.4–8.5
Source: Port of Los Angeles 2008.			

pH

Hydrogen ion concentration (pH) in marine waters is affected by plant and animal metabolism, mixing with water with different pH values from external sources, and (on a small scale) disturbances in the water column that cause redistribution of waters with varying pH levels or the resuspension of bottom sediments. The LARWQCB has established an acceptable range of 6.5–8.5 pH units with a change tolerance level of no more than 0.2 units due to discharges (LARWQCB 1994:3–15). In the open ocean, pH levels typically range from 8.0–8.3 (LAHD 2002:3.9-3). In the Outer Harbors, pH levels have ranged from 8.1 (upper level in warmer months) to 7.4 (lower levels in cooler months). In the Los Angeles Inner Harbor waters, pH levels measured from January to November of 2000 ranged from 7.70 to 8.03 (MEC 2002). There are no measurements available that are more recent, but uses of the harbor in 2000 were generally similar to those at the 2008 environmental baseline date, and other parameters measured during the 2000–2008 period (DO, BOD, temperature, transparency) show no evidence of a long-term trend. Thus, the 2000 pH values are considered representative of baseline conditions in the Los Angeles Inner Harbor. There are no data on pH levels in and near the proposed project area, but there are no local discharges or other factors that would cause pH levels in Slip 5 to differ substantially from pH levels measured elsewhere in the Inner Harbor.

Turbidity and Transparency

Turbidity is the measure of suspended solids in the water column. Water clarity, or how well water transmits light, is known as transparency. Increased turbidity usually results in decreased transparency. Turbidity generally increases as a result of one or a combination of the following conditions: suspended sediment from terrestrial runoff; planktonic bloom resulting from favorable environmental conditions such as abundant light and high nutrient loads; vessel-related disturbances; and dredging (MEC 2002:2–6). In general, the transparency of the harbor has improved since 1967 though individual measurements vary substantially (LAHD 2002:3.9-4). Average transparency values at nine water quality stations near or within the proposed project area range from 7.1 to 10.5 feet (Table 3.14-2). During the 2000–2008 monitoring period, transparencies have varied widely from 1 to 19 feet, with the lowest measurements (7.1 feet average) in February and the highest (10.1 feet average) in November (POLA 2008). For comparison, transparency measurements elsewhere within the Port range from 19.7 feet in the Outer Harbor to 7.4 feet in the Main Channel (POLA 2007). These data, having been collected monthly for a period (2000–2008) leading up to the environmental baseline date, provide information about baseline water quality conditions in the proposed project area and vicinity.

Contaminants

Contaminants in harbor waters can originate from a number of sources within and outside of the Port. Potential sources of trace metals and organics include municipal and industrial wastewater discharges, stormwater runoff, dry weather flows, leaching from ship hull anti-fouling paints, petroleum or waste spills, atmospheric deposition,

and resuspension of bottom sediments containing legacy (i.e., historically deposited) contaminants such as DDT and PCBs. Most of the metal, pesticide, and PAH contaminants that enter the harbor have a low solubility in water and adsorb onto particulate matter that eventually settles to the bottom and accumulates in bottom sediments. Dredging projects in both the Inner and Outer Harbor areas, including the Los Angeles Harbor Deepening Project (USACE and LAHD 1984, in LAHD 2002), have removed contaminated sediments from the harbor. In addition, some contaminated sediment areas have been covered by less contaminated sediments as part of construction of landfills or shallow water habitat, thereby sealing them from exchange with the overlying water. Controls on other discharge sources have also contributed to decreases over time in the input of contaminants.

As discussed at the beginning of this section, draft TMDLs have been or are currently being prepared in response to 303d listings within the proposed project area. A bacteria TMDL has been completed for Los Angeles Harbor Main Channel. EPA and LARWQCB are in the process of preparing additional TMDLs and are working with a stakeholder technical advisory committee: Dominguez Channel and the Los Angeles and Long Beach Harbors Toxic and Metal TMDLs (Anchor et al. 2005:123). LAHD is an active participant in both processes.

There are few data describing metal contamination in harbor waters (LAHD 2002:3.9-4). Sampling for the enhanced water quality monitoring program at Station LA-30 (Figure 3.14-1) in September 2005 found concentrations of copper at 0.5–1.0 micrograms per liter (µg/l), mercury at 0.002 to 0.6 µg/l, zinc at 1.2–4.9 µg/l, and a variety of other trace metals (POLA 2007). Sources of contaminants include historical deposition, municipal and industrial wastewaters, marine vessel activities, and stormwater runoff (Anchor et al. 2005:110; LARWQCB 2007a:2.1-5). Maintenance dredging and long-term effluent limitations imposed by LARWQCB appear to be helping to decrease chemical contamination in harbor waters and sediments (LAHD 2002:3.9-4; LARWQCB 2007a:2.1-5).

Nutrients

Nutrients are necessary for primary production of organic matter by phytoplankton. Low nutrient concentrations can limit the photosynthetic production, whereas excess nutrient concentrations can cause eutrophication and promote harmful algal blooms. Major nutrients that may limit phytoplankton photosynthesis are phosphates and nitrates. The availability of phosphates and nitrates changes from day to day and is influenced by factors that include biological processes, wastewater discharge, and stormwater runoff. Point source discharges are regulated through discharge permits, and stormwater discharges are regulated though municipal and industrial stormwater permits. The harbor, as an enclosed water body, has different seasonal and spatial variation in nutrient concentration than what is observed outside the breakwater (LAHD 2002:3.9-4)

Data on nutrient (total Kjeldahl nitrogen) data in the harbor were collected by the Port (POLA 2008) in January 2008. Measurements at the nine stations listed in Table 3.14-2 varied from 0.56 to 0.98 mg/l, in addition to two samples measured below the

detection limit of 0.50 mg/l. These are very low values, indicating that nitrogen, at the time of measurement, was likely not contributing to water quality limitations in the harbor. However, it is possible that higher nitrogen concentrations occur at other times of the year or in response to isolated events such as a flush of stormwater from upland areas adjoining the harbor. In the Los Angeles Harbor, no data relevant to the environmental baseline are available to describe other measures of nutrient abundance such as phosphate, nitrate, or nitrite concentrations. However, the low BOD values and generally high dissolved oxygen values listed in Table 3.14-2 are consistent with a diagnosis that harbor waters are generally not limited by excessive nutrient loading.

Temperature

The seasonal and spatial variation in water temperature in the harbor reflects the influence of the ocean, local climate, the physical configuration of the harbor, and circulation patterns. General seasonal trends in water temperature consist of uniform, cooler temperatures throughout the water column in the winter and spring, and of stratified, warmer temperatures with cooler waters at the bottom in the summer and fall. The stratified summer and fall conditions may be attributed to warmer ocean currents, local warming of surface waters through insolation, and reduced runoff into nearshore waters. Inter-annual or longer-term patterns in water temperatures reflect the influences of oceanographic conditions, such as those associated with El Niño/La Niña cycles (MEC 2002). In 2000, surface water temperatures in the West Basin averaged 59.4°F (15.4°C) in January, 61.9°F (16.6°C) in May, 73.4°F (23.0°C) in August, and 63.9°F (17.7°C) in November. Bottom temperatures were 0.7 to 6.3°F (0.4 to 3.5°C) lower with the larger difference in the summer (MEC 2002). These temperatures are similar to monitoring conducted by MBC in the West Basin (2003), which ranged from 59.5 to 61.7°F (15.3 to 16.5°C) in the winter to 66.9 to 74.3°F (19.4 to 23.5°C) in the summer (MBC 2006). In Slip 5, water quality data collected at stations LA-44 and LA-46 between 2000 and 2008 (Appendix J) indicate that both surface and bottom temperatures are similar at both stations. Bottom temperatures vary from a low of approximately 58.3°F (14.6°C) in February to a high of approximately 66.9°F (19.4°C) in July. Surface temperatures vary from a low of approximately 57.9°F (14.4°C) in February to a high of approximately 67.6°F (19.8°C) in July. The similarity between surface and bottom temperatures indicates that the harbor is not thermally stratified and, thus, that surface and bottom waters are mixed by processes such as tides, wind, and wave action.

Salinity

Variations in salinity occur due to the effects of stormwater runoff, waste discharges, rainfall, and evaporation (LAHD 2002:3.9-5). Salinity in the Outer Harbor is generally higher in the summer (due to warmer weather evaporation) than in the winter (due to less evaporation in cooler weather and freshwater inputs from storms), and deeper Outer Harbor locations were typically more saline than shallower locations (MEC 1988). Typical salinity for coastal waters is around 33 parts per

thousand (ppt). Measurements in the West Basin during 2000 and 2003 showed salinity values ranging from 32.8 to 33.6 ppt in surface and bottom waters (MEC 2002; MBC 2003). No records of salinity in Slip 5 exist, but given the extent of tidal mixing in the Inner Harbor (discussed in the Oceanography section below), and in view of the presence of large stormwater drains in both the West Basin and Slip 5, it is likely that salinity patterns in Slip 5 are close to those observed in the West Basin.

Storm drains empty into the northwest corner of Slip 5, the western end of the Southwest Slip and into the West Basin (Figure 3.14-1). Stormwater discharges cause reduced salinity during storm runoff events, particularly in surface waters because freshwater is lighter and floats on top of the denser seawater. As the fresher runoff waters mix with the seawater, due to wind, vessel traffic, tidal currents, and diffusion, the salinity of the runoff plume increases (POLA 2007).

3.14.2.1.4 Marine Sediments

Sediments in the proposed project area are primarily composed of nearshore marine or estuarine sediments that were either deposited in place along the margin of the early San Pedro embayment or subsequently dredged and placed at their current locations as fill material. Spills of petroleum products and hazardous substances due to long-term industrial land use have probably resulted in the sediment contamination levels currently observed, which are detailed below. The California SWRCB (2006) has listed various areas in the Los Angeles/Long Beach Harbor complex as an impaired waterbody under Section 303(d) of the Clean Water Act for specific sediment contaminants (see Table 3.14-1).

The MEC (2002) biological baseline study results suggest that the removal of contaminated sediments during the Channel Deepening Project has led to a significant improvement in the environmental quality of the Harbor. Although the Inner Harbor is significantly cleaner than it was 25 years ago, some areas still exhibit the effects of historic deposits of pollution in the sediments and from the existing point and nonpoint discharges (LARWQCB 2002). Localized areas of contaminated sediment still remain.

Currently, no numerical sediment quality objectives exist to compare to the sediment testing results; however, sediment quality objectives are being developed by the California SWRCB. Therefore, recent sediment testing results are used to characterize sediment quality by comparisons to published guidelines (California Department of Water Resources 1995) and exceedance criteria (Chapter 3 of the Basin Plan [LARWQCB 1994 and amendments] and the California Toxics Rule [65FR31682-31719]) as follows:

ERL (Effect Range Low): Concentrations below the ERL value represent a minimal-effects range, a range intended to estimate conditions in which effects would be rarely observed (California Department of Water Resources 1995).

ERM (Effect Range Medium): Concentrations above the ERL but below the ERM represent a possible-effects range within which effects would occasionally occur.

Concentrations above the ERM represent a probable-effects range within which effects would frequently occur (California Department of Water Resources 1995).

In 2002, the LAHD collected sediment quality data for Slip 5 in connection with proposals for maintenance dredging at Berths 177–179, and at Berths 180–181. These areas collectively comprise the entire west shore of Slip 5. No sediment quality data have been located for the sediments at the head (north end) of Slip 5, where all in-water work for the proposed Project would occur, although Berth 177 is near this area. Sediment quality data have also been collected for other areas near the proposed project area, including the West Basin, Southwest Slip, Inner Harbor, and East Basin, and are summarized here.

Potential contaminants within sediments in the proposed project area include:

- metals (particularly cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc);
- oil and grease;
- chlorinated hydrocarbons (particularly DDT and DDE); and
- PCBs.

These contaminants were found in harbor sediments prior to the Los Angeles Harbor Deepening Project (USACE and LAHD 1984 in LAHD 2002:3.9-4) and are listed on the California SWRCB's 2006 303(d) list for various Los Angeles Harbor water features (SWRCB 2006; Table 3.14-1). Although a large portion of contaminated sediments have been removed via channel deepening and maintenance dredging activities, contaminated sediments remain in localized areas (LAHD 2002:3.9-4, LARWQCB 2007a:2.1-5), and the level of contamination varies substantially through the Los Angeles Inner Harbor (LARWQCB 2007a:1–4).

Physical and chemical analysis of sediments, pore water[2], and overlying water was conducted during October 2006 in support of development and implementation of a sediment TMDL for the Los Angeles/Long Beach Harbors (Weston Solutions 2007). The sampling and analysis included 13 sites within the proposed project area in the Inner, Middle, and Outer Harbors (Figure 3.14-1). The samples were analyzed for all priority pollutant metals, pesticides, PCBs (including Aroclors[3]), organotins, and PAHs. Results of this testing are summarized in the remainder of this section. These data, having been collected during the baseline evaluation period, represent baseline conditions in the harbor.

Slip 5

In 2002, the Port collected sediment quality data for Slip 5 in connection with proposals for maintenance dredging at Berths 177–179, and at Berths 180–181

[2] Water in pore spaces within sediments.
[3] Aroclors are a subgroup of PCBs..

(Kinnetic/Toxscan 2003). However, the sampled sediments were subsequently removed via dredging and, due to their high level of contamination, disposed at an upland location. There are no data available to describe sediment quality in Slip 5. Given the locally high concentrations of contaminants found in other waters of the Los Angeles Inner Harbor and the long history of industrial use of Slip 5, it is likely that locally high concentrations of contaminants occur at locations in Slip 5. .

West Basin

Numerous sediment quality analyses have been performed in the West Basin. Results have generally documented a fairly high level of variability from one sample site to another. Sampling has included the following:

- Bulk sediment analyses for grain size, total organic carbon, dissolved organic carbon, priority pollutant metals, oil and grease, ammonia, total and dissolved sulfides, petroleum hydrocarbons, PAHs, chlorinated pesticides, PCBs, selected SVOCs, and organotins(Weston Solutions 2007). Sampling was performed in October 2006 .
- Bulk sediment chemical analyses for grain size, ammonia, total sulfides, water soluble sulfides, total organic carbon, total solids, 10 types of heavy metals, organotins, petroleum hydrocarbons, 14 types of PAHs, 18 types of chlorinated pesticides, 8 types of PCBs, phenols, and phthalates(AMEC 2003b); elutriate testing and bioassays were also performed for the metals and organic constituents. Sampling was performed in 2003 .
- Grain size and metals were sampled in 2003 (MBC 2003).
- Bulk sediment chemical analyses for grain size, ammonia, total sulfides, total volatile solids, water soluble sulfides, oil and grease, petroleum hydrocarbons, percent solids, total organic carbon, 10 types of heavy metals, 4 types of organotins, 21 types of chlorinated pesticides, 4 types of PCBs, and 20 types of semi-volatiles including petroleum constituents, PAHs, and phthalates (Kinnetic Laboratories/ToxScan 2002). Elutriate samples were also analyzed for most of the same constituents. Sampling was performed in 1996 and 1997.
- Metals were sampled in April 1997 (Ogden 1997).

Sediment quality data reported below are considered representative of baseline conditions in 2008 because the magnitude and composition of source inputs to the West Basin have remained similar over this period. Local areas have been disturbed by dredging, but the principal contaminants found in sediments in the Los Angeles Inner Harbor have continued to appear in samples dating from the late 1990s to the most recent work, and sediments in the harbor are 303(d) listed for most of these same contaminants. It is thus highly unlikely that dredging in recent years has eliminated potential water quality problems associated with sediment contamination, and, on balance, the results of these past studies are probably strongly indicative of the types and concentrations of sediment contaminants existing in the Los Angeles Inner Harbor at the date of the environmental baseline.

Sediment in the West Basin is 51 to 63% sand, and 37 to 48% silt and clay (MEC 2002, MBC 2003). Most constituents in most samples were non-detects or were below the ERL levels. However, the following exceptions were observed in one or more samples:

- Arsenic exceeded the ERL (AMEC 2003a, Weston Solutions 2007).
- Copper exceeded the ERL (Kinnetic Laboratories/ToxScan 2002; AMEC 2003a; MBC 2003; Weston Solutions 2007).
- Mercury exceeded the ERL (Kinnetic Laboratories/ToxScan 2002; AMEC 2003a; Weston Solutions 2007).
- Nickel exceeded the ERL (Kinnetic Laboratories/ToxScan 2002; AMEC 2003a; Weston Solutions 2007).
- Lead exceeded the ERL (AMEC 2003a).
- Zinc exceeded the ERL (Weston Solutions 2007).
- Total DDTs exceeded the ERL (Kinnetic Laboratories/ToxScan 2002; AMEC 2003a; Weston Solutions 2007).
- DDE exceeded the ERM (Kinnetic Laboratories/ToxScan 2002; Weston Solutions 2007).
- Total PCBs exceeded the ERL (Weston Solutions 2007) and the ERM (Kinnetic Laboratories/ToxScan 2002).
- Total high-molecular-weight (HMW) PAHs exceeded the ERL (Weston Solutions 2007).
- Total PAHs exceeded the ERL (Kinnetic Laboratories/ToxScan 2002) and ERM (Weston Solutions 2007).
- Bioassays: suspended particulate phase tests indicated no significant toxicity but slight reductions in development (AMEC 2003a).
- Bioassays: solid phase tests found significant toxicity to a benthic amphipod (Kinnetic Laboratories/ToxScan 2002).
- Bioaccumulation: statistically significant lead, mercury, DDD, and PCB accumulations (Kinnetic Laboratories/ToxScan 2002).
- Bioaccumulation: statistically significant PAH accumulations (AMEC 2003a).
- DDE/DDT, chlordane, dieldrin, and limited PAHs exceeded the ERL and/or ERM (MEC 2001)

Southwest Slip

Limited sediment quality analyses have been performed in the Southwest Slip. Sampling has included the following:

- Bulk sediment chemical analyses for grain size, ammonia, total sulfides, total volatile solids, water soluble sulfides, oil and grease, petroleum hydrocarbons, percent solids, total organic carbon, 10 types of heavy metals, 4 types of organotins, 21 types of chlorinated pesticides, 4 types of PCBs, and 20 types of semi-volatiles including petroleum constituents, PAHs, and phthalates (Kinnetic Laboratories/ToxScan 2002). Elutriate samples were also analyzed for most of the same constituents. Sampling was performed in 1996 and 1997.
- Metals, PAHs, and PCBs were sampled in 1997 (California SWRCB et al. 1998).

Sediment quality data reported below are considered representative of baseline conditions in 2008 because the magnitude and composition of source inputs to the Southwest Slip have remained similar over this period. Local areas have been disturbed by dredging, but the principal contaminants found in sediments in the Los Angeles Inner Harbor have continued to appear in samples dating from the late 1990s to the most recent work, and sediments in the harbor are 303(d) listed for most of these same contaminants. It is thus highly unlikely that dredging in recent years has eliminated potential water quality problems associated with sediment contamination, and, on balance, the results of these past studies are probably strongly indicative of the types and concentrations of sediment contaminants existing in the Los Angeles Inner Harbor at the date of the environmental baseline.

Most constituents in most samples were non-detects or were below the ERL levels. However, the following exceptions were observed in one or more samples:

- Cadmium, chromium, copper, lead, nickel, selenium, silver, and zinc exceeded the ERM (Kinnetic Laboratories/ToxScan 2002).
- Mercury exceeded the ERM (California SWRCB et al. 1998; Kinnetic Laboratories/ToxScan 2002).
- DDT exceeded the ERM (Kinnetic Laboratories/ToxScan 2002).
- PCBs and PAHs exceeded the ERM (California SWRCB et al. 1998; Kinnetic Laboratories/ToxScan 2002).
- PAHs and PCBs were associated with amphipod toxicity (California SWRCB et al. 1998).
- Bioaccumulation: statistically significant accumulation of 8 metals, PAHs, DDE, and PCBs in worms and clams (Kinnetic Laboratories/ToxScan, 2002).

Inner Harbor and East Basin

Sediment quality analyses performed in the main channel of the Inner Harbor and the East Basin have generally documented a fairly high level of variability from one sample site to another. Sampling has included the following:

- Bulk sediment analyses for grain size, ammonia, total sulfides, total volatile solids, water soluble sulfides, oil and grease, petroleum hydrocarbons, percent solids, total organic carbon, 10 types of heavy metals, 4 types of organotins, 21 types of chlorinated pesticides, 4 types of PCBs, and 20 types of semi-volatiles including petroleum constituents, PAHs, and phthalates. Elutriate samples were also analyzed for most of the same constituents. Sampling was performed in 1996 and 1997 (Kinnetic Laboratories/ToxScan 2002).
- Bulk sediment analyses for grain size, total organic carbon, dissolved organic carbon, priority pollutant metals, oil and grease, ammonia, total and dissolved sulfides, petroleum hydrocarbons, PAHs, chlorinated pesticides, PCBs, selected semi-volatile organic compounds, and organotins. Sampling was performed in October 2006 (Weston Solutions 2007).

Sediment quality data reported below are considered representative of baseline conditions in 2008 because the magnitude and composition of source inputs to the Inner Harbor and East Basin have remained similar over this period. Local areas have been disturbed by dredging, but the principal contaminants found in sediments in the Los Angeles Inner Harbor have continued to appear in samples dating from the late 1990s to the most recent work, and sediments in the harbor are 303(d) listed for most of these same contaminants. It is thus highly unlikely that dredging in recent years has eliminated potential water quality problems associated with sediment contamination, and, on balance, the results of these past studies are probably strongly indicative of the types and concentrations of sediment contaminants existing in the Los Angeles Inner Harbor at the date of the environmental baseline.

Grain size in the Inner Harbor is highly variable, with 19 to 91% sand, 6 to 52% silt, and 3 to 31% clay (Kinnetic Laboratories/ToxScan 2002; Weston Solutions 2007). Most constituents in most samples were non-detects or were below the ERL levels. However, the following exceptions were observed in one or more samples:

- Arsenic exceeded the ERL (Weston Solutions 2007).
- Copper exceeded the ERL (Kinnetic Laboratories/ToxScan 2002; Weston Solutions 2007).
- Mercury exceeded the ERL (Kinnetic Laboratories/ToxScan 2002; Weston Solutions 2007).
- Lead exceeded the ERL (Weston Solutions 2007).
- Nickel exceeded the ERL (Kinnetic Laboratories/ToxScan 2002; Weston Solutions 2007).
- Zinc exceeded the ERL (Weston Solutions 2007).

- DDD exceeded the ERL (Weston Solutions 2007).
- DDE exceeded the ERM (Kinnetic Laboratories/ToxScan 2002, Weston Solutions 2007).
- Total chlordane exceeded the ERL (Weston Solutions 2007).
- Total DDTs exceeded the ERL (Weston Solutions 2007) and the ERM (Kinnetic Laboratories/ToxScan 2002).
- Total HMW PAHs exceeded the ERL (Weston Solutions 2007).
- Total PCBs exceeded the ERL (Kinnetic Laboratories/ToxScan 2002).

3.14.2.2 Oceanography

Los Angeles Harbor is a southern extension of the relatively flat coastal plain, bounded on the west by the Palos Verdes Hills, which offer protection to the bay from prevailing westerly winds and ocean currents. The harbor was originally an estuary that received freshwater from the Los Angeles and San Gabriel Rivers. Over the past 80 to 100 years, development of the Los Angeles/Long Beach Harbor complex, through dredging, filling, and channelization, has completely altered the local estuarine physiography.

3.14.2.2.1 Tides

Tides are the result of astronomical and meteorological conditions. Tidal variations along the coast of Southern California are influenced primarily by the passage of two harmonic tide waves, one with a period of 12.5 hours and the other with a period of 25 hours (LAHD 2002:3.9-6). This combination of two harmonic tide waves usually produces two high and two low tides each day. The twice daily (semidiurnal) tide of 12.5 hours predominates over the daily (diurnal) tide of 25 hours in Los Angeles Harbor, generating a diurnal inequality, or mixed semidiurnal tide. This causes a difference in height between successive high and low waters ("water" is commonly used in this context instead of "tide"). The result is two high waters and two low waters each day, consisting of a higher high water (HHW) and a lower high water (LHW), and a higher low water (HLW) and a lower low water (LLW).

The mean tidal range for the Outer Harbor, calculated by averaging the difference between all high and low waters, is 3.76 feet; and the mean diurnal range, calculated by averaging the difference between all the HHW and LLW, is approximately 5.6 feet (USACE and LAHD 1992:4B-6). The extreme tidal range (between maximum high and maximum low waters) is about 10.5 feet; the highest and lowest tides reported are 7.96 feet above mean lower low water (MLLW) and 2.56 feet below MLLW, respectively (USACE and LAHD 1992:4B-6). MLLW is the mean of all LLWs, equal to 2.8 feet below MSL. It is the datum from which southern California tides are measured (i.e., 0 feet MLLW = -2.8 feet MSL). (LAHD 2002:3.9-6)

Available Los Angeles Harbor tide data from 1923 to 1984 indicate that the highest water elevations usually occur during November through March. These higher water elevations typically range from +7 to +7.5 feet MLLW. The more severe offshore storms usually occur along the California coast during this same period. (LAHD 2002:3.9-6).

3.14.2.2.2 Waves

Ocean waves impinging on the southern California coast can be divided into three primary categories according to origin: Southern Hemisphere swell, Northern Hemisphere swell, and seas generated by local winds. Los Angeles Harbor is directly exposed to ocean swells entering from two main exposure windows to the south and southeast, regardless of swell origin. The more severe waves from extra-tropical storms (Hawaiian storms) enter from the south to southeast direction. The Channel Islands, particularly Santa Catalina Island, provide some shelter from these larger waves, depending on the direction of approach. The other major exposure window opens to the south, allowing swells to enter from storms in the Southern Hemisphere, tropical storms (chubascos), and southerly waves from extra-tropical storms.

Waves and seas entering Los Angeles Harbor are greatly diminished by the time they reach the Inner Harbor. Most swells from the Southern Hemisphere arrive at Los Angeles from May through October. Southern Hemisphere swells characteristically have low heights and long wave periods (wave period is a measurement of the time between two consecutive peaks as they pass a stationary location). Typical swells rarely exceed 4 feet in height in deep water. However, with periods as long as 18–21 seconds, they can break at over twice their deepwater wave height. (LAHD 2002:3.9-6 to 3.9-7.)

Northern Hemisphere swells occur primarily from November through April. Deepwater significant wave heights have ranged up to 20 feet, but are typically less than 12 feet. Northern Hemisphere wave periods generally range from 12–18 seconds. (LAHD 2002:3.9-7)

Local wind-generated waves are predominantly from the west and southwest; however, they can occur from all offshore directions throughout the year, as can waves generated by diurnal sea breezes. Local waves are usually less than 6 feet in height, with wave periods of less than 10 seconds. (LAHD 2002:3.9–7)

3.14.2.2.3 Circulation and Flushing

Circulation patterns in Los Angeles Harbor are established and maintained by tidal currents. Flood (rising) tides in Los Angeles Harbor flow into the harbor and up the channels, while ebb (falling) tides flow down the channels and out of the harbor. In addition to the protection the Federal Breakwater provides to the Los Angeles and Long Beach Harbors, the Federal Breakwater also reduces water exchange between the Ports and San Pedro Bay (MEC 2002:2–7). In the Outer Harbor, near Angels and

Queen's Gates, maximum surface tidal velocities reach approximately 0.8 feet per second (fps), while minimum tidal velocities of 0.088 fps occur in the Inner Harbor area (Wang et al. 1995 in LAHD 2002:3.9-7). The maximum velocity of water entering and leaving the harbor through Angels Gate is 0.8 fps on flood tides and 0.3 fps on ebb tides (MEC 2002).

Circulation patterns in the harbor are determined by a combination of tide, wind, thermal structure, and local topography. The net tidal exchange is inward through Angels Gate and outward through Queen's Gate, between the Middle and Long Beach Breakwater and the gap between the eastern end of Long Beach Breakwater and Alamitos Bay. Thus, there is a net eastward flow within the harbor (LAHD 1993 in LAHD 2002:3.9-7). Overall tidal exchange rates fluctuate between 8 and 25%, with the flushing rate estimated at 90 tidal cycles (Maloney and Chan 1974).

There is less tidal mixing in the Inner Harbor than in the Outer Harbor. Tidal-induced water exchange in the Inner Los Angeles Harbor averages 22% of the total harbor water volume per day (USACE and LAHD 1980 in LAHD 2002:3.9-7). Neglecting stormwater and industrial discharges, flushing efficiency of the harbor has been determined using the tidal prism method. Overall tidal exchange rates fluctuate between 8 and 25%, with the flushing rate estimated at 90 tidal cycles, or 47 days (Maloney and Chan 1974 in LAHD 2002:3.9-7).

3.14.2.2.4 Flooding

Most of the proposed project area lies within a 100-year flood plain, as determined by the Federal Emergency Management Agency (FEMA). The proposed project area was formerly a marsh, which has been modified by dredging and filling, resulting in elevations of only 10 to 15 feet above sea level. Flooding in this area occurs because of its location near Dominguez Channel, and because of low land elevations. The proposed project area is predominantly paved or otherwise impervious, resulting in minimal surface water infiltration during rainfall events and flooding. The only potential sources of flooding at the site would be storm surge, tsunami, or seiche. The latter two sources are discussed in Section 3.5, "Geology." Storm surge is elevation of the water level that results from reduced barometric pressure and wind stress during storm events. Storm surge is relatively small (less than 1 foot) along the Southern California coast when compared with tidal fluctuations. For example, the winter storm of January 17 and 18, 1988, produced the all-time record low barometric pressure. Measured water level at the Los Angeles Harbor gauge during this event was 0.7 foot above predicted astronomical levels (Rossmiller 2007). Thus, storm surge is likely to make at most a minor contribution to flooding in the Los Angeles Harbor area.

3.14.3 Applicable Regulations

A variety of federal, state, and local agencies have jurisdiction over the proposed project area. Important agencies and statutory authorities relevant to water quality, sediments, and oceanography as it relates to the proposed Project are outlined below.

3.14.3.1 Federal Regulations

3.14.3.1.1 Clean Water Act

The federal Water Pollution Control Act Amendments of 1972, better known as the Clean Water Act (33 U.S. Government Code [USC] 1251–1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's water." Important applicable sections of the Act are as follows:

- Section 303 requires states to develop water quality standards for all waters and submit to the EPA for approval all new or revised standards established for inland surface and ocean waters. Under Section 303(d), the state is required to list water segments that do not meet water quality standards and to develop action plans, called TMDLs, to improve water quality.
- Section 304 provides for water quality standards, criteria, and guidelines. The guidelines are enforced under the California Toxics Rule, described below (Section 3.14.3.2.3).
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Act. Certification is provided by the RWQCB.
- Section 402 establishes the NPDES, a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB, and is discussed further below.
- Section 404 provides for issuance of dredge/fill permits by the USACE. Permits typically include conditions to minimize impacts on water quality. Common conditions include 1) USACE review and approval of sediment quality analysis prior to dredging, 2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, 3) timing and water quality restrictions on flow back of dredged water at the dredging site, and 4) requiring compensation for loss of waters of the United States, including wetlands.

3.14.3.2 State Regulations

3.14.3.2.1 Porter-Cologne Water Quality Control Act

The State of California's Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) is the principal law governing water quality regulation within California. The act established the California State Water Resources Control Board and nine regional water quality control boards, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The Porter-Cologne Act also implements many provisions of the federal CWA, such as the NPDES permitting program. CWA Section 401 gives the California SWRCB the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with state water quality standards. If the California SWRCB imposes a condition on its certification, those conditions must be included in the federal permit or license. The Porter-Cologne Act also requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. Beneficial uses are discussed below.

3.14.3.2.2 Water Quality Control Plan, Los Angeles Region (Basin Plan)

The Basin Plan (*Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* [LARWQCB 1994]) is designed to preserve and enhance water quality and to protect beneficial uses of regional waters (inland surface waters, groundwater, and coastal waters such as bays and estuaries). The Basin Plan designates beneficial uses of surface water and groundwater, such as contact recreation or municipal drinking water supply. The Basin Plan also establishes water quality objectives, which are defined as "the allowable limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance in a specific area."

The Basin Plan specifies water quality objectives for a number of constituents/characteristics that could be affected by the proposed Project. These constituents include: bioaccumulation, biostimulatory substances, chemical constituents, dissolved oxygen, oil and grease, pesticides, pH, polychlorinated biphenyls, suspended solids, toxicity, and turbidity. With the exceptions of DO and pH, water quality objectives for most of these constituents are expressed as descriptive rather than numerical limits. For example, the Basin Plan defines limits for chemical contaminants in terms of bioaccumulation, chemical constituents, pesticides, PCBs, and toxicity as follows:

- Toxic pollutants shall not be present at levels that bioaccumulate in aquatic life to levels which are harmful to aquatic life or human health;

- Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use;
- No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life;
- All waters shall be maintained free of toxic substances in concentrations that are toxic to, or produce detrimental physiological responses in human, plant, animal, or aquatic life. There shall be no chronic toxicity in ambient waters outside mixing zones.

The Basin Plan also specifies water quality objectives for other constituents, including ammonia, bacteria, total chlorine residual, and radioactive substances. These are not evaluated in this draft EIR because the proposed Project does not include any discharges or activities that would affect the water quality objectives for these parameters.

Construction and Industrial Permitting

The LARWQCB administers the NPDES permitting program for construction and industrial activities. Two of these permits, issued by the California SWRCB, are a statewide general construction activities storm water permit (GCASP) and a statewide general industrial activities storm water permit (GIASP). The GCASP requires all dischargers where construction activity disturbs 1 acre or more to:

- develop and implement a SWPPP, which specifies BMPs that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters;
- eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States; and
- perform inspections of all BMPs.

Similar to the GCASP, the GIASP requires industrial stormwater dischargers to:

- develop and implement a SWPPP to reduce or prevent industrial pollutants in stormwater discharges;
- eliminate unauthorized non-storm discharges; and
- conduct visual and analytical stormwater discharge monitoring to indicate the effectiveness of the SWPPP in reducing or preventing pollutants in stormwater discharges.

Best management practices that could be implemented as part of the GIASP or GCASP requirements are described below.

Best Management Practices

The term BMPs refers to a variety of measures used to reduce pollutants in stormwater and other non–point source runoff. Measures range from source control, such as use of permeable pavement, to treatment of polluted runoff, such as use of detention or retention basins and constructed wetlands. Maintenance practices (e.g., street sweeping) and public outreach campaigns also fall under the category of BMPs. The effectiveness of a particular BMP is highly contingent upon the context in which it is applied and the method in which it is implemented. Expected effectiveness of BMPs is summarized in Table 3.14-4. As demonstrated below, BMPs are best used in combination to most effectively remove target pollutants.

Post-Construction Permitting

On January 26, 2000, the LARWQCB adopted and approved Board Resolution No. R-00-02, which requires new development and significant redevelopment projects in Los Angeles County to control the discharge of stormwater pollutants in post-construction stormwater. The Regional Board Executive Officer issued the approved SUSMPs on March 8, 2000. The California SWRCB in large part affirmed the LARWQCB action and SUSMPs in State Board Order No. WQ 2000-11, issued on October 5, 2000.

The City of Los Angeles, and therefore the LAHD, is covered under the Permit for Municipal Storm Water and Urban Runoff Discharges within Los Angeles County (LARWQCB Order No. 01-182) and is obligated to incorporate provisions of this document in City permitting actions. The municipal permit incorporates Standard Urban Stormwater Mitigation Plan (SUSMP) requirements, and these include a treatment control BMP for projects falling within certain development and redevelopment categories. The treatment control BMP requirement applies throughout the proposed project area and requires infiltration, filtration, or treatment of the runoff from the first 0.75 inches of rainfall (or equivalent numerical design criteria) prior to its discharge to a stormwater conveyance system.

Table 3.14-4. Best Management Practice Expected Pollutant Removal Efficiency

BMP Type	*Typical Pollutant Removal (percent)*				
	Suspended Solids	*Nitrogen*	*Phosphorus*	*Pathogens*	*Metals*
STRUCTURAL					
Dry detention basins	30–65	15–45	15–45	<30	15–45
Retention basins	50–80	30–65	30–65	<30	50–80
Constructed wetlands	50–80	<30	15–45	<30	50–80
Infiltration basins	50–80	50–80	50–80	65–100	50–80
Infiltration trenches/dry wells	50–80	50–80	15–45	65–100	50–80
Porous pavement	65–100	65–100	30–65	65–100	65–100
Grassed swales	30–65	15–45	15–45	<30	15–45
Vegetated filter strips	50–80	50–80	50–80	<30	50–80
Surface sand filters	50–80	<30	50–80	<30	50–80
Other media filters	65–100	15–45	<30	<30	50–80
CONSTRUCTION SITE					
Silt fence	50–80	N/A	N/A	N/A	N/A
Sediment basin	55–100	N/A	N/A	N/A	N/A
Sediment trap	60	N/A	N/A	N/A	N/A
Sources: EPA 1993, 1999					

3.14.3.2.3 California Toxics Rule

This rule establishes numeric criteria for priority toxic pollutants in inland waters, as well as enclosed bays and estuaries, to protect ambient aquatic life (23 priority toxics) and human health (57 priority toxics). The California Toxics Rule (CTR) also includes provisions for compliance schedules to be issued for new or revised NPDES permit limits when certain conditions are met. The numeric criteria are the same as those recommended by the EPA in its CWA Section 304(a) guidance.

3.14.3.3 Local Regulations

3.14.3.3.1 City of Los Angeles Stormwater Ordinance

The Stormwater Ordinance, LAMC 64.70, makes it a crime (misdemeanor, punishable by fine, imprisonment, or both) to discharge pollutants into a stormwater

disposal system. The Stormwater Ordinance is the primary vehicle for City enforcement of NPDES permits.

3.14.3.3.2 Port of Los Angeles Tariff No. 4

Port of Los Angeles Tariff No. 4 describes the rates, charges, rules, and regulations of the Port of Los Angeles. The tariff applies to all persons making use of the navigable waters of Los Angeles Harbor. Included is information about pilotage, dockage, wharfage, passengers, free time, wharf demurrage, wharf storage, space assignments, cranes, and other operational rules and regulations. Certain provisions of Tariff No. 4 are intended to ensure safe and lawful operations of vessels while in the Port and thereby function to minimize the risk of accidents that could cause impairment of water quality. Sections of Tariff No. 4 that have particular relevance to water quality regulation include Section 17, which governs the handling of hazardous materials; and Section 18, which includes prohibitions related to waste oil, materials dumping, oil discharges, regulation of ballast water, and related activities that may potentially affect water quality.

3.14.3.3.3 Port of Los Angeles Clean Marinas Program

The Clean Marinas Program for the Port of Los Angeles is a non-regulatory program that encourages recreational boaters and marina operators to use BMPs to prevent the discharge of pollutants into the harbor from boating activities. As part of the program, a number of innovative clean water measures have been developed that are unique to the Port. These measures and BMPs are implemented via voluntary incentives, Port lease requirements, CEQA mitigation requirements, and/or federal, state, and local regulations. (POLA 2005.)

3.14.4 Impact Analysis

3.14.4.1 Methodology

Potential impacts of the proposed Project on water quality, sediments, and oceanography were assessed through a combination of literature review (including applicable water quality criteria), review of the results of past dredge and fill projects in the Port, review of water quality data collected in surface waters near the proposed project area, results from previous testing of Los Angeles Harbor sediments, and scientific expertise of the preparers. Impacts are considered significant if any of the significance criteria described below would be met or exceeded as a result of the effects of construction or operation of the proposed Project.

The assessment of impacts is based on the assumption that the proposed Project would include the following:

- An individual NPDES permit for construction stormwater discharges or coverage under the General Construction Activity Storm Water Permit for the onshore portions of the proposed Project would be obtained by the tenant. The associated SWPPP would contain the following measures:
  - Equipment would be inspected regularly (daily) during construction, and any leaks found would be repaired immediately.
  - Refueling of vehicles and equipment would be in a designated, contained area.
  - Drip pans would be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained.
  - Drip pans would be covered during rainfall to prevent washout of pollutants.
  - Appropriate containment structures would be built and maintained to prevent offsite transport of pollutants from spills and construction debris.
- Monitoring would be performed to verify that the BMPs were implemented and kept in good working order.
- Other standard operating procedures and BMPs for Port construction projects would be followed.
- All onshore contaminated upland soils would be characterized and remediated in accordance with LAHD, LARWQCB, DTSC, and Los Angeles County Fire Department protocol and clean-up standards.
- The tenant would obtain and implement the appropriate stormwater discharge permits for operations.
- A Section 404 (of the Clean Water Act) and Section 10 (of the Rivers and Harbors Act) permit from the USACE would be secured for construction activities in waters of the harbor.
- A Section 401 (of the Clean Water Act) Water Quality Certification from the LARWQCB, including standard Waste Discharge Requirements (WDRs), would be secured for in-water work activities.
- A Debris Management Plan and SPCC Plan would be prepared and implemented prior to the start of demolition and construction activities associated with the proposed Project.
- In-water construction areas, other than areas where isolated removal of wood pilings or dolphins occur, would be isolated from harbor waters by placement of silt curtains extending from the bottom to above the waterline, extending so as to enclose all of the waters where in-water work would occur.
- In-water demolition of isolated wood pilings and dolphins would occur during slack water conditions.
- Tarps or other barriers would be rigged in areas of over-water work so as to prevent demolition or construction debris from falling into the water.
- The Water Quality Certification would define a “mixing zone” around the construction operations. The mixing zone would be equivalent to a zone of

dilution and, per the Basin Plan (LARWQCB 1994), "[a]llowable zones of dilution within which high concentrations may be tolerated could be defined for each discharge in specific Waste Discharge Requirements."

3.14.4.2 Thresholds of Significance

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) sets forth specific thresholds to be utilized in determining the significance of impacts to water resources. The thresholds guide does not address some of the potential impacts of the proposed Project related to modification of aquatic sediments, dredging, and creation or alteration of artificial waterways. The guide also does not provide screening criteria for some less likely but still potential impacts of the proposed Project related to hydromodifications, alterations of circulation, and flushing within the harbor. Potential impacts on aquatic sediments and the impacts of dredging are discussed here under thresholds WQ-2, WQ-3, and WQ-4 listed below. Potential impacts on artificial waterways and oceanography are discussed under thresholds WQ-2 and WQ-3.

These thresholds are unique to the proposed Project. If a threshold or portion of a threshold is not applicable to the proposed Project, it is so noted. Thresholds related to groundwater impacts are not included here; however, see Section 3.6, "Groundwater and Soils," for a discussion of the impacts on groundwater resources. The following factors are used to determine significance for water quality, sediments, and oceanography.

WQ-1: A project would have a significant impact if it would cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

WQ-2: A project would have a significant impact if it would substantially reduce or increase the amount of surface water in a water body.

WQ-3: A project would have a significant impact if it would result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

WQ-4: A project would have a significant impact if it would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

1) "**Pollution**" means an alteration of the quality of the waters of the state to a degree that unreasonably affects either of the following: (1) the waters for beneficial uses; or (2) facilities that serve these beneficial uses. "Pollution" may include "Contamination."

2) "**Contamination**" means an impairment of the quality of the waters of the state by waste to a degree that creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

3) "**Nuisance**" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes.

3.14.4.3 Impacts and Mitigation

3.14.4.3.1 Construction Impacts

Impact WQ-1a: Construction of the proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

Although most of the proposed project site is located within a 100-year flood zone, construction activities would not increase the potential for flooding on site because existing drainage would be maintained. Site elevations would remain generally the same as a result of proposed Project. The proposed Project would entail conversion of 7.10 acres of existing pervious surface to new impervious surface, along with conversion of 8.61 acres of existing impervious surface to new pervious surface, resulting in a net decrease in total impervious surface of 1.51 acres. This small change would slightly but not measurably decrease the potential for flooding. The allocation of runoff between various discharge points would not change in comparison to existing conditions, so individual sites within the proposed project area would be at the same risk of flooding as they are under current conditions, and the flooding risk in adjacent areas would remain unchanged.

Proposed project site grading would direct runoff from the site to storm drains designed for a 10-year event, which is the standard design capacity for the storm drain systems in the vicinity of the harbor. Runoff associated with larger storm events (e.g., 50-or 100-year events) could exceed the capacity of the storm drain system, resulting in temporary ponding of water on site. However, because the proposed project site terrain is flat, and the runoff velocity would not be increased by construction activities, the proposed Project would not increase the risk of flooding or severity of flooding impacts relative to the baseline conditions.

Impact Determination

The proposed Project would not increase potential for flooding or increase risks to humans, property, or sensitive biological resources. Therefore, impacts from flooding would be less than significant.

Mitigation Measures

No mitigation is required.

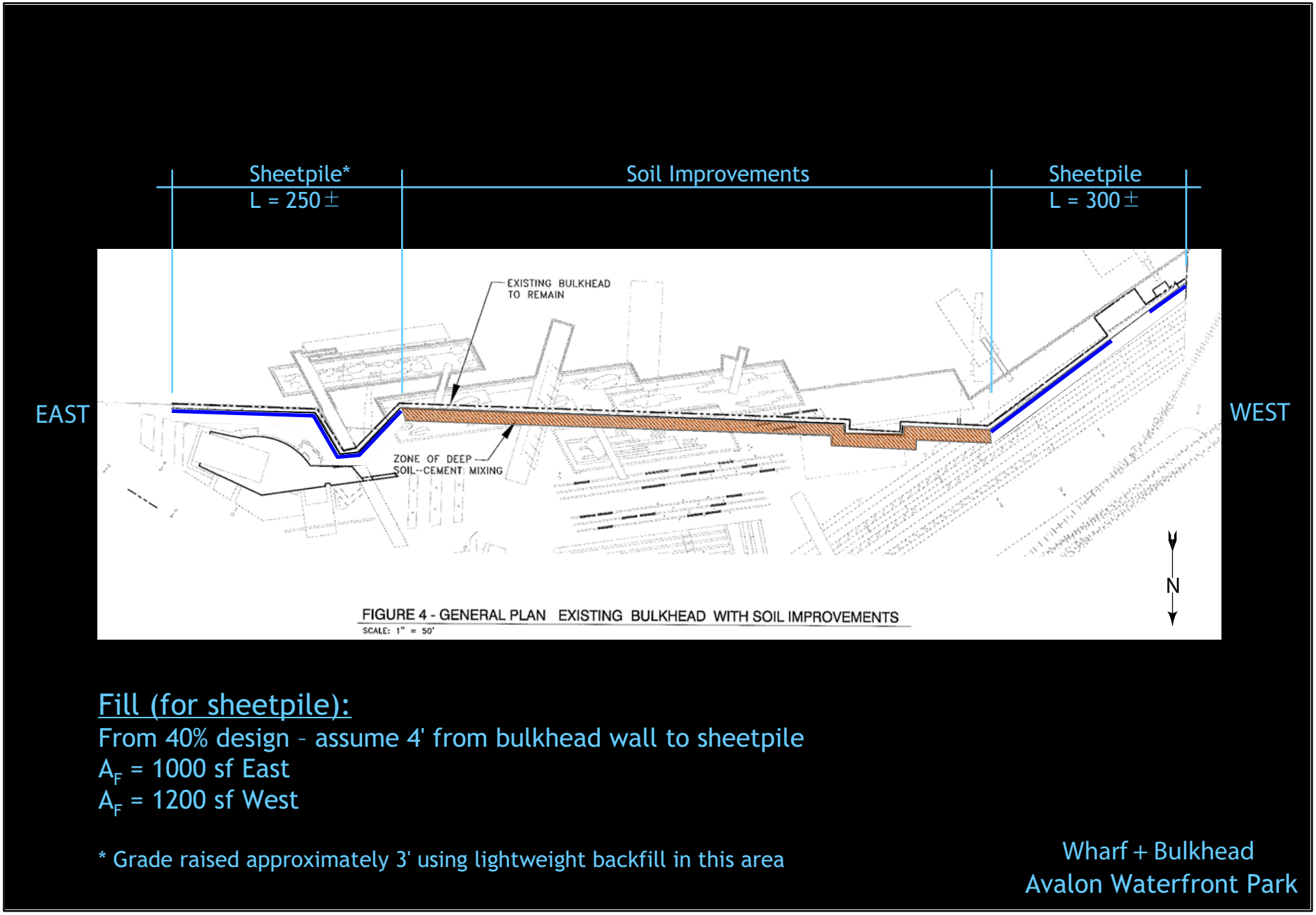
Residual Impacts

Impacts would be less than significant.

Impact WQ-2a: Construction of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.

The additional placement of 750 24-inch concrete piles would result in a net decrease in the surface area of Slip 5 of 1,636 square feet. This impact would be partially offset by the removal of the existing piles associated with two existing docks that would be removed. However, the existing piles that would be removed are few in number and small in size compared to the new piles that would be placed. The current area of Slip 5 is approximately 1,710,000 square feet, so placement of the new piles, disregarding the offset due to removal of existing piles, would only reduce the effective area of the slip by 0.1%. This would not be expected to measurably alter the volume of water in the harbor.

The proposed Project would also entail placement and removal of existing fill associated with replacement of a 550-foot length of existing bulkhead at the head of Slip 5 (Figure 3.14-2). Under this proposal, the existing concrete bulkhead wall would remain in place, and a new steel sheet pile wall would be installed immediately waterward from the existing wall. This action would fill 2,200 square feet of Slip 5. Combined with the pile placement described above, the total reduction in Slip 5 area would be 4,720 square feet, a reduction of 0.29% compared to existing conditions. This is a very minor change that would not be expected to measurably alter the volume of water in the harbor. Moreover, the harbor water is seawater that is not subject to substantial consumptive uses, so the change in volume would not alter the utility of the harbor waters. Thus the proposed change does not amount to a substantial change in the amount of surface water in Slip 5, or, by extension, in the Los Angeles Harbor. Certain beneficial uses of waters in the Inner Harbor, including navigation, non-contact water recreation, aquatic habitat, and industrial service supply, would benefit from the availability of new dock and moorage space provided by the proposed new floating docks. These beneficial uses also would not be impaired by the small changes in water surface area and restriction of access to water surface that would be occasioned by the proposed Project .



SOURCE: Sasaki (2008)

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Figure 3.14-2
Proposed Bulkhead Wall Design
Wilmington Waterfront Development Project

Impact Determination

The proposed Project would have a minimal impact on the amount of surface water in Slip 5 and, by extension, in Los Angeles Harbor. The change would tend to decrease the surface area of Slip 5 by approximately 0.29%. This is not a substantial amount. This change would have a minor beneficial impact on the utilization of the surface water resource in the proposed project area because it would facilitate use of the project area by the small, primarily recreational vessels that would use the new floating docks. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-3a: Construction of the proposed Project would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

The proposed Project does not alter the discharge of surface waters to Los Angeles Harbor. Thus it has a limited potential to alter surface water movement. However, the proposed Project would entail fill along 550 feet of bulkhead at the head of Slip 5 due to placement of a steel bulkhead immediately waterward of the existing concrete bulkhead. The proposed Project also entails placement of silt curtains enclosing the area of proposed piling installation, followed by installation of an additional 750 pilings to support overwater structures, covering approximately 61,100 square feet of the harbor within Slip 5. Silt curtains would only be used as required by permits authorizing the proposed work. It is expected that curtains would not be required for work entailing piling removal because the action of cutting a piling at the mud line entails little disturbance of sediments and little potential to result in water quality impairment. It is expected that silt curtains would be required for seawall replacement, piling installation, and movement of rock slope protection, because each of these activities has a high potential to result in suspension of sediments, causing temporary water quality impairment. Silt curtains would then act to limit the extent of impaired waters.

The bulkhead changes and piling placements would slightly affect water flow velocities and cause slightly altered flow paths beneath the dock. However, these changes would not be sufficient to cause any material changes in the value of the resource represented by the water. No adverse water quality impacts would result from the altered water flows; no substrate disturbance would result from the altered flows; and no existing beneficial uses would be impaired as a result of the flow alteration (note that impacts on one beneficial use, biological resources, are separately addressed in Section 3.3, “Biological Resources”). These changes would,

however, be permanent. They would begin during construction, when flow in the area would be altered by piling placement and bulkhead relocation.

Small, local, short-term flow alteration could also be caused by the in-water location of equipment used in piling and bulkhead placement, such as silt curtains. The silt curtains would largely isolate the waters contained within the curtains, and certain water quality parameters within the enclosed area would be expected to indicate water quality impairment. The purpose of the silt curtains is to retard water flow so that such water quality impairments would not be conveyed to waters outside of the curtained areas. The Section 401 certification would recognize this by allowing excursions in certain water quality parameters to occur within the curtained area. Curtains would not be removed until those water quality excursions had abated. Curtain placement, use, and removal would not result in any permanent alteration of in the movement of surface water within the harbor.

Impact Determination

Construction of the proposed Project would not result in a permanent adverse change in surface water movement because the proposed Project would not create any barriers to water movement through the Los Angeles Harbor. Small but likely measurable changes in water flow would occur in close proximity (within a few feet) of the pilings placed to support the waterfront promenade. Similarly small changes could occur in close proximity to the steel bulkhead. These changes would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow. Use of silt curtains during construction would result in a temporary restriction of surface water movement. Such use would be required and authorized by permits for the proposed work. The change in surface water movement would be beneficial rather than adverse, functioning to limit the extent of water quality impacts from the proposed Project. The use of silt curtains would have no permanent effect on the movement of surface water. Thus the impacts on surface water movement would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4a-1: In-water and over-water construction[4] for the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

Proposed in-water and overwater construction activities would include:

- wood piling and dolphin removal
- wood pier demolition
- wood and concrete bulkhead demolition
- removal and replacement of rock slope protection
- placement and removal of silt curtains[5]
- sheet pile bulkhead installation
- round concrete pile installation
- wood and concrete pier deck installation
- concrete dock installation

The locations of these activities are discussed in Table 3.14-3. All have the potential to result in water quality impacts, as follows:

Wood piling and dolphin[6] removal: Wood pilings would be cut at the mudline[7]. This is the usual practice for wood piling removal because it results in less sediment disturbance than pulling the piling. Also, old pilings frequently break off when attempts are made to extract them via pulling. Most wood material currently in-water or over-water at the site has probably been treated with creosote, a complex mix of PAHs. Wood demolition debris would be tested for contamination and disposed at an appropriate upland facility. Sawdust and leaching of freshly exposed over-water and in-water wood surfaces created during demolition would provide pathways for delivery of creosote to harbor waters. Most of the delivered contaminants would subsequently be flushed from the harbor by tidal circulation, but some would be adsorbed to particles settling as sediment, and some would be taken up by aquatic

[4] The term "in-water construction" refers to work performed within areas below the high tide line. It does not necessarily refer to work that actually occurs in the water. Minimizing or avoiding the need for work in the water is one of the most important ways of mitigating the impacts of in-water work. For instance, a pile driven in the dry, below-the-high-tide line, during low tide, would be in-water work.
[5] Silt curtains are devices deployed in water to control suspended solids or turbidity resulting from dredging operations. They are commonly made of durable, reusable geotextile fabrics such as PVC and urethane.
[6] A dolphin is a buoy, pile, or group of piles used for mooring boats.
[7] The sediment/water interface.

organisms. These impacts, however, would be offset by the benefits of permanently removing creosote-treated wood from harbor waters.

During in-water removal of pilings and dolphins, some bottom sediments would be disturbed, resulting in resuspension of sediments. The local and temporary effects of sediment suspension would be minimized by performing wood piling and dolphin removal during slack water, at which time sediment would likely resettle quickly and within a short distance of the work area. Potential water quality issues arising from sediment resuspension include turbidity, changes in dissolved oxygen concentration, changes in biological oxygen demand (BOD), changes in pH, and the introduction of contaminated sediment into the water column.

- **Turbidity, dissolved oxygen, and BOD**. Sediment resuspension would result in local and temporary turbidity increases. The suspended sediments could also contain organic material that would oxidize or support microbial activity, thereby increasing BOD and contributing to a localized short-term reduction in DO levels in harbor waters. A study of agitation dredging in Savannah Harbor, another harbor that has predominantly silty-sandy substrates, measured low, near-field reductions in DO concentrations near a dredge, but measured decrease in DO was equal to or less than observed in background samples, indicating that observed DO variability in the dredge plume was within the range of natural variation (Semmes et al. 2003). Dredging is an activity that results in much more extensive sediment suspension, compared to that associated with pile removal or any of the other demolition and construction activities proposed for work in Slip 5. Therefore, reductions in DO levels associated with proposed project demolition and construction activities are not expected to persist or cause detrimental effects on biological resources, and are not expected to cause DO levels to fall below the water quality objective of 5 mg/l. DO levels in Slip 5 occasionally have been recorded as falling below the water quality objective, as discussed in Section 3.14.2.1.2. It is possible that DO levels below 5 mg/l could be recorded in the proposed project area during construction activities. However, such an event is not expected to occur as a response to construction activity.
- **pH**. Changes in pH may occur due to reducing conditions in sediments resuspended into the water column. Seawater, however, is a buffer solution (Sverdrup et al. 1942) that acts to repress any change in pH. Therefore, any measurable change in pH would likely be highly localized and temporary, and would not result in persistent changes to ambient pH levels of more than 0.2 units. Thus, the water quality objective for pH would likely not be exceeded.
- **Contaminants**. The resuspended sediment is likely to have substantial loads of numerous contaminants including metals, pesticides, PCBs, and PAHs. The magnitude of contaminant releases would be related to the bulk contaminant concentrations of the disturbed sediments, as well as the organic content and grain size, which affect the binding capacity of sediments for contaminants. As the sediment characteristics vary across the proposed project site, the magnitude of contaminant releases, and water quality effects, would also vary. Assuming that sediment contaminants in the pile driving and dock installation areas were similar in species and concentration to those identified in sediments that have been dredged along the western berths of Slip 5 (Kinnetic Laboratories/ToxScan

2003), contaminant releases from sediments disturbed by dredging and other demolition and construction activities would be unlikely to substantially affect the concentrations or bioavailability of contaminants in waters in the proposed project area. The results of elutriate tests on Slip 5 sediment contaminants indicate that almost all contaminants are insoluble and would be redeposited rather than entering the water column (Kinnetic/Toxscan 2003), and the location of the work area near the head of Slip 5 would result in redeposition generally occurring within the confines of Slip 5 without affecting other waters of the Harbor. Contaminants would resettle to the bottom within a period of several hours. Transport of suspended particles by tidal currents would result in some redistribution of sediment. Concentrations of any contaminants that may occur in sediments adjacent to the work area are not expected to be measurably altered by demolition activities.

Wood pier demolition: Wood pier demolition would result in the same types of water quality impacts described above for wood piling and dolphin removal. The impact is slightly different because more of the removed wood is located over water rather than in the water, and larger structures are involved in the demolition. These impacts would be minimized by rigging tarps or other barriers to prevent demolition debris from falling into the water, and confining turbidity and sediment suspension to a small area by isolating the demolition area with silt curtains.

Wood and concrete bulkhead demolition: Wood and concrete bulkhead demolition would result in the same types of water quality impacts described above for wood pier demolition and would be subject to the same mitigation. Additionally, bulkhead demolition would expose terrestrial sediments to the water column. Although the affected areas have not yet been tested, virtually all sediments in the inner Los Angeles Harbor that have not been dredged since 2000 have been found to contain substantial amounts of organic and metallic contaminants, as detailed in Section 3.14.2. It is therefore likely that at least some of the sediments in areas proposed for in-water work are contaminated. The use of silt curtains to isolate the work area would minimize the risk of contamination of harbor waters.

Removal and replacement of rock slope protection: Rock slope protection would be removed and partly replaced in the area of sheet pile bulkhead installation. This activity is necessary in order for the sheet pile work to be performed. The area affected would be approximately 300 feet long and 12 feet wide, thus affecting an area of approximately 3,600 square feet. Of this area, 2,200 square feet would be permanently disturbed by sheet pile placement, and rock slope protection would be replaced in the remaining 1,400 square feet. During in-water removal of rock slope protection, some bottom sediments would be disturbed, resulting in resuspension of sediments likely to have substantial loads of numerous contaminants including metals, pesticides, PCBs, and PAHs. The suspended sediments would result in local and temporary turbidity increases, and the suspension of organic matter could increase BOD in the water column, leading to a reduction in dissolved oxygen as microbial respiration occurred during metabolism of the organic matter. Additionally, contaminants in the resuspended sediment could be redeposited elsewhere in the harbor. However, results of elutriate tests on Slip 5 sedimentary contaminants indicate that almost all contaminants are insoluble and would be

redeposited rather than entering the water column, and the location of the work area near the head of Slip 5 would result in redeposition generally occurring within the confines of Slip 5 without affecting other waters of the Harbor. The local and temporary effects of sediment suspension would be further diminished by performing rock slope protection in an area isolated from Slip 5 by silt curtains.

Placement and removal of silt curtains: Although silt curtains are intended to confine contaminants to a relatively small portion of the water column occurring in close proximity to an in-water or over-water work area, there are water quality impacts arising from silt curtain placement and removal. Placement and removal activities can cause local turbidity and sediment suspension created at the interface where the curtain is anchored at the bottom, usually by weights. Waters within the silt curtain would be relatively stagnant and may be subject to reduced dissolved oxygen concentration and increased BOD relative to adjacent unconfined waters, and there is also a greater risk that waters within the curtain would be exposed to contaminants derived from disturbance of sediments, erosion of adjacent fill materials, or spills of fuel, lubricants, and other construction chemicals. These risks would, however, be authorized under the terms of the construction NPDES permit for the proposed Project.

Sheet pile bulkhead installation: The proposed Project would reconstruct the existing bulkhead, which is an old, piecemeal structure that does not meet current seismic design standards. Two different structural systems would be used to reconstruct the bulkhead: (1) a deep soil–cement mixing landward of the existing bulkhead, with no work waterward of the existing bulkhead, and (2) a sheet pile bulkhead, located waterward of the existing bulkhead. The first system would be used to the maximum extent possible and would reinforce the majority of the length of the existing bulkhead, from the eastern end to the 45-degree break in the layout line at the western end. The second system would be used for the approximately 290 lineal feet of bulkhead west of the 45-degree break, where significant utilities immediately behind the bulkhead wall prevent the use of deep soil–cement mixing. This second system would require the filling of approximately 2,200 square feet (0.05 acre) of marine habitat below the mean higher high water (MHHW) line. The sheet pile bulkhead would require the sheet pile be driven using both a vibratory and an impact pile driver. Sheet pile bulkhead installation would be subject to the impacts described above that are associated with erosion of fill materials in areas of bulkhead removal, and also those impacts associated with resuspension of bottom sediments, which would occur due to bed deformation and vibration in areas near where the sheet pile is driven into the bottom. As described above, water quality impacts would be confined by performing the activity in an area isolated by silt curtains, and impacts would be both local and temporary. The area of sediments potentially disturbed during this activity would be the same area described above for placement and removal of rock slope protection, i.e., approximately 3,600 square feet, of which 2,200 square feet would be a permanent impact due to placement of fill behind the bulkhead, and the remainder would be a temporary impact.

Round concrete pile installation: Pile installation would include placement of 750 new concrete piles, each approximately 24 inches in diameter, to support the waterfront promenade, a 43,220-square-foot structure built over the water. In

addition, 478 concrete pilings would replace the existing wood pilings supporting approximately 17,880 square feet of deck area. Sediments disturbed by the driving of replacement piles are largely accounted for in the *Wood piling and dolphin removal* discussion above. A small number of additional piles would be placed to stabilize the floating wood dock described below. Piles would be driven with a combination of vibratory and impact hammer methods, which would utilize a slow-start method as detailed in Chapter 3.3, "Biological Resources." Sediments would be disturbed during pile placement. Assuming that an annulus of sediment 1 foot wide would be disturbed during pile placement, this activity would disturb and potentially generate turbidity from approximately 15,400 square feet of bottom sediments (this includes turbidity from driving the replacement piles also largely accounted for in the discussion, *Wood piling and dolphin removal*). It is assumed that these pilings would all be placed in open water, although some may be placed subaerially during low tides; thus sediment disturbance would directly affect waters of Slip 5.Bottom deformation and vibration would result in local resuspension of bottom sediments, with potential impacts as described above for other bottom deforming activities such as pile removal and sheet pile placement. As described above, water quality impacts would be confined by performing the activity in an area isolated by silt curtains, and impacts would be both local and temporary.

Concrete pier deck installation: Assuming that concrete pier decks are of cast-in-place construction, high alkalinity caused by waters contacting the curing concrete is possible. The primary contact mechanisms are rainfall and water sprayed on the concrete to ensure proper curing. Techniques such as protecting the curing concrete from rainfall, minimizing water spray so that there is no runoff into the harbor waters, and suspension of tarps to collect and detain spray runoff, would minimize delivery of excessive alkalinity to harbor waters. Seawater is a pH buffer (Sverdrup 1942), so any pH excursions due to runoff of water from curing concrete would be small.

Concrete dock installation: Dock installation would include placement and anchoring of 5,870 square feet of floating concrete dock that would be fabricated offsite. Assuming that the dock was fabricated in an upland location, dock installation would not result in any impacts on water quality.

None of the proposed in-water or over-water work activities are expected to affect the temperature or salinity of waters within the proposed project area because these activities would not involve any wastewater discharges or processes that would affect baseline conditions for temperature or salinity.

Impact Determination

In-water and over-water demolition and construction activities during the construction phases of the proposed Project would not entail any direct discharges of waste to waters of the harbor. Activities related to construction of the proposed Project would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators. Such changes would only be observable within a few feet of the activity, and would be minimized by use of silt curtains. Elutriate testing results presented in Section 3.14.2.1.3

indicate that such disturbance of sediments in the proposed project area would not cause significant toxicity, contaminant bioaccumulation, or releases of contaminants to surface waters because almost all contaminants are insoluble and would be redeposited rather than entering the water column. Impacts on water quality from in-water and over-water construction activities would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4a-2: Stormwater discharged during construction of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Ground disturbances and construction activities would occur due to construction of the proposed Project (as described in Section 2.4.2). These activities could result in temporary impacts on surface water quality through runoff of soils, asphalt leachate, concrete washwater, and other construction materials. No upland fresh surface water bodies currently exist within the area of disturbance for the proposed Project. Thus, impacts on surface water quality related to construction of the proposed Project would be limited to stormwater runoff and, eventually, waters of the harbor that receive runoff from the watershed. Runoff from onshore construction sites would enter the harbor primarily through storm drains. Most runoff would occur during storm events, although some runoff could occur from water use as part of construction activities, such as dust control. Runoff from the proposed project site would be regulated under a construction SWPPP prepared in accordance with the GCASP and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to control releases of soils and contaminants and adverse impacts on receiving water quality.

Erosion controls are used during construction to reduce the amount of soils disturbed and to prevent disturbed soils from entering runoff. Erosion controls can include both logistical practices, such as scheduling construction to avoid the November–April rainy season, and sediment control practices. Typically, erosion control programs consist of a system of practices that are tailored to site-specific conditions. The combined effectiveness of the erosion and sediment control systems is not easily predicted or quantified (EPA 1993).

The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities covered under NPDES Permit No. CAS004001 (13 December 2001) require implementation of runoff control from all construction sites. Prior to the start of construction activities for the proposed Project, the contractor would prepare a SWPPP that specifies logistics and schedule for construction activities that would minimize potentials for erosion and standard practices that include monitoring and maintenance of control measures named in the SWPPP. Control measures would be installed at the construction sites prior to ground disturbance. Implementation of all conditions of proposed project permits would minimize proposed project–related runoff into the harbor and impacts on water quality.

Standard BMPs, such as soil barriers, sedimentation basins, and site contouring, would be used during construction activities to minimize runoff of soils and associated contaminants in compliance with the GCASP (Water Quality Order 99-08-DWQ) and a construction SWPPP. Sediment basins and sediment traps are engineered impoundments that allow soils to settle out of runoff prior to discharge to receiving waters. Filter fabric fences and strawbale barriers are used under different site conditions to filter soils from runoff. Inlet protection consists of a barrier placed around a storm drain drop inlet to trap soils before they enter a storm drain. One or more of these types of runoff control structures would be placed and maintained around each construction area to minimize loss of site soils to the storm drain system. As another standard measure, concrete truck wash water and runoff of any water that has come in contact with wet cement would be contained on site so that it does not run off into the harbor.

Most BMPs used to treat urban runoff are designed to remove or reduce trash, nutrients, or contaminants associated with suspended particles (Brown and Bay 2007:207–226). Studies by Caltrans (2004) determined that BMPs that used infiltration or sand filtration methods were most effective at reducing levels of suspended solids, nutrients, and metals in runoff. The EPA (1993) reported that measures such as sedimentation basins, sediment traps, strawbale barriers, and filter fabric fences were about 60–70% effective at removing soils from runoff. In contrast, recent studies by Brown and Bay (2007) showed that effectiveness at removing suspended solids and reducing toxicity varied among BMPs tested, including hydrodynamic and biofiltration methods, and results for individual BMPs were inconsistent. BMPs designed to remove suspended particles are not effective at reducing toxicity associated with dissolved components in the runoff (Brown and Bay 2007). Although the specific BMPs that would be used, as well as the effectiveness of the BMPs under conditions at the proposed project site, are uncertain, the data cited above indicate that erosion and runoff control BMPs would likely be 60%or more effective at removing soils from runoff that occurred during construction. A limited area of soils would be subject to erosion because the large majority of the proposed project area is flat and runoff patterns can be easily controlled by grading and temporary berms. Moreover, rainfall events in southern California are of limited duration. These factors indicate that a minimal amount of soil would be delivered to the harbor by runoff.

Runoff from a construction site could contain a variety of contaminants, including metals and PAHs, associated with construction materials, stockpiled soils, and spills

of oil or other petroleum products. Impacts on surface water quality from accidental spills are addressed below. Specific concentrations and mass loadings of contaminants in runoff would vary greatly depending on the amounts and composition of soils and debris carried by the runoff. As discussed in Section 3.6, "Groundwater and Soils," upland portions of the proposed project site have been affected historically by releases of hazardous materials and petroleum products. In addition, structures built prior to 1980 may contain lead paint and asbestos-containing materials (Ninyo & Moore 2008:41–42). However, all existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration of, or earlier termination of, each tenant agreement. Also, mitigation measure MM GW-2 (see Section 3.6, "Groundwater and Soils") specifies that LAHD would remediate all contaminated soils within the proposed project boundaries for the site, such that contamination levels are below action levels established by the lead regulatory agency, prior to or during demolition and grading activities. Therefore, historical soil contamination would not be expected to contribute to contaminant loading from runoff into the harbor.

Standard Port BMPs specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures would be followed for upland construction activities associated with the proposed Project to ensure that any contaminants potentially present in soil or groundwater were not transported off site by runoff.

Runoff from most upland portions of the proposed project site would flow into Slip 5, but runoff from the San Pedro-Buffer Linkage portion of the proposed project site would flow into the West Basin, including the Southwest Slip. As discussed above, the SWPPP and implementation and maintenance of construction BMPs would minimize the potential for offsite transport of soils and contaminants present in the soil from the proposed project site that could degrade water quality within the harbor. This runoff would deliver fresh water that, depending on the strength and duration of the storm event, could be more turbid and have lower salinity and DO levels compared to the receiving waters. These freshwater discharges would coincide with discharges from other drainage systems and storm drains discharging to the harbor. Nevertheless, subsequent mixing of runoff and receiving waters, and settling of particles carried by runoff into the harbor, would prevent persistent changes in the quality of receiving waters.

As mentioned, water quality within the harbor is affected episodically by stormwater runoff from the watershed. Because the (approximately) 94-acre proposed project area represents only 0.5% of the area of the harbor's subwatershed, runoff from the upland portion of the proposed project area would represent a small (about 0.5%) contribution to the total stormwater loading to the harbor. Furthermore, stormwater BMPs would minimize the potential for offsite transport of soils and contaminants that could degrade water quality within the Los Angeles Harbor. While runoff from the proposed project site would contribute to changes in receiving waters that could cause water quality standards to be exceeded, the proposed Project would not create conditions that increase the relative contribution or contaminant mass loadings relative to baseline conditions. Since the receiving waters for runoff from the

proposed Project do not support submerged aquatic vegetation, coral reefs, or other sensitive species and the closest occurrence of such resources is an area of aquatic vegetation in the Outer Harbor, runoff from the proposed project site would receive at least several orders of magnitude of dilution before reaching areas of aquatic vegetation (see Section 3.3, "Biological Resources"). Therefore, construction runoff also would not affect beneficial uses related to aquatic vegetation.

Impact Determination

Construction activities associated with upland and road improvements for the proposed Project have the potential to adversely affect the quality of stormwater runoff. However, the proposed Project would implement a SWPPP incorporating BMPs, such as sediment basins or traps and fabric filter fences or strawbale barriers, to control runoff of eroded soils and pollutants. The SWPPP also would incorporate monitoring requirements intended to minimize potential impacts and verify BMP effectiveness. These measures, combined with remediation of sites prior to construction and the low potential for erosion, would limit the soil and contaminant loading to Slip 5 and other waters of the Inner Harbor. Discharges of stormwater runoff to the harbor would also comply with specific conditions contained in the construction SWPPP that would control releases of contaminants to receiving waters. Therefore runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards; and impacts on water quality would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4a-3: Construction of the proposed Project would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during demolition and construction could occur during the proposed Project. Based on past history for this type of work in the harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.7, "Hazards and Hazardous Materials"). Spills associated with construction

equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained within the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and Control procedures [CA012]). Construction and industrial SWPPPs and standard Port BMPs listed in Section 3.14.3.2.2 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce the potential for materials from onshore construction activities to be transported off site and enter storm drains or the harbor.

Some pile and dolphin removal, some pile installation, and installation of the floating docks would be performed with the assistance of barge and boat mounted equipment. Accidents or spills from such in-water construction equipment could result in direct releases of petroleum materials or other contaminants to harbor waters. The magnitude of impacts on water quality would depend on the spill volume, characteristics of the spilled materials, and effectiveness of containment and cleanup measures. As previously noted, precautions would be taken to minimize this risk, and contractors would have spill response materials on hand. Nonetheless, given the extent and duration of the proposed work, it is likely that some spill incidents would occur, resulting in localized and short-term degradation of water quality in the work area.

The Basin Plan (LARWQCB 1994) water quality objective for oil and grease states that "[w]aters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." Spill prevention and cleanup procedures for the proposed Project would be addressed in a SWPPP that would be implemented by the construction contractor. The plan would include a spill prevention, control, and countermeasures plan defining actions to minimize potential for spills and providing for efficient response to spill events, to minimize the magnitude of the spill and the extent of impacts.

Impact Determination

Standard precautions contained in the SWPPP are sufficient to ensure that spills or leaks that occur on land are contained and cleaned up with negligible impacts on surface water quality. Spills from in-water equipment could directly affect water quality within the harbor, resulting in a visible film on the surface of the water; however, the probability of such an accidental spill causing a nuisance or adversely affecting beneficial uses is low. Effective response to such a spill would be provided via a SPCC plan that would be implemented by the construction contractor. The plan would define actions to minimize the potential for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts. Therefore, accidental spills of pollutants would cause less-than-significant impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.14.4.3.2 Operations Impacts

Impact WQ-1b: Operation of the proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

Proposed project operations would not increase the potential for flooding on site due to the presence of existing and installed storm drains. Site elevations would be as established during construction (described above). The proposed Project would entail conversion of 7.10 acres of existing pervious surface to new impervious surface, along with conversion of 8.61 acres of existing impervious surface to new pervious surface, resulting in a net decrease in total impervious surface of 1.51 acres. This small change would slightly but not measurably decrease the potential for flooding. The allocation of runoff between various discharge points would not change in comparison to existing conditions, so individual sites within the proposed project area would be at the same risk of flooding as they are under current conditions, and flooding risk in adjacent areas would remain unchanged. In addition, proposed project operations would not increase the runoff velocity. Therefore, proposed project operations would not increase the risk of flooding or the risks to people, property, or biological resources (as assessed in Section 3.3, "Biological Resources").

Impact Determination

The proposed Project would not increase potential for flooding or increase risks to humans, property, or sensitive biological resources. Therefore, impacts from flooding would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-2b: Operation of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.

Operations would entail no consumptive use of harbor waters and thus would not drain any areas of the harbor. Operations would place no fill in harbor waters, and would remove no material from harbor waters. Thus, there is no mechanism by which operation of the proposed Project could affect the amount of surface water in the Los Angeles Harbor.

Impact Determination

The proposed Project would have no impact on the amount of surface water in Slip 5 or, by extension, in Los Angeles Harbor. No impact would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact WQ-3b: Operation of the proposed Project would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.

Operation of the proposed Project does not alter the discharge of surface waters to Los Angeles Harbor. Thus it has a limited potential to alter surface water movement. Operation of the proposed Project would result in utilization of the proposed Project by small recreational vessels that would access the floating docks. Such vessels cause minor displacements of surface water during their movement and have very localized effects on currents and flow while they are docked. Such effects are normally unmeasurable at distances of more than a few tens of feet from the vessel and do not either individually or collectively comprise a long-term or substantial alteration of surface water movement.

Impact Determination

Operation of the proposed Project would not result in a permanent adverse change in surface water movement because the proposed Project would not in any way affect water movement at any but the very localized scales associated with movement and moorage of small recreational vessels. Small but likely measurable changes in water flow would occur in close proximity (within a few tens of feet) of vessels docking, sailing, or moored at the floating docks. These changes would not result in a permanent, adverse change to the movement of surface water sufficient to produce a

substantial change in the velocity or direction of water flow. Thus the impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-4b: Operation of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.

Operation of the proposed project facilities would not involve any new direct point source discharges of wastes or wastewaters to the harbor. In addition, the proposed Project would result in an increase in pervious area with the addition of parks and green space, which would reduce stormwater runoff volumes. Stormwater runoff from the proposed project site would be collected on site by the storm drain system and discharged to the harbor, similar to existing conditions. The increased surface area of parking facilities, with many locations across the proposed project area, would generate particulates and other debris that would be conveyed by runoff from the site. Because stormwater discharges in the area currently receive no treatment, the stormwater treatment technologies implemented under the proposed Project would result in a substantial reduction in the concentrations of various pollutants that are commonly present in stormwater runoff from industrialized areas. Those pollutants and the effectiveness of treatment technologies are described further below.

Operations of gasoline and diesel powered equipment and vehicles within the proposed Project would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and be subject to subsequent transport by storm runoff into harbor waters.

The facilities associated with the proposed Project would be operated in accordance with one or more industrial SWPPPs that contain monitoring requirements to ensure that stormwater quality complies with permit conditions. Stormwater runoff associated with facility operations would also be governed by SUSMP requirements that would be incorporated into the proposed project plan, and that must be approved prior to issuance of building and grading permits. The SUSMP for the Los Angeles County Urban Runoff and Stormwater NPDES Permit requires “minimization of the pollutants of concern” by incorporating “a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent

possible" (SWRCB 2000). Examples of BMPs used for minimizing the introduction of pollutants of concern from site runoff include oil/water separators, catch basin inserts, storm drain inserts, and media filtration. All of these BMPs would likely be used by the proposed Project. These BMPs must meet specified design standards to mitigate (infiltrate or treat) stormwater runoff and control peak flow discharges. Where structural or treatment control BMPs are provided, Port tenants are required to provide verification of maintenance provisions. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts on water quality and would be fully implemented for the proposed Project. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all LAHD pollution control requirements.

Several additional stormwater BMPs are discussed by Brown and Bay (2007). Although some of the BMPs evaluated therein were found to be effective at reducing overall toxicity and contamination within stormwater, others were found to have no effect on toxicity. Brown and Bay found that created wetlands were the only BMPs evaluated that effectively reduced dissolved metals and organic toxins in runoff; other BMPs evaluated, including those involving settling, filtration, and ultraviolet sterilization, were not effective at removing dissolved toxins. However, created wetlands are generally not practicable as BMPs in the Los Angeles climate, except at those rare sites where wetland hydrology is reliably available. Therefore, BMPs implemented under the proposed Project are unlikely to substantially reduce dissolved metals and organic toxins in stormwater relative to baseline conditions.

Stormwater sampling in the Port of Long Beach in 2005 (MBC 2005) showed that pollutants such as metals and semi-volatile organic compounds (SVOCs) were present in runoff from port facilities. Copper, lead, mercury, nickel, and zinc occurred in stormwater samples at concentrations that exceeded the standards for marine waters at a few locations. It is reasonable to expect that these findings would also apply to stormwater runoff from the proposed project site.

The proposed Project would cause very little change in vessel traffic in the harbor. The proposed Project would provide no service whatsoever to large commercial vessels. Although a floating dock would be provided, it would only serve private recreational vessels and would not provide permanent moorage, and thus would not increase capacity for recreational vessels in the LA/LB harbor. Therefore, the facility would cause no net increase in discharges or other water quality impacts associated with recreational vessels. Nonetheless there would be increased recreational vessel use of the area near the proposed Project's floating docks in Slip 5. This would create a local source of contamination from copper-based antifouling paints that are commonly used on recreational vessels, and a local source of potential accidental or illegal discharges, which could reasonably be expected to increase in proportion to the increased recreational vessel traffic. However, the contributions from antifouling paints would be negligible because the dock would only be used as a temporary moorage by relatively small numbers of small vessels. The dock operator would be required to have an SPCC plan to address accidental or illegal spills. Thus, measurable impacts on water quality due to dock operations would be accidental, rare, and low in magnitude.

Impact Determination

Upland operations associated with the proposed Project would not result in direct discharges of wastes. Stormwater runoff from the proposed project site might reasonably be expected to contain suspended and dissolved pollutants originating within the proposed project area. Discharges of stormwater would comply with NPDES discharge permit limits and would generally contribute to water quality comparable to or better than existing conditions. Therefore, the impact to water quality from stormwater discharges would be less than significant under CEQA.

There is potential for an increase in accidental spills and illegal discharges due to increased vessel calls at the facility, and many vessels using the facility would have antifouling hull paints that could leach copper into the water. However, the intensity of vessel use, the small size of the vessels, and the absence of permanent moorage facilities all contribute to a determination that water quality impacts attributable to vessel use would be accidental, rare, and low in magnitude. Therefore, the impact on water quality from operational discharges and leaching is less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.14.4.3.3 Summary of Impact Determinations

Table 3.14-5 summarizes the impact determinations of the proposed Project related to water quality, sediments, and oceanography, as described in the detailed discussion in Section 3.14.4.3.1. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA impact determination, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.14-5. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality, Sediments, and Oceanography Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.14 Water Quality, Sediments, and Oceanography			
Construction			
WQ-1a: Construction of the proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	Less than significant	No mitigation is required.	Less than significant
WQ-2a: Construction of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	Less than significant	No mitigation is required.	Less than significant
WQ-3a: Construction of the proposed Project would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	Less than significant	No mitigation is required.	Less than significant
WQ-4a-1: In-water and over-water construction for the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
WQ-4a-2: Stormwater discharged during construction of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	Less than significant	No mitigation is required.	Less than significant
WQ-4a-3: Construction and operation of the proposed Project would not result in accidental discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	Less than significant	No mitigation is required.	Less than significant
Operations			
WQ-1b: Operation of the proposed Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.	Less than significant	No mitigation is required.	Less than significant
WQ-2b: Operation of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	No impact would occur.	No mitigation is required.	No impact would occur.

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
WQ-3b: Operation of the proposed Project would result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the velocity or direction of water flow.	Less than significant	No mitigation is required.	Less than significant
Impact WQ-4b: Operation of the proposed Project would not result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body.	Less than significant	No mitigation is required.	Less than significant

3.14.4.4 Mitigation Monitoring

No mitigation is required for any of the identified impacts; therefore, mitigation monitoring is not required.

3.14.5 Significant Unavoidable Impacts

No significant unavoidable impacts on water quality, sediments, and oceanography would occur during construction or operation of the proposed Project or any of the alternatives.

4.0

CUMULATIVE EFFECTS

4.1 Introduction

This chapter presents the requirements for cumulative impact analysis, and analyzes the potential for the proposed Project to have significant cumulative effects when combined with other past, present, and reasonably foreseeable future projects in each resource area's cumulative geographic scope. The presentation of requirements related to cumulative impact analyses and a description of the related projects are discussed in Sections 4.1.1 and 4.1.2, respectively. Cumulative impacts for the proposed Project when combined with other reasonable and reasonably foreseeable projects in the area are organized by resource topic and analyzed in Section 4.2.

4.1.1 Requirements for Cumulative Impact Analysis

The State CEQA Guidelines (14 Cal. Code Regs. §15130) require a reasonable analysis of the significant cumulative impacts of a proposed project. Cumulative impacts are defined by CEQA as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines, Section 15355).

Cumulative impacts are further described as follows:

a) The individual effects may be changes resulting from a single project or a number of separate projects.

b) The cumulative impacts from several projects are the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines, Section 15355[b]).

Furthermore, according to State CEQA Guidelines Section 15130(a)(1):

> As defined in Section 15355, a "cumulative impact" consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

In addition, as stated in the State CEQA Guidelines, Section 15064(h)(4):

> The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

Therefore, the following cumulative impact analysis focuses on whether the impacts of the proposed Project are cumulatively considerable within the context of impacts caused by other past, present, or future projects (Section 15065(a)(3)). The cumulative impact scenario considers other projects proposed within the area defined for each resource that have the potential to contribute to cumulatively considerable impacts.

For this EIR, related area projects with a potential to contribute to cumulative impacts were identified using one of two approaches or a hybrid of the two: (1) the "list" methodology, or (2) the "projection" methodology. Most of the resource areas were analyzed using a list of closely related projects that would be constructed in the cumulative geographic scope (which differs by resource and sometimes for impacts within a resource; cumulative regions of influence are documented in Section 4.2). The list of related projects is provided in Section 4.1.2.

Air quality, noise, and the traffic/circulation analyses use a combined or hybrid list and projection approach as described below. Cumulative analysis of air quality impacts uses projections from the SCAB 2007 Air Quality Management Plan (AQMP) and the Multiple Air Toxics Exposure Study (MATES-II and MATES-III). The Traffic/Circulation cumulative analysis uses annual regional growth and development rates from the SCAG Regional Travel Demand Forecasting Model, which is described in Section 3.11, "Transportation and Circulation—Ground and Marine." The cumulative analysis of noise impacts uses a hybrid approach, as it relies on both the annual regional growth rates utilized for traffic (because traffic is an important contributor to noise impacts) and the list of related projects documented in Section 4.1.2.

4.1.2 Projects Considered in the Cumulative Analysis

This section describes past, present, and reasonably foreseeable projects in the area that affect cumulative conditions at the Port.

4.1.2.1 Past Development

The following discussions describe the past development that have contributed to cumulative impacts, which is now considered the environmental baseline for the proposed Project.

4.1.2.1.1 History of the Port of Los Angeles

The Port of Los Angeles is located at the San Pedro Bay at the southernmost point of Los Angeles County, approximately 20 miles from downtown Los Angeles. Because of its proximity to the Pacific Ocean, San Pedro Bay has a long history of maritime activity.

In 1822, under the newly independent Mexican government, San Pedro became a robust commercial center and an attractive home for new settlers. The Mexican government granted three ranchos near the bay: Rancho San Pedro, Rancho Los Palos Verdes, and Rancho Los Cerritos. On February 2, 1848, when California came under American control, business at San Pedro Harbor was booming. It was evident, however, that the Harbor needed to be expanded to accommodate the increasing cargo volume coming into the bay for the growing population in Los Angeles. In 1906 the city annexed a 16-mile strip of land on the outskirts of San Pedro and Wilmington. The Port was officially founded in 1907 with the creation of the Los Angeles Board of Harbor Commissioners. Between 1911 and 1912, the first 8,500-foot section of the breakwater was completed, and the Main Channel was widened to 800 feet and dredged to a depth of 30 feet to accommodate the largest vessels of that era. Concurrently, Southern Pacific Railroad completed its first major wharf in San Pedro, allowing railcars to efficiently load and unload goods simultaneously. The Port continued to grow through the twentieth century.

Following World War II, LAHD launched a broad restoration program. Many of the facilities in the harbor required maintenance that had been delayed during the war years. Then, the advent of containerization in the 1950s resulted in dramatic changes at the Port. Because of this new mode of shipping, the Port, like many major new and old harbors, modernized facilities to meet the needs of the new geometry required by containerization. In addition to new configurations (container-sized and shape-driven), larger cranes and concrete wharves (replacing timber) were required to handle the dramatically increased weight of cargo containers. Other major harbor improvements included deepening the main channel to accommodate the larger

container vessels entering the bay, purchasing land to expand terminals, and replacing older wharves that could not bear the increased weight of newer containers.

4.1.2.1.2 History of the Project Area

Historically, the proposed project area (see Figure 2-2) was established as an official point of entry to the United States in 1862. Wilmington serves as the "Heart of the Harbor," the original entry point for immigrants arriving in Los Angeles in the early 1900s.

Early development of Wilmington and the Port in general is in large part associated with the entrepreneur Phineas Banning. Among his many accomplishments, Banning established a freight and passenger transportation business, built the Banning Landing wharf near what is currently the intersection of Avalon Boulevard and Water Street in the proposed Project area to service his transportation concerns, and purchased thousands of acres of land along and adjacent to the harbor where he founded the town of "New San Pedro" in 1857 (what is now Wilmington).

By 1911, the petroleum industry had begun operations at San Pedro Harbor, with Union Oil Company, Associated Petroleum, and Standard Oil Company all establishing a presence, and building refineries and storage tanks. Millions of gallons of oil were shipped via the Port of Los Angeles. Small manufacturing also became increasingly diversified during this time, and smaller scale buildings dedicated to the making and repairing of various goods were erected throughout Wilmington and the harbor area.

The City of Los Angeles built the first municipal piers at Wilmington in 1914, making it the center of harbor activity. Two years later, improvements at Fish Harbor provided safe anchorage for fishing boats, sites for canneries, and housing for a multi-ethnic population of workers including people of Japanese, Italian, Mexican, and Eastern European heritage.

The harbor area's position as a center of commercial trade and industry came to a halt with the advent of World War II. The U.S. Navy immediately assumed control of all ship operations after the Japanese attack on Pearl Harbor in 1941. An official Point of Embarkation was established near the intersection of Fries Avenue and Water Street, and Port facilities were turned over to the war effort. Ship building at the Port increased dramatically, and over 90,000 ship workers were employed locally. Even contentious labor relations were put on hold after organized labor declared a "no-strike" pledge for the duration of the war. The U.S. Navy ended its control of the Port in 1945.

In 1975, the Wilmington–San Pedro Road was relocated and dedicated as John S. Gibson Boulevard, and in 1978 the first comprehensive master plan for the Port of Los Angeles was completed. The Port has continued to develop and is today the

largest port in the United States by volume, and when combined with its neighboring Port of Long Beach, is the fifth largest port internationally.

Historical development of the proposed project area, the Port, and the general vicinity has had various environmental effects, which are described in the individual resource analysis sections below (Section 4.2.2).

4.1.2.1.3 Current and Future Projects

A total of 90 present or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the proposed Project that could contribute to cumulative impacts (Figure 4-1). A corresponding list of the cumulative projects provided by LAHD, the Port of Long Beach, and the Los Angeles Department of Transportation (LADOT) is provided in Table 4-1. (As discussed in Section 4.1.1 and further in the resource-specific sections below, some resource analyses use a projection approach encompassing a larger cumulative geographic scope; for those resources a larger set of past, present, and reasonably foreseeable future projects was included for analysis of cumulative impacts.)

For the purposes of this EIR, the timeframe of present or reasonably foreseeable future projects extends from 2008 to 2020 (proposed Project Build-out), and the vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The cumulative regions of influence for individual resources are documented further in each of the resource-specific subsections in Section 4.2.

Table 4-1. Related and Cumulative Projects

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
PORT OF LOS ANGELES PROJECTS			
1	Pier 400 Container Terminal and Transportation Corridor Project, Port of Los Angeles	Element of the 2020 Deep Draft Navigation Improvements Plan: dredging, land filling, and marine terminal construction. The entire Pier 400 site is on a recently constructed landfill in the Port of Los Angeles Outer Harbor. The project is a two-phase development of Pier 400 into a 484-acre (196-hectare) container terminal with rail, highway, and utility access. Phase I consists of construction of rail and highway access and the first 334 acres (135 hectares) of a marine container terminal, including buildings, a wharf, and an intermodal rail yard. Phase II	Approved project and completed. Phase I and Phase II construction completed.

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		consists of construction of the remaining 150 acres (61 hectares) into a container terminal. Landfill construction was recently completed. The EIR certified for the project identified significant air, transportation, and noise and vibration impacts.	
2	Berths 136–147 Marine Terminal, West Basin, Port of Los Angeles	Element of the West Basin Transportation Improvement Projects. Reconfiguration of wharves and backlands. Expansion and redevelopment of the TraPac Terminal.	Final EIR certified by the Los Angeles Board of Harbor Commissioners in December 2007. Construction expected to begin in late 2008.
3	San Pedro Waterfront Project, Port of Los Angeles	Five to seven year plan to develop along the west side of the Main Channel, from the Vincent Thomas Bridge to the 22nd Street Landing Area Parcel up to and including Crescent Avenue. Key components include construction of a North Harbor Promenade, construction of a Downtown Harbor Promenade, construction of a Downtown Water Feature, enhancements to the existing John S. Gibson Park, construction of a Town Square at the foot of 6th Street, construction of a 7th Street Pier, construction of a Ports O' Call Promenade, development of the California Coastal Trail along the waterfront, construction of additional cruise terminal facilities, construction of a Ralph J. Scott Historic Fireboat Display, relocation of the Catalina Cruises Terminal and the SS Lane Victory, extension of the Waterfront Red Car Line, and related parking improvements.	A NOP/NOI was released in August 2005. A revised NOP/NOI was released in December 2006. Scoping meeting was held in January 2007. Comment period on NOP/NOI closed on February 28, 2007. Construction expected 2010–2015.
4	Channel Deepening Project, Port of Los Angeles	Dredging and sediment disposal. This project deepened the Main Channel of the Los Angeles Harbor to a maximum depth of –53 feet MLLW (lesser depths are considered as project alternatives) by removing between approximately 3.94 million and 8.5 million cubic yards of sediments. The sediments were disposed at several sites for up to 151 acres (61 hectares) of landfill. The EIR/EIS certified for the project identified significant biology, air, and noise impacts. A Supplemental EIS/EIR is	SNOI/SNOP released in October 2005. SEIS/SEIR released August 2008. Construction expected 2008–2010.

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		being prepared for new fill locations. The Additional Disposal Capacity Project would provide approximately 4 million cubic yards of disposal capacity needed to complete the Channel Deepening Project and maximize beneficial use of dredged material by constructing lands for eventual terminal development and provide environmental enhancements at various locations in the Port of Los Angeles.	
5	Cabrillo Way Marina, Port of Los Angeles	Redevelopment of the old marinas in the Watchorn Basin and development of the backland areas for a variety of commercial and recreational uses.	EIR certified December 2, 2003. New construction plan being developed and reviewed in terms of environmental clearance. Construction anticipated late 2008–2009.
6	Artificial Reef, San Pedro Breakwater, Port of Los Angeles	Development of an artificial reef site south of the San Pedro Breakwater. Provides opportunity for suitable reuse of clean construction materials and creates bottom topography to promote local sport fishing.	Negative Declaration issued and certified. Project proceeding (2006–2010).
7	Canners Steam Demolition	Demolition of two unused buildings and other small accessory structures at the former Canner's Steam Plant in the Fish Harbor area of the Port.	EIR under preparation. NOP expected Fall 2008. Construction expected 2009–2010.
8	Berths 226–236 (Evergreen) Container Terminal Improvements Project	Proposed redevelopment of existing container terminal, including improvements to wharves, adjacent backland, crane rails, lighting, utilities, new gate complex, grade crossings, and modification of adjacent roadways and railroad tracks.	EIR/EIS to be prepared. Construction expected 2010–2013
9	Port of Los Angeles Charter School and Port Police Headquarters, San Pedro, Port of Los Angeles	Proposal to lease property for the Port of Los Angeles Charter School and to construct/develop a Port Police Headquarters and office. 330 S. Centre Street, San Pedro.	EIR certified in August 2005. Charter school opened in 2006. Port Police building construction began Spring 2008.
10	SSA Outer Harbor Fruit Facility Relocation, Port of Los Angeles	Proposal to relocate the existing fruit import facility at 22nd and Miner to Berth 153.	On hold.
11	Crescent Warehouse Company Relocation, Port of Los Angeles	Relocate the operations of Crescent Warehouse Company from Port Warehouses 1, 6, 9, and 10 to an existing	Project construction proceeding.

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		warehouse at Berth 153. Relocate Catalina Freight operations from Berth 184 to same building at Berth 153.	
12	Pacific L.A. Marine Terminal LLC, Crude Oil Terminal (formerly Plains All American, formerly Pacific Energy), Pier 400, Port of Los Angeles	Proposal to construct a Crude Oil Receiving Facility on Pier 400 with tanks on Terminal Island and other locations on Port property, with the preferred location being the former LAXT terminal; as well as construct new pipelines between Berth 408, storage tanks, and existing pipeline systems.	NOI/NOP released in June 2004. SEIS/SEIR released May 2008. Construction expected 2009–2011.
13	Ultramar Lease Renewal Project, Port of Los Angeles	Proposal to renew the lease between the Port of Los Angeles and Ultramar Inc., for continued operation of the marine terminal facilities at Berths 163–164, as well as associated tank farms and pipelines. Project includes upgrades to existing facilities to increase the proposed minimum throughput to 10 million barrels per year (mby), compared to the existing 7.5 mby minimum.	NOP released for public review in April 2004. Project EIR under preparation. Final EIR expected in 2008.
14	Westway Decommissioning	Decommissioning of the Westway Terminal along the Main Channel (Berths 70–71). Work includes decommissioning and removing 136 storage tanks with total capacity of 593,000 barrels.	Remedial planning underway. Decommissioning anticipated 2009.
15	Consolidated Slip Restoration Project	Remediation of contaminated sediment at Consolidated Slip at Port of Los Angeles. Remediation may include capping sediment or removal/disposal to an appropriate facility. Work includes capping and/or treatment of approximately 30,000 cubic yards of contaminated sediments.	Remedial actions are being evaluated in conjunction with Los Angeles RWQCB and U.S. EPA.
16	Berths 97–109, China Shipping Development Project	Development of the China Shipping Terminal Phases I, II, and III including wharf construction, land fill and terminal construction, and backland development.	Draft EIR/EIS released August 2006. Phase I construction complete. Recirculated Draft EIR/EIS released April 2008.Final EIS/EIR in preparation. Construction expected 2009–2015.
17	Berths 171–181, Pasha Marine Terminal Improvements Project, Port of Los Angeles	Redevelopment of existing facilities at Berths 171–181 as an omni (multi-use) facility.	Project EIR on hold.

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
18	Berths 206–209 Interim Container Terminal Reuse Project, Port of Los Angeles	Proposal to allow interim reuse of former Matson Terminal while implementing green terminal measures.	Final EIR certified. Construction on hold.
19	Los Angeles Export Terminal (LAXT) Dome and Site Demolition	Demolition and clean up of existing storage dome and associated buildings on LAXT property.	Demolition began in 2008.
20	Southern California International Gateway (SCIG) Project, Port of Los Angeles	Construction and operation of a 157 acre dock rail yard intermodal container transfer facility (ICTF) and various associated components, including the relocation of an existing rail operation.	Project EIR under preparation. NOP released September 30, 2005. DEIR expected Fall/Winter 2008.
21	Pan-Pacific Fisheries Cannery Buildings Demolition Project, Port of Los Angeles	Demolition of two unused buildings and other small accessory structures at the former Pan-Pacific Cannery in the Fish Harbor area of the Port.	NOP released October 2005. Draft EIR released July 2006. Final EIR under preparation.
22	San Pedro Waterfront Enhancements Project, Port of Los Angeles	Project includes improving existing, and development of new, pedestrian corridors along the waterfront (4 acres); landscaping, parking, increased waterfront access from upland areas, and creating 16 acres of public open space.	MND approved in April 2006. Construction to begin 2008 and will be completed in 2009.
23	Joint Container Inspection Facility, Ports of Los Angeles and Long Beach	Construction and operation of a facility to be used to search and inspect random and suspicious containers arriving at the Ports of Los Angeles and Long Beach.	In planning. EIR to be prepared.
24	Berths 302–305 (APL) Container Terminal Improvements Project	Container terminal and wharf improvements project including a terminal expansion area and new berth on the east side of Pier 300. Currently includes 40 acres of fill that was completed as part of the Channel Deepening Project (#4 above).	EIR/EIS to be prepared. Construction expected 2010–2013.
25	South Wilmington Grade Separation	An elevated grade separation would be constructed along a portion of Fries Avenue or Marine Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF rail yard. The elevated grade would include a connection onto Water Street. There would be a minimum 24.5-foot clearance for rail cars traveling under the grade	Conceptual planning. Current planning indicates summer 2011 completion.

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
		separation.	
26	Wilmington Waterfront Master Plan (Avalon Development District Project)	Planned development intended to provide waterfront access and promoting development specifically along Avalon Boulevard.	Proposed Project. NOP released in March 2008. Draft EIR to be released Fall 2008. Construction expected 2009–2020.
27	"C" Street/Figueroa Street Interchange	The "C" Street/ Figueroa Street interchange would be redesigned to include an elevated ramp from Harry Bridges Boulevard to the I-110 Freeway, over John S. Gibson Boulevard. There would be a minimum 15-foot clearance for vehicles traveling on John S. Gibson Boulevard. An additional extension would connect from Figueroa Street to the new elevated ramp, over Harry Bridges Boulevard.	Conceptual planning. Caltrans approval obtained on Project Study Report.
28	Port Transportation Master Plan	Port-wide transportation master plan for roadways in and around its facilities. Present and future traffic improvement needs are being determined, based on existing and projected traffic volumes. Some improvements under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements, south Wilmington grade separations, and additional traffic capacity analysis for the Vincent Thomas Bridge.	Conceptual planning completed.
29	Berths 212–224 (YTI) Container Terminal Improvements Project	Wharf modifications involving wharf upgrades and backland reconfiguration, including new buildings.	EIR/EIS to be prepared. Construction expected 2010–2013.
30	Berths 121–131 (Yang Ming) Container Terminal Improvements Project	Reconfiguration of wharves and backlands. Expansion and redevelopment of the Yang Ming Terminal.	EIR/EIS to be prepared. Construction expected 2010–2013
31	Southwest Marine Demolition Project	Demolition of buildings and other small accessory structures at the Southwest Marine Shipyard.	Draft EIR released September 2006. Final EIR under preparation. Demolition anticipated 2009.
32	I-110/SR 47 Connector Improvement Program	Program may include "C" Street/I-110 access ramp intersection improvements, I-110 NB Ramp/John S. Gibson Boulevard intersection improvements, and SR 47 on- and off-ramp at Front Street. These projects would reduce	Conceptual planning.

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		delays and emissions in the I-110/SR 47 area and improve safety and access.	
33	Inner Cabrillo Beach Water Quality Improvement Program	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria. Includes sewer and storm drain work, sand replacement, bird excluders, and circulation improvements (groin removal).	Sand replacement phase under construction.
34	Proposed Marine Research Area	Up to 28-acre site for potential marine research facility at City Dock No. 1.	Conceptual Planning.
PORT OF LOS ANGELES AND/OR PORT OF LONG BEACH POTENTIAL PORT-WIDE OPERATIONAL PROJECTS			
35	Terminal Free Time	Ports of Los Angeles and Long Beach program to reduce container storage time and use gates at off-peak travel times.	Program in progress.
36	Extended Terminal Gates (Pier Pass)	Ports of Los Angeles and Long Beach program to use economic incentives to encourage cargo owners to use terminal gates during off-peak hours.	Program in progress.
37	Shuttle Train/Inland Container Yard	Alameda Corridor Transportation Authority (ACTA) program to encourage rail shuttle service between the ports' on-dock rail facilities and a rail facility in Colton (in the Inland Empire). The pilot program will consist of a daily train to and from Colton. The containers will be trucked between the Colton rail facility and the beneficial cargo owners' facility.	Preliminary study in progress.
38	Origin/Destination and Toll Study	Ports of Los Angeles and Long Beach study to identify the origin and destination of international containers in the Los Angeles area, to determine the location of warehouses, and identify the routes truck drivers use to move containers to and from the Ports. The bridges serving Terminal Island (Vincent Thomas, Gerald Desmond, and Schuyler Heim) are not currently designed to handle the trade volumes projected at the Ports. In order to identify funding mechanisms to replace/ enhance these bridges, the Ports are conducting a toll study to explore potential funding sources for bridge replacement and truck driver behavior if tolls were assessed on the bridges.	Study in progress.

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
39	Virtual Container Yard	ACTA, Port of Los Angeles, and Port of Long Beach program to explore implementing a system that would match an empty container from an import move to one from an empty export move.	Conceptual planning.
40	Increased On-Dock Rail Usage	ACTA, Port of Los Angeles, and Port of Long Beach program with shipping lines and terminal operators to consolidate neighboring terminals' intermodal volume to create larger trains to interior points, thereby reducing need for truck transportation.	Conceptual planning. Studies in progress
41	Union Pacific (UP) Railroad Intermodal Container Transfer Facility (ICTF) Modernization Project	UP proposal to modernize existing intermodal yard 4 miles from the Port.	Project application submitted to the Joint Powers Authority (JPA). Environmental analysis under way. Construction expected in 2010-2012.
42	Optical Character Recognition (OCR)	Ports terminals have implemented OCR technology, which eliminates the need to type container numbers in the computer system. This expedites truck driver movement through terminal gates.	Conceptual planning.
43	Truck Driver Appointment System	Appointment system that provides a pre-notification to terminals regarding which containers are planned to be picked up.	Program in progress..
44	Port Police Wilmington Substation	300 Water Street near Berth 195, occupied as a temporary substation.	Occupied sometime in 2008.
45	Port Police new station	330 S. Centre Street (between 3rd and 5th Streets.	Construction in progress.
		COMMUNITY OF SAN PEDRO PROJECTS	
46	15th Street Elementary School, San Pedro	Los Angeles Unified School District construction of additional classrooms at 15th Street Elementary School.	Construction completed (2006) and school operating.
47	Pacific Corridors Redevelopment Project, San Pedro	Development of commercial/retail, manufacturing, and residential components. Construction underway of four housing developments and Welcome Park.	Project underway. Estimated 2032 completion year according to Community Redevelopment Agency of Los Angeles.
48	Cabrillo Marine Aquarium Expansion, San Pedro	Expansion of existing Cabrillo Marine Aquarium.	Construction complete.
49	Gas Station and Mini-	6-pump gas station and 1,390–square-foot mini-mart at 311 N. Gaffey Street, San	Project on hold. No

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	mart	Pedro (north of Sepulveda Street).	construction has started.
50	Fast Food Restaurant with Drive-thru	Construction of fast food restaurant with drive-through (expand from existing 3000-square-foot to 4816-square-foot restaurant). 303 S. Gaffey Street (at 3rd Street), San Pedro.	Construction is complete and restaurant is operating.
51	Mixed-use Development, 407 Seventh Street	Construction of 5,000-square-foot retail and 87-unit apartment complex. 407 W. Seventh Street (at Mesa Street), San Pedro.	In final stages of construction (completion expected in summer/fall 2007).
52	Condominiums, 28000 Western Avenue	Construction of 140 condominium units. 28000 S. Western Avenue, San Pedro.	In final stages of construction. Building permit cleared March 2006; LADOT Planning Department has no estimated completion year.
53	Pacific Trade Center	Construct 220 housing unit apartments. 255 5th Street, San Pedro (near Centre Street).	In initial stage of construction. Building permit cleared August 2006, but LADOT Planning Department has no estimated completion year.
54	Single Family Homes (Gaffey Street)	Construct 135 single-family homes on approximately 2 acres. 1427 N. Gaffey Street (at Basin Street), San Pedro.	In construction. Estimated 2009 completion year according to LADOT Planning Department.
55	Mixed-use Development, 281 W. 8th Street	Construct 72 condos and 7,000-square-foot retail space. 281 West 8th Street (near Centre Street), San Pedro.	No construction started. LADOT Planning Department has no estimated completion year.
56	Target (Gaffey Street)	Construct 136,000-square-foot discount superstore. 1605 North Gaffey Street, San Pedro (at W. Capitol Drive).	No construction has started. Estimated 2009 completion year, according to LADOT Planning Department.
57	Palos Verdes Urban Village	Construct 251 condos and 4,000-square-foot retail space. 550 South Palos Verdes Street, San Pedro.	No construction has started. Estimated 2011 completion year, according to LADOT Planning Department.
58	Temporary Little League Park	Construction of temporary baseball fields for the Eastview Little League. Baseball fields will be at current location of Knoll Hill Dog Park in San Pedro.	Construction pending. Estimated completion in 2008.
59	Condos, 319 N. Harbor Boulevard	Construction of 94 unit residential condominiums, 319 N Harbor Boulevard, San Pedro.	LADOT Planning Department has no estimated completion year.

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
COMMUNITY OF WILMINGTON PROJECTS			
60	Banning Elementary School #1, 500 North Island Avenue, Wilmington	Two-building elementary school consisting of one two-story classroom building with subterranean parking garage and a one-story multipurpose building. The school also provides about 2 acres of playground and green space.	Construction completed (2006) and school operating.
61	East Wilmington Greenbelt Community Center, Wilmington	9,800-square-foot community building, a 25-space parking lot, and landscaped areas.	Construction complete; center opened in 2006.
62	Distribution Center and Warehouse	135,000-square-foot distribution center and warehouse on 240,000-square-foot lot with 47 parking spaces at 755 East L Street (at McFarland Avenue) in Wilmington.	No construction has started; lot is vacant and bare. LADOT Planning Department has no estimated completion year.
63	Dana Strand Public Housing Redevelopment Project	The existing facility is being torn down and redeveloped to provide a 116-unit affordable housing complex with multifamily rental units, senior units, and affordable homes for sale. The plans also include a day care center, lifelong learning center, parks, and landscaped open space.	Construction completed
64	Vermont Christian School Expansion	Private School Expansion to accommodate 72 additional students, for a total of 222 students.	LADOT Planning Department has no estimated completion year.
PROJECTS IN HARBOR CITY, LOMITA, AND TORRANCE			
65	1437 Lomita Boulevard, Condominiums	Construct 160 condominium units and demolish existing closed hospital. 1437 Lomita Boulevard (at Senator Avenue), Harbor City.	Construction is complete and in operation.
66	Harbor City Child Development Center	Conditional use permit to open 50-student preschool at existing church building (25000 South Normandie Avenue, Harbor City, at Lomita Boulevard).	Public hearing in August 2006.
67	Kaiser Permanente South Bay Master Plan	Construct 303,000-square-foot medical office building, 42,500-square-foot records center/office/warehouse, 260 hospital beds. 25825 Vermont Street, Harbor City (at Pacific Coast Highway).	In Construction. Estimated 2009 completion year, according to LADOT Planning Department.
68	Drive-through Restaurant, Harbor City	Construct 2,448-square-foot fast food restaurant with drive-through. 1608 Pacific Coast Highway, Harbor City (at	In planning phase. Old building still in operation.

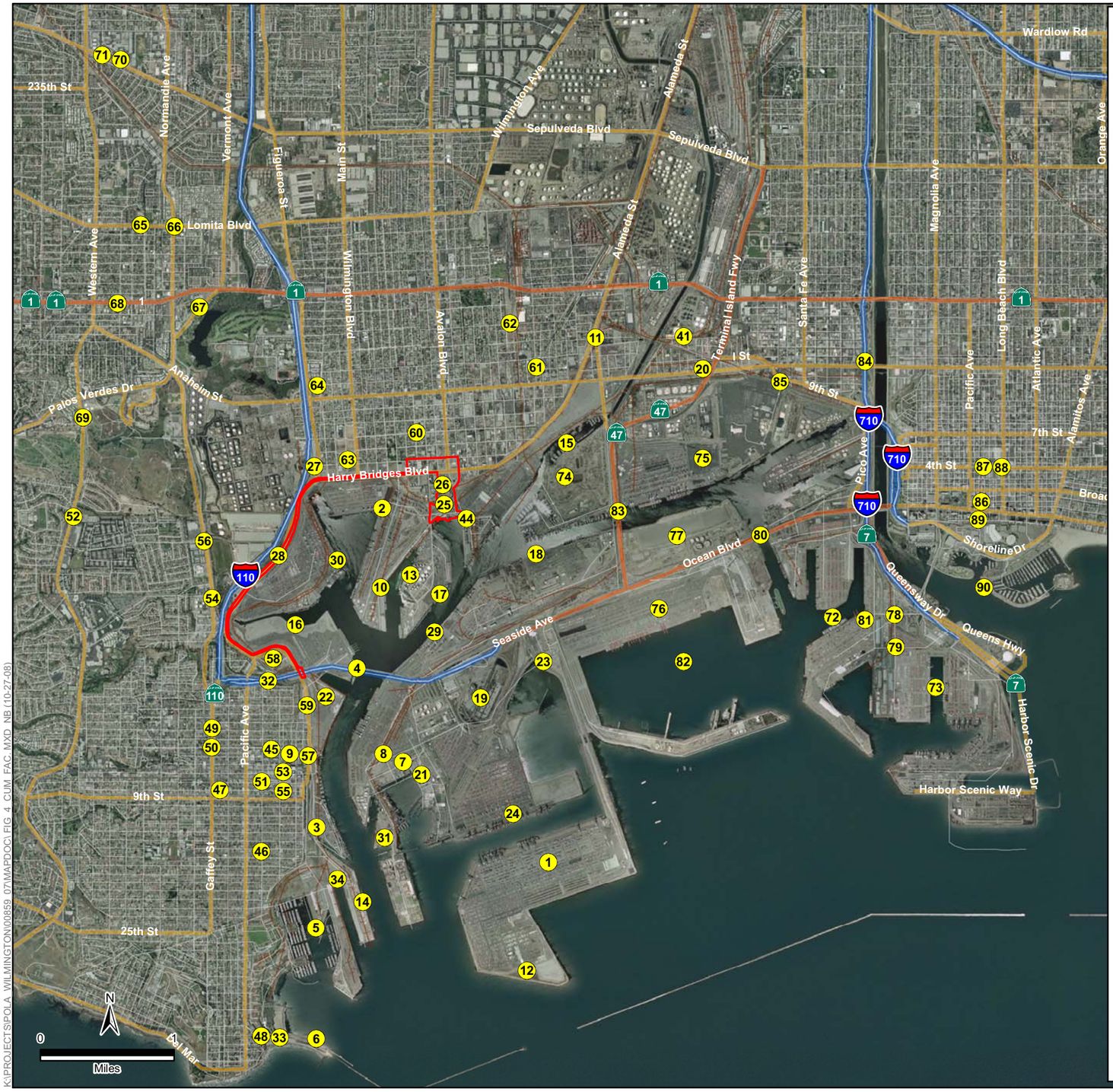
No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		President Avenue).	
69	Ponte Vista	Construct 1725 condos, 575 senior housing units, and 4 baseball fields. 26900 Western Avenue (near Green Hills Park), Lomita. Rolling Hills Prep School being developed in an adjacent lot.	DEIR issued November 2006. LADOT Planning Department reports estimated 2012 completion year.
70	Warehouses, 1351 West Sepulveda Boulevard	Construct warehouses with total capacity of 400,000 square feet. 1351 West Sepulveda Boulevard (at Western Avenue), Torrance.	Project building permit cleared February 2007. LADOT Planning Department estimates completion in 2007.
71	Sepulveda Industrial Park	Construct 154,105-square-foot industrial park (6 lots). Sepulveda Industrial Park (TT65665), 1309 Sepulveda Boulevard, Torrance (near Normandie Avenue).	No construction started. LADOT Planning Department has no estimated completion year.
PORT OF LONG BEACH PROJECTS			
72	Middle Harbor Terminal Redevelopment, Port of Long Beach	Expansion of an existing marine container terminal in the Middle Harbor area of the Port of Long Beach. The project will involve consolidation of two existing container terminals into one 345-acre (138-hectare) terminal. Construction will include approximately 48 acres (19 hectares) of landfill, dredging, wharf construction; construction of an intermodal rail yard; and reconstruction of terminal operations buildings. The Initial Study identified significant air, public health, transportation, biological, and water quality impacts.	Project EIS/EIR under preparation. NOP/NOI released December 20, 2005. Draft EIS/EIR released May 2008. Anticipated construction 2009–2025.
73	Piers G & J Terminal Redevelopment Project, Port of Long Beach	Redevelopment of two existing marine container terminals into one terminal. The Piers G and J redevelopment project is in the Southeast Harbor Planning District area of the Port of Long Beach. The project will develop a marine terminal of up to 315 acres by consolidating two existing terminals on Piers G and J and several surrounding parcels. Construction will occur in four phases and will include approximately 53 acres of landfills, dredging, concrete wharves, rock dikes, and road and railway improvements. The EIR prepared for this project identified potentially significant air quality and geologic resources	Approved project. Construction underway (anticipated construction period is 2005–2015).

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		impacts.	
74	Pier A West Remediation Project, Port of Long Beach	Remediation of approximately 90 acres of oil production land, including remediation of soil and groundwater contamination, relocation of oil wells, filling, and paving.	Project EIR/EIS under preparation. NOP/NOI released January 26, 2006. Expected duration through 2011.
75	Pier A East, Port of Long Beach	Redevelopment of 32 acres of existing auto storage area into container terminal.	EIR to be prepared.
76	Pier T, TTI (formerly Hanjin) Terminal, Phase III, Port of Long Beach	Development of a container terminal, liquid bulk facility, and satellite launch facility. The Port of Long Beach is redeveloping the former Long Beach Naval Complex on Terminal Island. The project consists of expanding a 300-acre marine container terminal to 375 acres, including a wharf, terminal operations buildings, utilities, and rail yard. Construction includes 22 acres of landfill. The SEIS/EIR certified for this project identified significant air quality, transportation, public health and safety, cultural resources, biological resources, and vibration impacts.	Approved project. Under construction.
77	Pier S Marine Terminal, Port of Long Beach	Development of a 150-acre container terminal and construction of navigational safety improvements to the Back Channel.	EIS/EIR to be prepared. Assessment/construction expected 2007–2012.
78	Administration Building Replacement Project, Port of Long Beach	Replacement of the existing Port Administration Building with a new facility on an adjacent site.	EIR being prepared. Assessment/construction expected 2007–2010.
79	San Pedro Bay Rail Study	Port-wide rail transportation plan with multiple projects in and around Harbor District.	Planning document under preparation.
80	Gerald Desmond Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA	Replacement of the existing 4-lane Gerald Desmond highway bridge over the Port of Long Beach Back Channel with a new 6- to 8-lane bridge.	EIR being prepared. NOP/NOI released in 2005. Anticipated construction 2008–2013.
81	Chemoil Marine Terminal, Tank Installation, Port of Long Beach	Construction of two petroleum storage tanks and associated relocation of utilities and reconfiguration of adjoining marine terminal uses between Berths F210 and F211 on Pier F.	EIR to be prepared.
82	Port of Long Beach Installation Restoration	Removal of about 700,000 cubic yards of contaminated sediments at the Port of	In planning stages. Dredging is

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Site (West Basin) Dredging Project	Long Beach, with beneficial/sustainable reuse of the material in the Pier G landfill.	expected in 2008–2009.
ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY AND CALTRANS PROJECTS			
83	Schuyler Heim Bridge Replacement and SR 47 Terminal Island Expressway	ACTA/Caltrans project to replace the Schuyler Heim Bridge with a fixed structure and improve the SR 47/Henry Ford Avenue/Alameda Street transportation corridor by constructing an elevated expressway from the Schuyler Heim Bridge to SR 1 (Pacific Coast Highway).	NOP issued by ACTA and Caltrans. Anticipated construction 2009–2012.
84	I-710 (Long Beach Freeway) Major Corridor Study	Develop multi-modal, timely, cost-effective transportation solutions to traffic congestion and other mobility problems along approximately 18 miles of the I-710, between the San Pedro Bay ports and SR 60. Early Action Projects include: a) Port Terminus: Reconfiguration of SR 1 (Pacific Coast Highway) and Anaheim Interchange, and expansion of the open/green space at Cesar E. Chavez Park. b) Mid Corridor Interchange: Reconfiguration Project for Firestone Boulevard Interchange and Atlantic/Bandini Interchange.	EIR being prepared.
85	Edison Avenue Closure	Close a short section of Edison Avenue between Ninth and Pier B streets to improve public safety and traffic by rerouting cars and trucks away from three rail lines that cross Edison at Pier B Street.	Initial Study and Negative Declaration released June 2007.
CITY OF LONG BEACH PROJECTS			
86	Renaissance Hotel Project, City of Long Beach	Development of a 374-room hotel on the southeast corner of Ocean Boulevard and the Promenade.	Approved project. Construction complete.
87	D'Orsay Hotel Project, City of Long Beach	Development of a 162-room boutique-style hotel on the northwest corner of Broadway and the Promenade.	Approved project. Construction underway. Anticipated completion in Fall 2008.
88	City Place Development, City of	Development of commercial and residential space at the former Long	Construction complete (2005).

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Long Beach	Beach Plaza Mall, downtown between 3rd and 6th Streets and between Long Beach Boulevard and Pacific Avenue. The approved project redeveloped the former mall area and two blocks of vacant land east of Long Beach Boulevard with approximately 450,000 square feet of commercial space and up to 200 residential units. The EIR prepared for this project identified significant air quality impacts.	
89	The Pike at Rainbow Harbor, City of Long Beach	Commercial use development. This project is south of Ocean Boulevard on the site of the former Pike Amusement Park between Pine and Magnolia Avenues in Long Beach. This approved project includes approximately 770 residential units, a 500-room hotel, and 25,000 square feet of commercial space. The EIR prepared for this project identified significant air quality, cultural resources, noise, public service, and transportation impacts.	Approved project. Construction complete.
90	Queensway Bay Master Plan, City of Long Beach	Construction of Long Beach Aquarium, new urban harbor, office building, and entertainment complex. This project, designed to create a major waterfront attraction in downtown Long Beach, includes a recreational harbor, 150,000-square-foot aquarium, 125,000-square-foot entertainment complex, 59,000 square feet of restaurant/retail space, an 800-room hotel, 95,000 square feet of commercial office space, and 487 boat slips in and around Queensway Bay. The recreational harbor and aquarium have been completed. The EIR certified for this project identified significant transportation impacts.	Approved project. Construction complete.
Note: Construction date for Port projects based on an assumption that the project would be approved by LAHD.			

1



Port of Los Angeles Projects
1. Pier 400 Container Terminal and Transportation Corridor Project
2. Berths 136-147 Marine Terminal, West Basin
3. San Pedro Waterfront Project
4. Channel Deepening Project
5. Cabrillo Way Marina, Phase II
6. Artificial Reef, San Pedro Breakwater
7. Canners Steam Demolition
8. Berth 226-236 (Evergreen) Container Terminal Improvements Project
9. Port of Los Angeles Charter School and Port Police Headquarters, San Pedro
10. SSA Outer Harbor Fruit Facility Relocation
11. Crescent Warehouse Company Relocation
12. Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400
13. Ultramar Lease Renewal Project
14. Westway Decommissioning
15. Consolidated Slip Restoration Project
16. Berths 97-109, China Shipping Development Project
17. Berths 171-181, Pasha Marine Terminal Improvements Project
18. Berths 206-209 Interim Container Terminal Reuse Project
19. LAXT Dome and Site Demolition
20. Southern California International Gateway Project (SCIG)
21. Pan-Pacific Fisheries Cannery Buildings Demolition Project
22. San Pedro Waterfront Enhancements Project
23. Joint Container Inspection Facility
24. Berth 302-305 (APL) Container Terminal Improvements Project
25. South Wilmington Grade Separation
26. Wilmington Waterfront Master Plan (Avalon Blvd. Corridor Project)
27. "C" Street/Figueroa Street Interchange
28. Port Transportation Master Plan
29. Berths 212-224 (YTI) Container Terminal Improvements Project
30. Berths 121-131 (Yang Ming) Container Terminal Improvements Project
31. Southwest Marine Demolition Project
32. I-110 / SR 47 Connector Improvement Program
33. Inner Cabrillo Beach Water Quality Improvement Prog.
34. Proposed Marina Research Area

Port of Los Angeles and/Or Port of Long Beach Potential Port-Wide Operational Projects
35. Terminal Free Time*
36. Extended Terminal Gates (Pier Pass)*
37. Shuttle Train/Inland Container Yard*
38. Origin/Destination and Toll Study*
39. Virtual Container Yard*
40. Increased On-Dock Rail Usage*
41. Union Pacific Railroad ICTF Modernization Project
42. Optical Character Recognition*
43. Truck Driver Appointment System*
44. Port Police Wilmington Substation
45. Port Police New Station

Community of San Pedro Projects
46. 15th Street Elementary School
47. Pacific Corridors Redevelopment Project
48. Cabrillo Marine Aquarium Expansion
49. Gas station and mini-mart
50. Fast Food Restaurant w/drive-thru
51. Mixed use development, 407 Seventh Street
52. Condominiums, 28000 Western Ave.
53. Pacific Trade Center
54. Single Family Homes (Gaffey Street)
55. Mixed-use development, 281 W 8th Street
56. Target (Gaffey Street)
57. Palos Verdes Urban Village
58. Temporary Little League Park
59. Condos, 319 N. Harbor Boulevard

Community of Wilmington Projects
60. Banning Elementary School #1, 500 North Island Avenue
61. East Wilmington Greenbelt Community Center
62. Distribution center and warehouse
63. Dana Strand Public Housing Redevelopment Project
64. Vermont Christian School Expansion

Projects in Harbor City, Lomita, and Torrance
65. 1437 Lomita Boulevard Condominiums
66. Harbor City Child Development Center
67. Kaiser Permanente South Bay Master Plan
68. Drive-through restaurant, Harbor City
69. Ponte Vista
70. Warehouses, 1351 West Sepulveda Blvd
71. Sepulveda Industrial Park

Port of Long Beach Projects
72. Middle Harbor Terminal Redevelopment
73. Piers G & J Terminal Redevelopment Project
74. Pier A West Remediation Project
75. Pier A East
76. Pier T, TTI (formerly Hanjin) Terminal, Phase III
77. Pier S Marine Terminal
78. Administration Building Replacement Project
79. San Pedro Bay Rail Study
80. Gerald Desmond Bridge Replacement Project
81. Chemoil Marine Terminal, Tank Installation
82. Port of Long Beach Installation Restoration Site (West Basin) Dredging Project

Alameda Corridor Transportation Authority and Caltrans Projects
83. Schuyler Heim Bridge Replacement and State Route (SR) 47 Terminal Island Expressway
84. I-710 (Long Beach Freeway) Major Corridor Study

City of Long Beach Projects
85. Edison Avenue Closure
86. Renaissance Hotel Project
87. D'Orsay Hotel Project
88. City Place Development
89. The Pike at Rainbow Harbor
90. Queensway Bay Master Plan

*Project not shown on figure because it is not specific to a location, or the location has not been determined.

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SOURCE: ESRI Streetmap USA (2007), ESRI Imagery (2006)

ICF Jones & Stokes
an ICF International Company

Figure 4-1
Cumulative Projects Location Map
Wilmington Waterfront Development Project

4.2 Cumulative Impact Analysis

The following sections analyze the cumulative impacts identified for each resource area for the proposed Project.

4.2.1 Aesthetics

Provided below is an analysis of the potential cumulative impacts on aesthetics and visual resources.

4.2.1.1 Scope of Analysis

The geographic scope of analysis for cumulative impacts on aesthetics and visual resources to which the proposed Project may contribute is the set of public viewing positions (KOPs) from which one may see the proposed Project, whether as part of a single view or a series of related views (e.g., a scenic route). Outside of this set of points, the proposed Project would not be within public views and therefore would have no potential to contribute to cumulative visual impacts.

The resulting area for visual impact analysis generally encompasses Wilmington south of Pacific Coast Highway; those portions of the Port occurring north of the Vincent Thomas Bridge (i.e., West Basin, Turning Basin, East Basin, Channel East Basin, and the western portions of Cerritos Channel); the northeastern portion of San Pedro (located north of the Vincent Thomas Bridge and east of Gaffey Street); and those portions of the Port of Long Beach occurring west of the Schuyler Heim/Terminal Island Freeway (SR 47). The delineated area for cumulative visual impacts extends from the proposed project area in a loose radius of 1.5 miles.

The visual changes that would be brought about by the proposed Project would take place in the distinctive landscape region created by the Ports of Los Angeles and Long Beach, which collectively constitute one of the largest port complexes in the world. In this area, over the course of the past century, the construction of breakwaters, the dredging of channels, filling for creation of berths and terminals, and construction of the infrastructure required to support Port operations have completely transformed the original natural setting to create a landscape that is highly engineered and is visually dominated by large-scale man-made features.

Past, present, planned, and foreseeable future development that would have the potential to contribute to cumulative impacts on aesthetics and visual resources are those that have involved, or would involve, grading, paving, landscaping, construction of roads, buildings and other working port facilities, as well as the presence and operation of upland equipment, such as gantry cranes, rail and trucking facilities and backland storage sites. Views may also be affected by in-water activities such as dredging, filling, wharf demolition and construction, and container ship traffic.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.1, "Aesthetics."

4.2.1.2 Cumulative Impact AES-1: Adverse Effect on a Scenic Vista from a Designated Scenic Resource due to Obstruction of Views—Less than Cumulatively Considerable

This City of Los Angeles criterion is related to CEQA Appendix D Aesthetics question I.c, "Would the project substantially degrade the existing visual character or quality of the site and its surroundings?" The *L.A. CEQA Thresholds Guide* (City 2006): directs that:

> The determination shall be made on a case-by-case basis, considering the following factors:
>
> - Amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area, which would be removed, altered, or demolished
> - Amount of natural open space to be graded or developed
> - Degree to which proposed structures in natural open space areas would be integrated effectively into the aesthetics of the site, through appropriate design, etc.
> - Degree of contrast between proposed features and existing features that represent the valued aesthetic image of an area
> - Degree to which a proposed zone change would result in buildings that would detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements
> - Degree to which the project would contribute to the aesthetic value of the area
> - Applicable guidelines and regulations

4.2.1.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The visual changes that would be brought about by the proposed Project would be taking place in the distinctive landscape region created by the Ports of Los Angeles and Long Beach, which collectively constitute one of the largest port complexes in the world. In this area, over the course of the past century, the construction of

breakwaters, the dredging of channels, filling for creation of berths and terminals, and construction of the infrastructure required to support Port operations have completely transformed the original natural setting to create a landscape that is highly engineered, nearly entirely altered, and visually dominated by large-scale man-made features. Past projects at the Port have had a demonstrable negative effect related to elimination of natural features, reductions in views from the surrounding area of the open waters of the Port's channels and basins, and an intensification of the level of development that is visible.

Current projects, such as the development of the Pier 400 Container Terminal and Transportation Corridor Project, reduced far-off views of open waters from hillside areas in San Pedro, and this project increased the concentration of large-scale developed facilities in the Port complex; however, according to that project's EIR, it did not reach the threshold for a significant visual effect. In large measure, this is due to the panoramic character of views into the Port, in which most features, small and large, become one of numerous components that can be glimpsed, As a result, there is only a small degree of contrast between proposed features and existing features that represent the valued aesthetic image of an area. Due to the extensive nature of past actions, and the degree to which the visual setting already has been transformed by numerous changes and by the disparate number of visual elements that have been added to it over time, the threshold for a cumulatively considerable and significant impact on aesthetics for present and future projects would be very high. Such an impact would occur if proposed development resulted in a fundamental change in the visual character of the Port or high levels of contrast with the existing visual setting, called for development on significant portions of existing natural open space, or led to partial or total blockages of views from key scenic vantage points.

Projects within the Geographic Area

While the overwhelming majority of related projects are far outside the area for cumulative visual effects, of the cumulative projects within the geographic area for cumulative visual effects, most are expected to significantly improve visual quality within the Port, as they call for the demolition of a number of unattractive utilitarian structures, such as oil storage tanks and other deteriorated Port structures that are not considered visual resources. These projects include China Shipping Terminal (#16), Berths 212–224 Container Terminal Improvements (#29), and Middle Harbor Terminal Redevelopment—Port of Long Beach (#75), and Pier A (oil production land) West Remediation Project (#74) (see Table 4-1). Other Port projects, such as the proposed project (#26), San Pedro Waterfront Enhancements Project (#22), and East Wilmington Greenbelt Community Center (#61) would incorporate new landscaping to improve visual quality, and/or public open space.

There are cumulative projects that call for the construction of new facilities, which by virtue of the siting, height, and massing could affect scenic vistas. Three of these cumulative projects include elevated ramps, train overcrossings, or other related road improvement components that have the potential to partially block views: South Wilmington Grade Separation (#25), I-110/C Street/Figueroa Street Interchange ramp

(#27), and ramps associated with the 110/State Route 47 Connector (#32). However, such features would be viewed as extensions of the existing freeway and road systems rather than as significant new intrusive elements. The total or partial blockage of views from scenic view vantage points would not occur, nor would the insertion of a substantial distracting element into scenic views. None of the present or reasonably foreseeable future projects would pose a direct impact to a scenic vista, by either blocking or by inserting a substantially distracting element into a scenic vista. Therefore, the impact from present and reasonably foreseeable future projects is not cumulatively considerable as identified under Cumulative Impact AES-1.

4.2.1.2.2 Contribution of the Proposed Project

The proposed Project would demolish non-historic buildings and utilitarian structures that are not deemed important visual resources, enhance open space areas, and create new waterfront access for the public that includes an observation tower. The proposed features would not block scenic views (e.g., views of the Vincent Thomas Bridge) and would have no effect on scenic vantage points.

The list of related and cumulative projects was reviewed to determine if development associated with any related project would, in combination with the proposed Project, result in a cumulative impact to aesthetics and visual resources. No project-specific impacts would occur, and therefore, the proposed Project would not contribute to a significant cumulative effect. Therefore, contribution of the proposed Project would not be cumulatively considerable under Cumulative Impact AES-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.1.2.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.3 Cumulative Impact AES-2: Damage to Scenic Resources (Including, but not Limited to, Trees, Rock Outcroppings, and Historic Buildings) within View of a State Scenic Highway—No Cumulative Impact

This City of Los Angeles criterion is related to CEQA Appendix D Aesthetics questions I.a, "Would the project have a substantial adverse effect on a scenic vista?" and I.b, "Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historical buildings within a state scenic highway?" The *L.A. CEQA Thresholds Guide* directs that:

The determination shall be made on a case-by-case basis, considering the following factors:

- The nature and quality of recognized or valued views (such as natural topography, settings, man-made or natural features of visual interest, and resources such as mountains or the ocean);
- Whether the project affects views from a designated scenic highway, corridor, or parkway;
- The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment); and
- The extent to which the project affects recognized views available from a length of a public roadway, bike path, or trail, as opposed to a single, fixed vantage point.

4.2.1.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.1.3.2 Contribution of the Proposed Project

There are no designated state scenic highways within the proposed project area. Portions of John S. Gibson Boulevard and Front Street, however, are within the area for cumulative visual effects, and have been designated a local scenic highway by the City of Los Angeles (City of Los Angeles 1999a). Other streets that have been designated as scenic highways in the General Plan of the City of Los Angeles, such as Harbor Boulevard and all but the northernmost 1,000 feet of Pacific Avenue, fall outside the cumulative area for visual effects. Views toward the proposed Project from the scenic routes are substantially blocked by stacked shipping containers, Port facilities structures, topography, landscaping, or a combination of these factors. Thus, significant impacts on views from scenic roadways are not anticipated.

The proposed Project calls for the retention of historic buildings, such as Bekins Storage (245 N. Fries Avenue/312–316 C Street), the College of Oceanography (272 S. Fries Avenue), as well as other historic structures. It also would establish new landscaped open space, a promenade, and an observation tower linking the Banning Landing area with downtown Wilmington in a manner that is expected to enhance aesthetic quality of the visual setting. No rock outcroppings or other significant natural features, such as trees would be affected by the project.

There would be no proposed project–specific impact under AES-2; therefore, the proposed Project would not contribute to a cumulative impact in this regard.

4.2.1.3.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.4 Cumulative Impact AES-3: Degradation of Existing Visual Character or Quality of a Site and its Surroundings—No Cumulative Impact

Cumulative Impact AES-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant adverse impacts on visual character or quality within the cumulative study area.

A cumulative impact would occur if implementing the proposed Project, in combination with related projects, would alter or remove valued features that substantially define the character of the Wilmington community or the Port in positive terms; such alteration or removal would also have to significantly diminish visual quality within the cumulative visual impacts study area. Significant impacts could occur from the demolition of visual landmarks or the addition of new development that substantially degrades visual quality.

4.2.1.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.1.4.2 Contribution of the Proposed Project

The proposed Project would not degrade the existing visual character or quality of the site and its surroundings. Because the proposed Project would have no impacts on the existing visual character or quality of the site and its surroundings, it also would have no cumulatively considerable contribution to any cumulative impact. Since the proposed Project would not contribute to a significant cumulative impact, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.1.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.5 Cumulative Impact AES-4: Negative Shading on the Existing Visual Character or Quality of the Site or its Surroundings—No Cumulative Impact

Cumulative Impact AES-4 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant adverse impacts within the cumulative study area through negative shadow effects that would affect shade-sensitive land uses and facilities.

4.2.1.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.1.5.2 Contribution of the Proposed Project

The proposed Project would not result in negative shading on the existing visual character or quality of the site or its surrounding. Therefore, because the proposed Project would by itself have no impact on shading, it also would have no cumulatively considerable contribution to a cumulative impact. It is therefore not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.1.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.6 Cumulative Impact AES-5: New Source of Substantial Light or Glare that would Adversely Affect Day or Nighttime Views of the Area—Less than Cumulatively Considerable

This City of Los Angeles criterion is related to CEQA Appendix D Aesthetics question I.d, "Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?" The *L.A. CEQA Thresholds Guide* directs that:

> The determination shall be made on a case-by-case basis, considering the following factors:
>
> - The change in ambient illumination levels as a result of project sources; and
> - The extent to which project lighting would spill off the project site and affect adjacent light sensitive areas.

The assessment of light and glare, for this analysis, is directed only at night lighting sources. Glare from reflected sunlight can occur during the daytime, depending on the reflectivity of materials of construction, the direction of sunlight, and the position of the observer. However, in the case of the proposed Project, daytime glare is not an issue because construction materials used would not be reflective.

4.2.1.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects at the Port and in surrounding industrial districts have created sources of unshielded, or poorly shielded and directed, light that have caused light spill and changes to ambient illumination levels in nearby areas. Because of current Port standards that minimize lighting impacts from new projects, the contributions of present and future projects to cumulative lighting impacts in the area would be limited. However, the net effect of past projects has been to create a significant cumulative impact.

The study area is currently brightly lit at night to ensure a safe nighttime outdoor work environment. Major sources of illumination are down lights on tall light standards and floodlighting, including floodlights on crane booms used to load and unload cargo. This lighting is designed to provide an almost daylight environment.

There are 11 present and reasonably foreseeable future projects that could contribute added light and glare to the overall lighting environment within the Port and Wilmington, including the following cumulative projects (see Table 4-1): Pier 400 Container (#1), TraPac (#2), Evergreen Container Terminal (#8), Pacific L.A. Marine Terminal (#12), China Shipping (#16), Pasha Marine Terminal Improvements Project

(#17), SCIG (#20), Joint Container Inspection Facility (#23), APL Container Terminal Improvement (#24), YTI Container Terminal Improvement (#29), and Yang Ming Container Terminal (#30). These projects would include lighting designed to provide a near-daylight environment through the use of tall light standards. Therefore, the cumulative adverse impacts associated with the light and glare of each of the past, present, and reasonably foreseeable future projects would result in a cumulatively considerable impact.

4.2.1.6.2 Contribution of the Proposed Project

The proposed Project calls for the creation of new open space and waterfront access, including the construction of a new observation tower. The intent of the lighting scheme is to improve safety considerations and provide a unified theme for the new facilities. There are no large sources of flood lighting being proposed that would have the potential to result in sources of spill-light. Other sources of new lighting under the proposed Project would be both functional and decorative to enhance visual quality. This lighting would not add to the existing lighting, glare, and spill caused by other Port uses. Lighting associated with proposed project components would comply with the PMP, which requires an analysis of design and operational effects on existing community areas and the Wilmington Waterfront Development Program and Master Plan lighting guidelines. Design consistency with these guidelines and regulations would ensure that views of the area would not be adversely affected. The proposed project features that would contribute to ambient nighttime illumination, including the accent lighting associated with the observation tower and land bridge, would be negligible within the context of the functional lighting of the Port.

Despite the potential cumulative effect of other lighting related to shipping terminals and container storage yards, the proposed Project is expected to have a less-than-significant impact with respect to creating new sources of nighttime lighting due to the standards that would govern the lighting components of the proposed Project, including designing the proposed project lighting in accordance with the Wilmington Waterfront lighting guidelines, meeting Night Sky guidelines, and avoiding spillover lighting effects and glare. The contribution of the proposed Project would therefore not be cumulatively considerable under AES-5 when combined with present and reasonable foreseeable future projects because the proposed Project's contribution to the Port's lighting environment would be negligible.

4.2.1.6.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.2 Air Quality and Meteorology

4.2.2.1 Scope of Analysis

For Cumulative Impacts AQ-1 through AQ-8, the region of analysis for cumulative effects on air quality is the South Coast Air Basin; for AQ-9 (global climate change), it is the entire planet. The highest proposed project impacts would occur within the adjacent communities, including San Pedro, Wilmington, and Long Beach.

4.2.2.2 Cumulative Impact AQ-1: Construction-Related Increase of a Criteria Pollutant for which the Proposed Project Region is in Nonattainment under a National or State Ambient Air Quality Standard—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-1 assesses the potential for proposed project construction when combined with past, present, and reasonably foreseeable future projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the proposed project region is in nonattainment under a national or state ambient air quality standard or for which the SCAQMD has set a daily emission threshold.

4.2.2.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the substantial number of emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion, the South Coast Air Basin is a "severe-17" nonattainment area for 8-hour O_3, a "serious" nonattainment area for PM_{10}, a nonattainment area for $PM_{2.5}$, and a maintenance area for CO in regard to NAAQS. SCAB is in attainment of the NAAQS for SO_2, NO_2, and lead. In regard to CAAQS, SCAB is presently in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. SCAB is in attainment of the CAAQS for SO_2, NO_2, CO, sulfates, and lead, and is unclassified for hydrogen sulfide and visibility-reducing particles. These pollutant nonattainment conditions within the proposed project region are therefore cumulatively significant. Between 2008 and 2020, a number of large construction projects will occur at the two ports and surrounding areas (see Table 4-1) that will overlap and contribute to significant cumulative construction impacts.

The *2007 Air Quality Management Plan* predicts attainment of all NAAQS within SCAB, including $PM_{2.5}$ by 2014 and O_3 by 2020. However, the predictions for $PM_{2.5}$ and O_3 attainment are speculative at this time.

The construction impacts of related projects would be cumulatively significant if their combined construction emissions would exceed the SCAQMD daily emission thresholds for construction. Because this almost certainly would be the case for all analyzed criteria pollutants and precursors (VOCs, CO, NO_X SO_X, PM_{10}, and $PM_{2.5}$), the related projects would result in a significant cumulative air quality criteria pollutant impact.

4.2.2.2.2 Contribution of the Proposed Project

Construction of the proposed Project would contribute emissions of VOCs, CO, NO_X SO_X, PM_{10}, and $PM_{2.5}$. These emissions would combine with construction emissions from other projects that would already be cumulatively significant. As a result, without mitigation, emissions from proposed project construction would make a cumulatively considerable contribution to a cumulatively significant impact for VOCs, CO, NO_X SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA.

4.2.2.2.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of mitigation measures MM AQ-1 through MM AQ-9, emissions from construction of the proposed Project would be reduced; however, they would not be eliminated altogether. Therefore, during construction, the proposed Project would make a cumulatively considerable and unavoidable contribution to significant cumulative impacts for VOCs, CO, NO_X SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA.

4.2.2.3 Cumulative Impact AQ-2: Construction-Related Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-2 assesses the potential for proposed project construction when combined with past, present, and reasonably foreseeable future projects to produce ambient pollutant concentrations that exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation.

4.2.2.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The past, present, and reasonably foreseeable future projects for Cumulative Impact AQ-2 would result in significant cumulative impacts if their combined ambient

pollutant concentrations, during construction, would exceed SCAQMD ambient concentration thresholds for pollutants from construction. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of the other projects, cumulative air quality impacts are likely to exceed the thresholds for NO_X, could exceed the thresholds for PM_{10} and $PM_{2.5}$, and are unlikely to exceed for CO. Consequently, construction of the related projects would result in a significant cumulative air quality impact related to exceedances of the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$.

4.2.2.3.2 Contribution of the Proposed Project

SCAQMD develops ambient pollutant thresholds that signify cumulatively considerable increases in criteria pollutant concentrations. Project construction emissions would produce offsite impacts that would exceed SCAMQD ambient thresholds for NO_2, PM_{10}, and $PM_{2.5}$. Any concurrent emission-generating activity that occurs near the proposed project site would add additional air emission burdens to these already significant levels. As a result, without mitigation, emissions from proposed project construction would make cumulatively considerable contributions to significant cumulative ambient NO_X, PM_{10}, and $PM_{2.5}$ levels.

4.2.2.3.3 Mitigation Measures and Residual Cumulative Impacts

With mitigation measures MM AQ-1 through MM AQ-9, impacts from construction would still exceed SCAQMD NO_2, PM_{10}, and $PM_{2.5}$ ambient thresholds. As such, construction emissions would still make cumulatively considerable (and unavoidable) contributions to significant cumulative ambient NO_2, PM_{10}, and $PM_{2.5}$ levels from concurrent related project construction.

4.2.2.4 Cumulative Impact AQ-3: Operations-Related Increase of a Criteria Pollutant for which the Project Region is in Nonattainment under a National or State Ambient Air Quality Standard—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-3 assesses the potential for proposed project operation when combined with past, present, and reasonably foreseeable future projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the project region is in nonattainment under a national or state ambient air quality standard or for which SCAQMD has set a daily emission threshold.

4.2.2.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Other projects would be cumulatively significant if their combined operational emissions would exceed SCAQMD daily emission thresholds for operations. Because this almost certainly would be the case for all analyzed criteria pollutants, the related projects would result in a significant cumulative air quality criteria pollutant impact.

4.2.2.4.2 Contribution of the Proposed Project

Peak daily emissions from proposed project operations would increase relative to CEQA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. These emission increases would combine with operation emissions from other projects near the proposed project site, which would already be cumulatively significant. As a result, without mitigation, emissions from proposed project operations would make a cumulatively considerable contribution to significant cumulative impacts for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA.

4.2.2.4.3 Mitigation Measures and Residual Cumulative Impacts

After mitigation, peak daily emissions from the proposed Project would increase relative to CEQA baseline emissions for VOCs, CO, NO_X, SO_X PM_{10}, and $PM_{2.5}$. As a result, after mitigation, emissions from the proposed Project would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA.

4.2.2.5 Cumulative Impact AQ-4: Operations-Related Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-4 assesses the potential for proposed project operations when combined with past, present, and reasonably foreseeable future projects to produce ambient concentrations that exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation

4.2.2.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative impacts if their combined ambient concentration levels during operations would exceed SCAQMD ambient concentration thresholds for operations. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of the other projects, cumulative air quality impacts are likely to exceed the thresholds for NO_X, could exceed the thresholds for PM_{10} and $PM_{2.5}$, and are unlikely to exceed for CO. Consequently, operation of related projects would result in a significant cumulative air quality impact related to exceedances of significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$.

4.2.2.5.2 Contribution of the Proposed Project

SCAQMD develops ambient pollutant thresholds that signify cumulatively considerable increases in concentrations of these pollutants. Proposed project operations emissions would have concentrations below SCAQMD concentration thresholds for all pollutants. Nonetheless, operations emissions could still make cumulatively considerable (and unavoidable) contributions to significant cumulative ambient NO_2, PM_{10}, and $PM_{2.5}$ levels from concurrent related project operations under CEQA.

4.2.2.5.3 Mitigation Measures and Residual Cumulative Impacts

Proposed project operations emissions would already be below SCAQMD concentration thresholds for all pollutants. As such, mitigation measures are not required. However, as described above, operations emissions could still make a cumulatively considerable and unavoidable contribution to significant cumulative ambient pollutant levels from concurrent related project operations under CEQA.

4.2.2.6 Cumulative Impact AQ-5: Operations-Related Onroad Traffic Contribution to an Exceedance of the 1-hour or 8-hour CO Standards—Cumulatively Insignificant

Cumulative Impact AQ-5 assesses the potential for proposed project operations when combined with past, present, and reasonably foreseeable future projects to create onroad traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.

4.2.2.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative impacts on air quality if they would generate traffic levels that cause exceedances of the ambient air quality standards for CO near roadways and intersections. Because this is unlikely to occur, the cumulative impacts of other projects would be considered less than significant.

4.2.2.6.2 Contribution of the Proposed Project

Based on CO hot spot modeling analysis, which includes cumulative growth in traffic levels, significant hot spot impacts under CEQA for proposed project operations are not anticipated because CO standards would not be exceeded. As a result, without mitigation, proposed project operations would not result in cumulatively considerable contributions to CO hot spot impacts within the proposed project region under CEQA.

4.2.2.6.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative CO hot spot impacts.

4.2.2.7 Cumulative Impact AQ-6: Objectionable Odors at the Nearest Sensitive Receptor—Cumulatively Insignificant

Cumulative Impact AQ-6 assesses the potential of proposed project operations when combined with past, present, and reasonably foreseeable future projects to create objectionable odors at the nearest sensitive receptor.

4.2.2.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

There are temporary and semi-permanent sources of odors within the Port region, including mobile sources powered by diesel and residual fuels and stationary industrial sources, such as petroleum storage tanks. Some individuals may sense that diesel combustion emissions are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult. Due to the large number of sources within the Port that emit diesel emissions and the proximity of residents

(sensitive receptors) to Port operations, odorous emissions in the proposed project region are cumulatively significant.

4.2.2.7.2 Contribution of the Proposed Project

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed Project does not include any uses identified by the SCAQMD as being associated with odors and therefore would not produce objectionable odors. As such, the proposed Project would not result in odor impacts and would not make a cumulatively considerable contribution to significant cumulative odor impacts under CEQA.

4.2.2.7.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative odor impacts.

4.2.2.8 Cumulative Impact AQ-7: Exposure of Receptors to Significant Levels of Toxic Air Contaminants—Cumulatively Significant and Unavoidable

Cumulative Impact AQ-7 assesses the potential of the proposed Project's construction and operations when combined with past, present, and reasonably foreseeable future projects to produce TACs that exceed acceptable public health criteria.

4.2.2.8.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

MATES-II, conducted by the SCAQMD in 2000, estimated the existing cancer risk from TACs in SCAB to be 1,400 in 1,000,000 (SCAQMD 2000). In MATES III, completed by SCAQMD in 2008, the existing cancer risk from TACs was estimated at 1,000 to 2,000 in 1,000,000 in the San Pedro and Wilmington areas. In the *Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*, the CARB estimates that elevated levels of cancer risks due to operational emissions from the Ports of Los Angeles and Long Beach occur within and in proximity to the two Ports (CARB 2006). Based on this information, airborne cancer and noncancer levels within the proposed project region are cumulatively significant.

The Port has approved Port-wide air pollution control measures through their San Pedro Bay Ports CAAP (LAHD et al. 2006). Implementation of these measures will reduce the health risk impacts from the proposed Project and future projects at the Port. Currently adopted regulations and future rules proposed by CARB and EPA will further reduce air emissions and associated cumulative health impacts from Port operations. However, because future proposed measures (other than CAAP measures) and rules have not been adopted, it is unknown at this time how these measures would reduce cumulative health risk impacts within the proposed project area, and therefore, airborne cancer and noncancer impacts within the proposed project region would be cumulatively significant.

4.2.2.8.2 Contribution of the Proposed Project

SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate emissions (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions. In addition, typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes, automotive repair facilities, and dry cleaning facilities. Since the proposed Project would not contain such uses, it does not warrant a health risk assessment. Potential proposed project–generated air toxic impacts on surrounding land uses would be less than significant. Nonetheless, proposed project emissions could still make cumulatively considerable (and unavoidable) contributions to significant cumulative TAC emissions from concurrent related project construction and operations under CEQA.

4.2.2.8.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation measures are not required because proposed project TAC emissions would be negligible. However, as described above, TAC emissions could still make a cumulatively considerable and unavoidable contribution to significant cumulative TAC levels from concurrent related project construction and operations under CEQA.

4.2.2.9 Cumulative Impact AQ-8: Conflict with or Obstruction of Implementation of an Applicable AQMP—Less than Cumulatively Considerable

Cumulative Impact AQ-8 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to conflict with or obstruct implementation of an applicable AQMP.

4.2.2.9.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative air quality impacts if they result in population growth or operational emissions that exceed the assumptions in the AQMP. Related projects would be subjected to regional planning efforts and applicable land use plans (such as the General Plan, Community Plans, or Port Master Plan) or transportation plans such as the Regional Transportation Plan and the Regional Transportation Improvement Program. Because the AQMP accounts for population projections that are developed by SCAG, and accounts for planned land use and transportation infrastructure growth, related projects would be consistent with the AQMP. Because of this, related projects would not result in significant cumulative impacts related to an obstruction of the AQMP.

4.2.2.9.2 Contribution of the Proposed Project

As discussed in Section 3.8, "Land Use and Planning," the proposed Project is consistent with all local plans, and development of the proposed Project would be compatible with surrounding uses.

Because the proposed Project is consistent with the local general plan, pursuant to SCAQMD guidelines, it is also considered consistent with the region's AQMP. As such, proposed project–related emissions are accounted for in the AQMP, which is crafted to bring the Basin into attainment for all criteria pollutants. Accordingly, the proposed Project would be consistent with the projections in the AQMP, thus resulting in a less-than-significant impact. The proposed Project would result in a less than cumulatively considerable contribution in terms of conflicting with or obstructing implementation of the AQMP under CEQA.

4.2.2.9.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation measures are not required because cumulative impacts would be less than significant.

4.2.2.10 Cumulative Impact AQ-9: Contribution to Global Climate Change—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-9 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to contribute to global climate change.

4.2.2.10.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Scientific evidence indicates a trend of warming global surface temperatures over the past century due at least partly to the generation of greenhouse gas emissions from human activities, as discussed in Section 3.2, "Air Quality and Meteorology." Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Credible predictions of long-term impacts from increasing GHG levels in the atmosphere include sea level rise, changes to weather patterns, changes to local and regional ecosystems including the potential loss of species, and significant reductions in winter snow packs. These and other effects would have environmental, economic, and social consequences on a global scale. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (CEC 2006a). Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. In California alone, CO_2 emissions totaled approximately 477.77 million metric tons in 2003 (CEC 2006), which was an estimated 6.4% of global CO_2 emissions from fossil fuels. Based on this information, past, current, and future global GHG emissions, including emissions from projects in the Ports of Los Angeles and Long Beach (Table 4-1) and elsewhere in California, are cumulatively significant.

4.2.2.10.2 Contribution of the Proposed Project

The challenge in assessing the significance of an individual project's contribution to global GHG emissions and associated global climate change impacts is determining whether a project's GHG emissions, which are at a micro-scale relative to global emissions, result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As noted above, CO_2 emissions in California totaled approximately 477.77 million metric tons in 2003 (CEC 2006). As shown in Table 3.2-22, the proposed Project would produce higher GHG emissions when compared to CEQA baseline levels. Any concurrent emissions-generating activity that occurs global-wide would add additional GHG emission burdens to these already significant levels, which could further exacerbate environmental effects (as discussed in Chapter 3.2, "Air Quality and Meteorology").

Considering Significance Threshold AQ-9, which states that any GHG increase over the CEQA baseline is significant, without mitigation, emissions from proposed project construction and operation would produce cumulatively considerable contributions to global climate change under CEQA.

4.2.2.10.3 Mitigation Measures and Residual Cumulative Impacts

As shown in Table 3.2-23, with mitigation measures MM AQ-1 through MM AQ-15 implemented, the proposed Project would produce higher GHG emissions when compared to CEQA baseline levels. The way in which CO_2 emissions associated with the proposed Project might or might not influence actual physical effects of global climate change cannot be determined. For these reasons, it is uncertain whether emissions from the proposed Project would make a significant contribution to the impact of global climate change when considered with emissions generated by human activity. Nevertheless, as discussed in Chapter 3.2, existing GHG levels are projected to result in changes to the climate of the world, with significant warming seen in some areas, which, in turn, will have numerous indirect effects on the environment and humans.

Proposed project GHG emissions would contribute to existing levels and therefore would contribute to the causes of global climate change. Considering Significance Threshold AQ-9, which states that any increase in GHG emissions over the CEQA baseline is significant, emissions from construction and operation of the proposed Project would produce cumulatively considerable and unavoidable contributions to global climate change under CEQA.

4.2.3 Biological Resources

4.2.3.1 Scope of Analysis

Depending on the biological resource analyzed, there are several different geographical regions identified for the biological resource cumulative impacts. The geographical region of analysis for benthic communities, water column communities (plankton and fish), and water-associated birds includes the terrestrial and aquatic areas of the Los Angeles/Long Beach Harbor (Inner and Outer Harbor areas) because the uplands, basins, channels, and open water areas are hydrologically and ecologically connected. For marine mammals, the analysis area includes the Los Angeles–Long Beach Harbor as well as the Pacific Ocean from near Angels Gate out to Catalina Island in order to cover vessel traffic effects. Special status bird species have differing population sizes and dynamics, distributional ranges, breeding locations, and life history characteristics. For special status birds, the area for cumulative analysis is limited to the harbor (water and adjacent port lands) where impacts from noise and the potential for disturbance associated with the proposed Project and other projects in the harbor could affect such birds. Sea turtles are not expected to occur in the harbor and their presence in the nearshore areas where vessel traffic could affect them is unlikely and unpredictable; consequently, these animals are not considered in the cumulative analysis.

Past, present, and reasonably foreseeable future development that could contribute to cumulative impacts on terrestrial and aquatic biological resources are those projects that involve land disturbance such as grading, paving, landscaping, construction of

roads and buildings, and related noise and traffic impacts. Noise, traffic, and other operational impacts can also be expected to have cumulative impacts on terrestrial species. Marine organisms could be affected by activities in the water such as dredging, filling, wharf demolition and construction, and vessel traffic. Runoff of pollutants from construction and operations activities on land into harbor waters via storm drains or sheet runoff also has the potential to affect marine biota, at least in the vicinity of the drains.

The significance criteria used for the cumulative analysis are the same as those used in Section 3.3.4.2. This cumulative effects analysis considers past, present, and reasonably foreseeable projects in the proposed project area. The timeline for biological resources would date back to pre-Port development (~1869) condition, and future effects would be those that would take place by 2020. The year of NOP publication (2008) is the year that separates past and present projects and serves as the environmental baseline for the proposed Project.

4.2.3.2 Cumulative Impact BIO-1: Adverse Impact on Sensitive Species—Cumulatively Considerable

Cumulative Impact BIO-1 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern; or the loss of federally designated critical habitat. No critical habitat for any federally listed species is present in the harbor, and thus, no cumulative impacts on critical habitat would occur.

4.2.3.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction of past landfill projects in the Harbor has reduced the amount of marine surface water present and thus foraging and resting areas for special status bird species, but these projects have also added more land and structures that can be used for perching near the water. Construction of Terminal Island, Pier 300, and later Pier 400 provided new nesting sites for the California least tern, and the Pier 400 site is still being used by this species. Shallow water areas that provide foraging habitat for the California least tern and other bird species have been constructed on the east side of Pier 300 and inside the San Pedro breakwater as mitigation for loss of such habitat from past projects, and more such habitat is to be constructed as part of the Channel Deepening project. Cumulative impacts of marine habitat loss on special status species would be less than significant.

Past projects that have increased vessel traffic have also increased underwater sound in the Harbor and in the ocean from the vessel traffic lanes to Angels Gate and

Queens Gate. Ongoing and future terminal upgrade and expansion projects (e.g., Berths 136–147 Marine Terminal [#2], Channel Deepening [#4], Evergreen Improvements [#8], Pier 400 Oil Marine Terminal [#12], Ultramar [#13], Berths 97–109 [#16], Berths 212–214 YTI [#29], Berths 121–131 [#30], Middle Harbor [#72], Piers G & J [#73], Pier T TTI [#76], and Pier S [#77], as well as the San Pedro Waterfront Project [#3]) would add additional cruise ships to the Port, and increase vessel traffic and its associated underwater sound (see Table 4-1). The frequency of vessel sound events would increase and contribute a small increment to the average underwater sound level within the harbor that would not be expected to affect the hearing or behavior of marine mammals. While the number of vessels would increase in the Port over the life of the proposed Project, the number of vessels transiting the main channel at any given time would not increase. Individual marine mammals would likely respond to noise from vessels that pass near them by moving away. Cumulative impacts from past, present, and reasonably foreseeable future project of underwater sound from vessels on marine mammals would be less than significant.

Past, present, and future projects will increase offshore vessel traffic. Ship strikes involving marine mammals and sea turtles, although uncommon, have been documented for the following listed species in the eastern North Pacific: blue whale, fin whale, humpback whale, sperm whale, southern sea otter, loggerhead sea turtle, green sea turtle, olive ridley sea turtle, and leatherback sea turtle (NOAA Fisheries and USFWS 1998a, 1998b, 1998c, 1998d; Stinson 1984; Carretta et al. 2001). Ship strikes have also been documented involving gray, minke, and killer whales. The blue whale, fin whale, humpback whale, sperm whale, gray whale, and killer whale are all listed as endangered under the ESA, although the Eastern Pacific grey whale population was delisted in 1994.

In southern California, potential strikes to blue whales are of the most concern due to their migration patterns relative to established shipping channels. Collisions between whales and large commercial vessels are most likely to lead to reported whale mortality or injury. Blue whales normally pass through the Santa Barbara Channel en route from breeding grounds in Mexico to feeding grounds to the north. Blue whales have historically been a target of commercial whaling activities worldwide. In the North Pacific, the pre-whaling population was estimated at approximately 4,900, and the current population estimate is approximately 3,300 with 1,700 in the eastern North Pacific (NMFS 2008). Along the California coast, blue whale abundance has increased over the past two decades (Calambokidis et al. 1990, Barlow 1995, Calambokidis 1995). However, the increase is too large to be accounted for by population growth alone and is more likely attributed to a shift in distribution. Incidental ship strikes and fisheries interactions are listed by NMFS as the primary threats to the California population. The number of strikes per year ranged from 0 to 7 and averaged 2.6, but the actual number is likely to be greater because not all strikes are reported. As the number of vessels increases, the number of incidents are also expected to increase. The proposed Project will not increase shipping traffic, and thus the potential for whale strikes would not be a cumulatively considerable impact. However, the cumulative impacts associated with past, present,

and reasonably foreseeable future projects could be significant and unavoidable due to the low population size of blue whales relative to historic levels and the potential risk for strikes as vessels cross their migration path to enter the harbor. However, the projects contribution to the potential cumulative impacts associated with vessel strikes would not be cumulatively considerable because smaller recreational vessels, such as those that would use the facilities constructed in Slip 5 as part of the project would not be likely to contribute to injury or mortality of whales from strikes.

Development of the vacant land on Pier 400 adjacent to the California least tern nesting site (Pier 400 Oil Marine Terminal Project [#12]) has the potential to adversely affect that species during construction. Also, construction of the Cabrillo Shallow Water Habitat Expansion and Eelgrass Habitat Area as part of the Channel Deepening Project (#4) has the potential to adversely affect California least tern foraging during construction activities. Any significant impacts to the California least tern could be avoided or minimized through timing of construction activities in areas used for foraging to avoid work when the least terns are present. With respect to other special status species, it is not expected that any nesting habitat, foraging habitat, or individuals would be lost as a result of backland developments. The cumulative impacts of past, present, and reasonably foreseeable future actions on special status species would be less than significant, and the proposed Project's incremental contribution would not be cumulatively considerable.

In-water construction activities (e.g., Berths 136–147 Marine Terminal [#2], San Pedro Waterfront Project [#3], Channel Deepening [#4], Cabrillo Way Marina [#5], Evergreen Improvements [#8], Pier 400 Oil Marine Terminal [#12], Berths 97–109 [#16], Berths 212–214 YTI [#29], Berths 121–131 [#30], Middle Harbor [#72], Piers G & J Redevelopment [#73], Pier T TTI [#76], Pier S [#77], and Schuyler Heim Bridge [#83]; see Table 4-1) could disturb or cause special status birds, other than the California least tern addressed above, to avoid the construction areas for the duration of the activities. Because these projects would occur at different locations throughout the harbor and only some are likely to overlap in time, the birds could use other undisturbed areas in the harbor, and few individuals would be affected at any one time. Construction of the Schuyler Heim Bridge (#80), however, would have the potential to adversely affect the peregrine falcon if any are nesting at the time of construction. If nesting were to be affected, impacts would be significant but mitigable by scheduling the work to begin after the nesting season is complete. Because no other related projects would affect the peregrine falcon or other special status species, cumulative impacts on other special status species would be less than significant and the proposed Project would not have a cumulatively considerable impact on special status species.

In-water construction activities, and particularly pile driving (including the soft start method, which begins impact pile driving at 40–60% of full force for a period of 5 minutes), would also result in underwater sound pressure waves that could affect the behavior of marine mammals, as they abandon the area where pile driving activities are occurring. The locations where these activities (e.g., driving of piling and sheet piling) occur are in areas where few marine mammals occur, where projects in close

proximity are not expected to occur concurrently, and where marine mammals would avoid the disturbance area by moving to other areas within the harbor. Therefore, cumulative impacts on marine mammals from underwater sound associated with pile driving from present and reasonably foreseeable future projects would be less than significant and the proposed Project's contribution would not be cumulatively considerable.

A small (e.g., up to 238 bbl) or larger oil spill within the harbor, even though associated with a low probability of occurrence, could result in significant and unavoidable impacts on Special Status water birds. The proposed Project would increase recreational boat traffic. Thus, the proposed project would slightly increase the potential for an accidental oil spill, and would make a cumulatively considerable contribution to the significant and unavoidable cumulative impacts of oil spills for Special Status water birds. Effects of oil spills on other special status species would be less than significant and would not result in a considerable contribution to cumulative impacts.

4.2.3.2.2 Contribution of the Proposed Project

As discussed in Section 3.3.4.3.1 (Impact BIO-1), construction of the proposed Project would have a less-than-significant impact on special status species, because the proposed Project would not cause injury to these animals. In addition, no injuries to whales associated with vessel strikes would occur since the proposed Project would only slightly increase recreational vessel traffic (and not commercial vessel traffic, which would be more likely to cause injury due to a vessel strike) within the harbor via the small public dock and potential operation of a water taxi, and whales are not typically found within the breakwaters of the harbor. The proposed Project would have no impact on critical habitat as a result of construction and operations because no critical habitat is present. Construction activities would result in no loss of individuals or habitat for special status species.

The slight increase in vessel traffic associated with the proposed Project would increase the risk for an accidental oil spill, which, as mentioned above, would be a cumulatively considerable impact on sensitive species (i.e. California least tern and California brown pelican), when other past, present and reasonably foreseeable future projects are taken into account.

4.2.3.2.3 Mitigation Measures and Residual Cumulative Impacts

There is potential for an accidental oil spill to have a cumulatively considerable contribution to a significant cumulative impact on special status species associated with vessels using proposed project amenities during operation. No mitigation measures are available to reduce the potential for an accidental oil spill; therefore, the contribution of the proposed project would be cumulatively considerable.

4.2.3.3 Cumulative Impact BIO-2: Alteration or Reduction of Natural Habitats, Special Aquatic Sites, or Plant Communities—Cumulatively Considerable

Cumulative Impact BIO-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially reduce or alter state-, federally, or locally designated natural habitats, special aquatic sites, or plant communities, including wetlands.

4.2.3.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Essential Fish Habitat (EFH) has been and will be lost due to past, present, and future landfill projects in the harbor. EFH protection requirements began in 1996, and thus, only apply to projects since that time. The projects in Table 4-1 that could result in a loss of EFH are Pier 400 (#1), Berths 136–147 Marine Terminal (#2), Channel Deepening (#4), Berths 97–109 (#16), Middle Harbor Terminal redevelopment (#72), Piers G & J (#73), and Pier T (#76). The Pier S Marine Terminal (#77) project could alter EFH through Back Channel safety improvements, and the West Basin Installation Restoration Site 7 Dredging Project (#82) could alter EFH through dredging. The losses since 1996 include fill for the Pier 400 project (#1) and part of the Channel Deepening project (#4). These impacts were significant but mitigable under CEQA, and the use of mitigation bank credits for the marine habitat loss impacts also offset the losses of EFH. Impacts of fill for the future projects would also be offset by use of mitigation bank credits.

Temporary disturbances to EFH also would occur during in-water construction activities from cumulative projects: San Pedro Waterfront (#3), Channel Deepening (#4), Cabrillo Way Marina (#5), Berths 226–236 Improvements (#8), Consolidated Slip Restoration (#15), Berths 97–109 (#16), Berths 212–214 (#29), Berths 121–131 (#30), Middle Harbor Terminal Redevelopment (#72), Piers G & J (#73), Pier T (#76), Pier S (#77), and West Basin Installation Restoration Site 7 Dredging Project (#82). These disturbances occur at specific locations that are scattered in space and time across the harbor and would not likely cause a significant impact on EFH. Increased vessel traffic and runoff from on-land construction activities and operations resulting from the cumulative projects would not result in a loss of EFH, nor would these activities substantially degrade EFH. Thus, cumulative impacts on EFH would be less than significant from past, present, and reasonably foreseeable future projects.

Natural habitats, special aquatic sites (e.g., eelgrass beds, mudflats), and plant communities (wetlands) have a limited distribution and abundance in the harbor. The 40-acre Pier 300 expansion project caused a loss of eelgrass beds that was mitigated as part of the Pier 300 Project. The Southwest Slip fill in the West Basin completed as part of the Channel Deepening Project resulted in a small loss of saltmarsh that was also mitigated. Prior to agreements to preserve natural habitats such as

mitigation credit systems, losses of eelgrass, mudflats, and saltmarsh from early landfill projects were not documented but were likely to have occurred due to the physical changes to the Port. Therefore, cumulative impacts of construction activities are considered significant. Oil spills from tankers in the harbor would have the potential to affect eelgrass beds at Cabrillo Beach and the Pier 300 Shallow Water Habitat, mudflats, and the Cabrillo saltmarsh under a worst-case scenario. Cumulative oil spill impacts would be significant, and unavoidable for eelgrass beds and other natural habitats.

4.2.3.3.2 Contribution of the Proposed Project

The proposed Project would result in the reduction of 2,200 square feet (0.05 acres) of marine habitat. While the habitat in the Inner Harbor is generally considered of relatively low quality due to its location and the level of shoreline development, the loss of this habitat would be considered significant.

There is a remote possibility of an accidental oil spill from vessels during the operation of the proposed Project, and if an accidental oil spill occurred, it would represent a cumulatively considerable contribution to a potentially significant cumulative impact on natural habitats. Therefore, the contribution of the proposed Project on natural habitats would be cumulatively considerable.

Because the proposed Project would result in a significant impact, it would have a cumulatively considerable contribution associated with other past, present, or reasonably foreseeable future projects.

4.2.3.3.3 Mitigation Measures and Residual Cumulative Impacts

The marine habitat that would be lost is considered Essential Fish Habitat and would be mitigated at the Inner Harbor Mitigation Bank at a ratio of 1.5 acres for each 1 acre impacted. The loss of 2,200 square feet (0.05 acres) of marine habitat within the Inner Harbor will be offset by allocating 3,300 square feet (0.08 acres) of marine habitat in the Inner Harbor Mitigation Bank, thus reducing the loss of this habitat to less than significant and less than cumulatively considerable, with mitigation.

There is potential for an accidental oil spill to have a cumulatively considerable contribution to a potentially significant cumulative alteration or reduction of natural habitats, special aquatic sites, or plant communities associated with vessels using the proposed project amenities during operation. No mitigation measures are available to reduce the potential for an accidental oil spill; therefore, the contribution of the proposed project would be cumulatively considerable.

4.2.3.4 Cumulative Impact BIO-3: Interference with Migration or Movement Corridors—No Cumulative Impact

Cumulative Impact BIO-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to interfere with wildlife migration or movement corridors.

4.2.3.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.3.4.2 Contribution of the Proposed Project

The proposed Project would have no impacts on migration or movement corridors, because there are no migration or movement corridors within the Port; therefore, it also would have no cumulatively considerable contribution to any cumulative impact. Since the proposed Project would have no impact, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.3.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.3.5 Cumulative Impact BIO-4: Disruption of Local Biological Communities—Cumulatively Considerable

Cumulative Impact BIO-4 represents the potential of the proposed Project when combined with past, present, and future projects, to cause a cumulatively substantial disruption of local biological communities (e.g., from the introduction of noise, light, or invasive species).

4.2.3.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Dredging and Wharf Work. Construction of past projects in the harbor has involved in-water disturbances such as dredging and wharf construction that removed surface layers of soft bottom habitat, and temporarily removed or permanently added hard substrate habitat (e.g., piles and rocky dikes). These disturbances altered the benthic habitats present at the location of the specific projects, but effects on benthic communities were localized and of short duration as invertebrates recolonized the habitats. Because these activities only affected a small portion of the harbor at any given time and recovery has occurred or is in progress, biological communities in the harbor have not been continually changing. Similar construction activities (e.g., wharf construction/reconstruction and dredging) would occur for these cumulative projects that are currently underway and for some that would begin in the future (see Table 4-1): Berths 136–147 Marine Terminal (#2), San Pedro Waterfront Project (#3), Channel Deepening (#4), Cabrillo Way Marine (#5), Evergreen Improvements (#8), Pier 400 Oil Marine Terminal (#12), Berths 97–109 (#16), Berths 212–214 (#29), Berths 121–131 (#30), Middle Harbor Terminal Redevelopment (#72), Piers G & J (#73), Pier T (#76), and Pier S (#77).

Because recolonization of dredged areas and new riprap and piles begins immediately and provides a food source for other species, such as fish, within a short time, multiple projects spread over time and space within the harbor would not substantially disrupt benthic communities in comparison to current conditions. Construction disturbances at specific locations in the water and at different times that are caused by the cumulative projects, which can result in fish and marine mammals avoiding the work area, are not expected to substantially alter the distribution and abundance of these organisms in the harbor and thus would not substantially disrupt biological communities. Turbidity that results from in-water construction activities occurs in the immediate vicinity of the work and lasts just during the activities that disturb bottom sediments. Effects on marine biota are thus localized to relatively small areas of the harbor and are of limited duration for each project. Those projects that are occurring at the same time but that are not in close proximity would thus not have additive effects.

Furthermore, based on biological baseline studies described in Section 3.3, "Biological Resources," the benthic marine resources of the harbor have not declined during Port development activities occurring since the late 1970s. The biological baseline conducted by MEC (2002) identified healthy benthic communities in the Outer Harbor despite major dredging and filling activities associated with the Port's Deep Draft Navigation Project (USACE and LAHD 1992). However, between 2002 and 2005, the USACE and the Port dredged most of the Inner Harbor channels and basins from -45 to -53 feet (Channel Deepening Project, #4). In addition, additional Channel Deepening dredging may be occurring in 2009 around selected berths in the West Basin.

Recolonization of disturbed marine environments begins rapidly and is characterized by high production rates of a few colonizing species. However, establishment of a climax biological community typical of the West Basin and Inner Harbor could take several years.

Landfilling. Landfilling has removed and would continue to remove marine habitat and disturb adjacent habitats in the harbor. The projects listed in Table 4-1 that involve landfill construction are: Pier 400 (#1), Channel Deepening (#4), Berths 97–109 (#16), Berths 302–305 APL (#24), Middle Harbor Terminal redevelopment (#72), and Piers G & J (#73). Numerous other projects in the past (prior to those listed in Table 4-1) also included landfill construction. These included Pier 300 and the remaining terminal land areas that were not built on land that existed prior to Port development. During the filling process, suspension of sediments would result in turbidity in the vicinity of the work with rapid dissipation upon completion of the fill to above the water level. Water column and soft bottom habitats are lost while riprap habitats are gained. Although the total amount of marine habitat in the harbor has decreased, a large amount remains, and the biological communities present in the remaining harbor habitats have not been substantially disrupted as a result of those habitat losses. All marine habitat loss impacts from landfill construction have been mitigated to insignificance through onsite (shallow water habitat construction) and offsite (Batiquitos and Bolsa Chica restorations) mitigation since implementation of the agreement with the regulatory agencies (see Cumulative Impact BIO-5). The landfill impacts of past projects on marine biological habitat, prior to the application of mitigation offsets or mitigation agreements, is unquantified; however, due to the level of development that has occurred, the past projects are assumed to have resulted in a significant cumulative impact that now constitutes the current baseline settings.

The landfill impacts of present and reasonably foreseeable future projects have been or would be mitigated by offsets of mitigation bank credits. As a result, present and reasonably foreseeable future projects would not result in additional significant cumulative impacts related to the loss of marine habitat.

Backland Construction and Operations. Runoff from construction activities on land has reached harbor waters at some locations during past project construction, particularly for projects implemented prior to the 1970s when environmental regulations were introduced. Past projects included Pier 300, Pier J, and the remaining terminal land areas within the Los Angeles–Long Beach Harbor. Runoff also has the potential to occur during present and future projects (all projects in Table 4-1 because all drainage in the area containing the cumulative projects is ultimately to the harbor). Construction runoff would only occur during construction activities so that projects that are not concurrent would not have cumulative effects. Construction runoff would add to ongoing runoff from operation of existing projects in the harbor at specific project locations and only during construction activities. For past, present, and future projects, the duration and location of such runoff would vary over time. Measures such as berms, silt curtains, and sedimentation basins are used to prevent or minimize runoff from construction, and this keeps the concentration of pollutants below thresholds that could measurably affect marine biota. Runoff from

past construction projects (e.g., turbidity and any pollutants) has either dissipated shortly after construction was completed or settled to the bottom sediments. For projects more than 20 years in the past, subsequent settling of suspended sediments has covered the pollutants, or the pollutants have been removed by dredging projects. Runoff from operation of these past projects continues but is regulated. Biological baseline surveys in the Harbor (MEC 1988; MEC and Associates 2002) have not shown any disruption of biological communities resulting from runoff. Effects of runoff from construction activities and operations would not substantially disrupt local biological communities in the harbor, and as a consequence past, present, and reasonably foreseeable future projects would not result in significant cumulative local biological community impacts related to runoff.

Much of the development in the harbor has occurred and continues to occur on landfills that were constructed for that purpose. As a result, those developments did not affect terrestrial biota. Redevelopment of existing landfills to upgrade or change backland operations temporarily affected the terrestrial biota (e.g., landscape plants, rodents, and common birds) that had come to inhabit or use these industrial areas. Future cumulative developments such as hotels and other commercial developments on lands adjacent to the harbor would be in areas that do not support natural terrestrial communities or are outside the region of analysis. Projects in Table 4-1 that are within the geographical region of analysis and could affect terrestrial biological resources are: Berths 136–147 Marine Terminal (#2), Channel Deepening (#4), Evergreen Improvements (#7), SSA Outer Harbor Fruit Facility Relocation (#9), Crescent Warehouse Company Relocation (#11), Ultramar (#13), Berths 97–109 (#16), Berths 171–181 (#17), Berths 206–209 (#18), South Wilmington Grade Separation (#25), Avalon Development District Project (#26), "C" Street/Figueroa Street Interchange (#27), Port Transportation Master Plan (#28), Berths 212–224 (#29), Berths 121–131 (#30), Banning Elementary School #1 (#60), East Wilmington Greenbelt Community Center (#61), Pier A West Remediation (#74), Pier A East (#75), and Schuyler Heim Bridge Replacement (#83). Construction and operation of these projects would not substantially disrupt terrestrial biological communities because no well-developed communities are present and no bird nesting is expected at any of the cumulative project sites. Based on this past, present, and reasonably foreseeable future projects would not result in significant cumulative local biological community impacts related to upland development within the geographic scope.

Vessel Traffic. Cumulative marine terminal projects (e.g., Berths 136-147 Marine Terminal [#2], San Pedro Waterfront Project [3], Channel Deepening [#4], Evergreen Improvements [#8], Pier 400 Oil Marine Terminal [#12], Ultramar [#13], China Shipping [#16], LAXT Crude Oil [#19], YTI [#29], Yang Ming [#30], Middle Harbor [#72], Piers G & J [#73], Pier T TTI [#76], and Pier S [#77]) that involve vessel transport of cargo and recreational boat traffic into and out of the harbor have increased vessel traffic in the past and would continue to do so in the future. Commercial and recreational vessels have introduced invasive exotic species into the harbor through ballast water discharges and via their hulls. Ballast water discharges are now regulated so that the potential for introduction of invasive exotic species by this route has been greatly reduced. The potential for introduction of exotic species

via vessel hulls has remained about the same, but use of antifouling paints and periodic cleaning of hulls to minimize frictional drag from growth of organisms keeps this source low. While exotic species are present in the harbor, there is no evidence that these species have disrupted its biological communities. Biological baseline studies conducted in the harbor continue to show the existence of diverse and abundant biological communities. However, absent the ability to eliminate the introduction of new species through ballast water or on commercial and recreational vessel hulls, it is possible that additional invasive exotic species could become established in the harbor over time, even with these control measures. As a consequence, past, present, and reasonably foreseeable future projects would result in significant cumulative local biological community impacts related to the introduction of invasive species.

The amount of chemicals released to harbor waters from leaching of antifouling paints on vessel hulls would increase in proportion to the increased number of vessels resulting from cumulative projects. As described below for Water Quality (Section 4.2.14), cumulative impacts would be significant because waters in parts of the harbor are impaired for some of these chemicals. However, the concentration of chemicals toxic to marine biota would not be increased to a level that would substantially disrupt local communities, and cumulative impacts on local biological communities would be less than significant.

A long-term increase in the transport of crude oil and/or petroleum products through the Los Angeles–Long Beach Harbor area would result from these cumulative projects: Ultramar (#13) and Chemoil (#81) (assuming that petroleum product throughput and number of vessels would increase) as well as the proposed Project. This would increase the potential for accidental spills of these products into harbor waters in proportion to the number of vessels and product transfers. A spill from the existing pipelines over Dominguez Channel is unlikely to occur but could release oil into Inner Harbor waters at that location. Accidents during tanker transit through the harbor to existing berths could also release oil into harbor waters. Small spills of less than 238 bbl are expected to have less-than-significant impacts on local biological communities because the area affected would be localized, no sensitive species are likely to be affected, and containment and cleanup procedures would reduce the severity of impacts. A moderate to large spill that affects large numbers of water-associated birds such as gulls or large amounts of intertidal invertebrate communities would have significant cumulative impacts.

Oil spills on land would likely be at tank farms within containment berms where few to no biological resources are present and would be cleaned up immediately. Spills from pipelines would likely be underground or in containment areas at oil facilities. Cumulative impacts on local terrestrial biological communities would be less than significant.

4.2.3.5.2 Contribution of the Proposed Project

Due to the developed existing condition of the terrestrial portion of the site, the proposed Project would not result in any significant alteration of terrestrial biological communities. For marine biological communities, potential alterations of biological communities would include an increase of shade on intertidal and harbor edges from construction of new overwater structures and the potential for an accidental oil spill. Changes associated with shading would not alter the general character of Inner Harbor intertidal or harbor edge habitat and associated communities from their existing conditions. There is a remote possibility of an accidental oil spill from vessels during the operation of the proposed Project, and if an accidental oil spill occurred, it would represent a cumulatively considerable contribution to a potentially significant cumulative impact on marine biological communities. Therefore, the incremental contribution of the proposed Project on Impact BIO-4 would be cumulatively considerable.

4.2.3.5.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are available to reduce the potential for an accidental oil spill; therefore, the contribution of the proposed Project would be cumulatively considerable.

4.2.3.6 Cumulative Impact BIO-5: Loss of Marine Habitat—Cumulatively Considerable

Cumulative Impact BIO-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in a permanent loss of marine habitat.

4.2.3.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Numerous landfill projects have been implemented in the harbor since it was first developed, and these projects have resulted in an unquantified loss of marine habitat. For the cumulative projects listed in Table 4-1, approximately 570 acres of landfill have been completed in the harbor (Pier 400 [#1] and Channel Deepening [#4]), another 75 acres are in the process of being filled (Piers G & J [#73] and Pier T TTI [#76]), and future planned landfills (without the proposed Project) total about 65 acres (Channel Deepening [#4], Berths 97–109 [#16], and Middle Harbor Terminal Redevelopment [#72]). Berths 136–147 Marine Terminal [#2] would fill 9.5 acres. Thus, well over 700 acres of marine habitat have been or will be lost in the harbor. Losses of marine habitat prior to implementation of the agreements among the Ports and regulatory agencies (City of Los Angeles 1984, 1997) were not mitigated.

Losses since that time have been, and will be for future projects, mitigated by use of existing mitigation bank credits from marine habitat restoration off site and through creation of shallow water habitat within the Outer Harbor as established in the agreements with the regulatory agencies.

The loss of habitat impacts of past projects, prior to the application of mitigation offsets or mitigation agreements, is unquantified; however, due to the level of development that has occurred, the past projects are assumed to have resulted in a significant cumulative impact that now constitutes the current baseline settings.

The loss of habitat impacts of present and reasonably foreseeable future projects have been or would be mitigated by offsets of mitigation bank credits. As a result, present, and reasonably foreseeable future projects would not result in additional significant cumulative impacts related to the loss of marine habitat.

4.2.3.6.2 Contribution of the Proposed Project

Construction of the proposed Project would result in permanent changes to the proposed project area that would increase shading through the addition of 43,220 square feet of overwater structures. The change in ambient light associated with the addition of 43,220 square feet of overwater structures would not affect eelgrass, kelp, or other aquatic vegetation or macroalgae, as these currently do not exist in Slip 5, or exist in very small quantities.

The proposed Project would result in the loss of 2,200 square feet (0.05-acres) of Inner Harbor marine habitat. This habitat is of generally low quality, when compared to the habitat provided in other areas of the harbor; however, the loss of these 2,200 square feet (0.05-acres) of marine habitat would be a significant impact, and thus the proposed Project's contribution is cumulatively considerable.

4.2.3.6.3 Mitigation Measures and Residual Cumulative Impacts

The loss of 2,200 square feet of marine habitat as a result of the proposed Project will be mitigated at a ratio of 1.5 to 1. Thus 3,300 square feet (0.08 acres) of marine habitat at the Inner Harbor Mitigation Bank will be dedicated to the proposed Project. Although this will ensure that the proposed Project will have a less than significant impact after mitigation, it would still be considered a significant cumulative impact, and the proposed Project's contribution would be cumulatively considerable.

4.2.4 Cultural Resources

4.2.4.1 Scope of Analysis

The geographic region of analysis for cumulative effects on cultural and paleontological resources related to Port projects varies on the type of resource. In general, areas situated on natural landforms within and surrounding the Port need to be considered for prehistoric archaeological resources as well as paleontological resources. This also includes portions of the natural landscape located within harbor waters that may contain prehistoric and/or paleontological resources that have become submerged as a result of rising sea levels and/or dredging activities.

Historical archaeological resources and historic architectural resources may be found on both natural landforms and/or in fill/artificial soils. In addition, submerged cultural resources such as historic sailing vessels may be encountered within harbor waters. Impacts on prehistoric and historical archaeological resources as well as paleontological resources typically includes ground disturbance such as grading or dredging, while impacts on the historic built environment typically result from modification, relocation, and demolition. Impacts on submerged historical archaeological resources, such as sunken ships, may also result from dredging and modification of the harbor.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.4, "Cultural Resources."

4.2.4.2 Cumulative Impacts CR-1, CR-2, and CR-3: Adverse Effect on Known and Unknown Prehistoric or Historical Archaeological Resources including Buried Human Remains—Less than Cumulatively Considerable with Mitigation

Cumulative Impact CR-1, CR-2, and CR-3 represent the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to disturb, damage, or degrade listed, eligible, or otherwise unique or important known or unknown prehistoric and/or historical archaeological resources including buried human remains.

4.2.4.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Archaeologists estimate that past and present projects within urban areas including the proposed project vicinity have destroyed over 80% of all prehistoric sites without

proper assessment and systematic collection of information beforehand. As prehistoric sites are non-renewable resources, the cumulative direct and indirect impacts of these actions are significant. Such projects have eliminated our ability to study sites that may have been likely to yield information important in prehistory. In other words, the vast majority of the prehistoric record has been already lost.

There is a low potential to encounter buried prehistoric and/or historic period human remains within the proposed project area. According to the Phase I historical resources study (ICF Jones & Stokes 2008) no known prehistoric burials have been encountered within a one-mile radius of the proposed project area. In addition, no historic period cemeteries have been documented within the proposed project boundaries.

However, the cumulative total of Port and other development projects could potentially impact buried cultural resources and/or unanticipated human remains. Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the Pier 400 Container Terminal Project (#1), San Pedro Waterfront Project (#3), Channel Deepening Project (#4), Cabrillo Way Marina (#5), Artificial Reef, San Pedro Breakwater (#6), Consolidated Slip Restoration (#15), Berths 97–109 Container Terminal Project (#16), Southern California International Gateway (#20), and Berths 212–224 Container Terminal Improvements (#29) would potentially require excavation should it be determined that there is a potential to impact significant prehistoric and/or historical archaeological resources and/or human remains.

Although much of the area has been previously disturbed, there is the potential for areas of the proposed Project on or adjacent to natural landforms, and other related upland Port projects on the periphery of the Port, including the San Pedro Waterfront Enhancements Project, (#22), South Wilmington Grade Separation (#25), Avalon Development District (#26), "C" Street/Figueroa Street Interchange (#27), and I-110/SR 47 Connector Improvement Program (#32), to disturb unknown, intact subsurface prehistoric or historic archaeological resources. Reasonably foreseeable future projects within upland areas, such as the Community of San Pedro (#46, #47, #49, #52, #53, #54, #55, #56, #57, #58), Community of Wilmington (#60, #62, #63), Harbor City, Lomita, and Torrance (#65, #67, #68, #69, #70, #71), and City of Long Beach (#87, #88, # 89), would also potentially contribute to this impact. Therefore, each of these projects would result in significant cumulative impacts.

4.2.4.2.2 Contribution of the Proposed Project

Prehistoric Archaeology

As documented in Section 3.4.4.3.1 (**Impacts CR-1 and CR-2**), no known prehistoric archaeological sites are located within the project area. However, two prehistoric archaeological sites, CA-LAn-150 and CA-LAn -283, have been identified adjacent to a portion of the proposed California Coastal Trail extension.

Construction and excavation activities associated with the proposed Project, at its peripheries, would impact intact natural landforms where prehistoric occupation occurred. Given previous disturbance, the potential for disturbing, damaging, or degrading unknown prehistoric archaeological resources is unlikely but possible.

There is a low potential to encounter buried prehistoric and/or historic period human remains within the proposed project area (**Impact CR-3)**. According to the Phase I historical resources study (ICF Jones & Stokes 2008), no known prehistoric burials have been encountered within a one-mile radius of the proposed project area. In addition, no historic period cemeteries have been documented within the proposed project boundaries. In the event human remains are discovered, the Port would be required to comply with state law which states that there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner is contacted and the appropriate steps taken pursuant to Health and Safety Code §7050.5 and Public Resource Code §5097.98. The proposed Project's contribution to a cumulatively significant impact would not be cumulatively considerable and therefore the project would not result in a significant cumulative impact on prehistoric resources.

Historical Archaeology

According to the records search, no known historical archaeological sites are located within either the program- or project-level portions of the proposed project area. However, the records search indicates that the proposed project area is sensitive for historical archaeological resources. CA-LAn-2135H is located approximately 0.04 of a mile from the Waterfront Red Car Line and California Coastal Trail. This site consists of the location of the 424-acre Los Angeles Union Oil Refinery, which was constructed in 1917. According to the records search, the site consists primarily of tanks, refinery and maintenance facilities, office structures, utilities, and roads. The site is located 0.04 of a mile from the proposed project area, and is separated from the proposed project area by extensive development, including the 110 Freeway, and would not be affected by the proposed project.

The Phase I historical resources study (ICF Jones & Stokes 2008) has resulted in the identification of six cultural resources within the project area: ICFJSA-NS-1/Pacific Electric Railway, ICFJSA-NS-2/Harbor Belt Line Railroad, ICFJSA-NS-3/Drainage Swale, ICFJSA-NS-4/Pacific Electric Railway "Channel Track", ICFJSA-NS-5 Water Street Wharf /Catalina Steamer Terminal, ICFJSA-NS-6/Stacked Stone Breakwater. Of these resources, only ICFJSA-NS-1 was determined eligible for listing on the CRHR. Implementation of **MM CR-2** would reduce the cumulative impacts of the proposed project by incorporating the resource into the proposed project design. Therefore, with implementation of **MM CR-2**, the proposed Project would not contribute to significant cumulative impacts to archaeological resources.

Furthermore, the Phase I historical resources study ICF Jones & Stokes 2008) has also indicated the potential for subsurface historical archaeological deposits associated a Civil War Government Depot at Banning's Landing within the Avalon

Waterfront District portion of the proposed project area. Likewise, the delineation of businesses on historic maps indicates the area has a very high potential for extant subsurface historical archaeological deposits within portions of the Avalon Development District, specifically the proposed Mercado. Implementation of proposed Project **MM CR-3** and **MM CR-4** would reduce the cumulative impacts of the proposed Project. Under **MM CR-3** a treatment plan would be developed by a qualified archaeologist and implemented in the event that subsurface historical archaeological deposits are encountered during ground-disturbing activities.

Under **MM CR-4** a program would be developed by a qualified archaeologist to monitor for non-renewable archaeologists resources during initial ground disturbance in sensitive areas. If archaeological sites were found, work would temporarily cease until a qualified archaeologist evaluates the significance of the find and, if determined to be a significant, implements the provisions for treatment as outlined in **MM CR-3**. These actions would eliminate the proposed Project's cumulatively considerable contribution to cumulative impacts. Therefore, with implementation of **MM CR-3** and **MM CR-4**, the proposed Project would not contribute to significant cumulative impacts to archaeological resources

4.2.4.2.3 Mitigation Measures and Residual Cumulative Impacts

Because there is always the potential to impact unknown buried cultural resources in historically inhabited areas, mitigation would be required for the proposed Project to minimize significant impacts (MM CR-1 through MM CR-5). Other cumulative projects would also potentially impact buried cultural resources. Implementation of this mitigation would help minimize cumulative effects on cultural resources from the proposed Project.

The operation of the proposed Project, once completed, is not anticipated to impact cultural resources. There would be no ongoing ground-disturbance activities once construction is completed. The proposed Project would not produce any long-term indirect impacts on cultural resources. It would not increase access to sensitive cultural sites or impair the continued use of any known historic structures or sites. Therefore, the operation of the proposed Project would not make a cumulatively considerable contribution to cumulative impacts on cultural resources within the Port.

4.2.4.3 Cumulative Impact CR-4: Loss of or Loss of Access to Paleontological Resources—Less than Cumulatively Considerable with Mitigation

Cumulative Impact CR-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

4.2.4.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The number of significant paleontological resources in the immediate project areas destroyed by past and present projects is likely to have been low, since near surface geologic deposits underlying the proposed Avalon Waterfront District, the Avalon Development District, and Avalon Triangle Park, as well as the eastern extent of the Waterfront Red Car Line/California Coastal Trail along Harry Bridges Boulevard consist of Holocene-age, near shore, marine and non-marine deposits, including beach, estuary, tidal flat, lagoon, shallow-water bay sediments, and shoreline terrace deposits, which have a low potential to encompass paleontological resources. These younger alluvial deposits are overlain in many places by artificial fill materials, as land has been built up during the historic development of the Port. However, any excavation operations within the proposed Project area or vicinity which reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

The western extent of the Waterfront Red Car Line/California Coastal Trail, west of Figueroa along John S. Gibson Boulevard, is underlain by Quaternary alluvium, Quaternary older alluvium, and Pleistocene-age offshore marine deposits of San Pedro Sand. The San Pedro Sand was deposited during the middle Pleistocene and dates to approximately 500,000 to 200,000 years ago (Kirby and Demere 2007). Pleistocene-age San Pedro Sand is mapped at the surface between the Northwest Slip and the Southwest Slip, and in patches near the Vincent Thomas Bridge. These deposits are of fossil bearing age, and are of scientific interest if intact.

Within the more extensive project vicinity, geological formations in which important terrestrial vertebrate fossils may be found, however, have been substantially disturbed by urban development without systematic analysis by a professional paleontologist. Many fossils encountered during past construction may have been in poor condition or have been redundant examples of species previously recognized and characterized. There is the potential, however, for unusual (i.e., because of their age, size, and/or condition) or previously unrecorded fossil species to be encountered within an urban project area. It is assumed that past excavation and construction projects undertaken without conditions of approval requiring expert assessment when fossils encountered have resulted in substantial number of significant resources being destroyed without analysis. Their destruction without proper assessment has reduced the ability to reconstruct the region's fossil record.

Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the Pier 400 Container Terminal Project (#1), Channel Deepening Project (#4), Cabrillo Way Marina (#5), Artificial Reef, San Pedro Breakwater (#6), Consolidated Slip Restoration (#15), Berths 97–109 Container Terminal Project (#16), Southern California International Gateway (#20), and Berths 212–224 Container Terminal Improvements (#29) would potentially require excavation. Construction activities associated with these projects would be in

areas of historical estuary habitats containing sediments dating from recent geologic time (i.e., the last 20,000 years), well after the time periods when animals that have been fossilized were present, and recent built land that would not contain natural fossil deposits. Therefore, portions of these projects would not be located within areas with potentially significant vertebrate paleontological resources.

Although much of the area has been previously disturbed, there is the potential for areas on or adjacent to natural landforms and other related upland Port projects on the periphery of the Port, including the San Pedro Waterfront Enhancements Project, (#22), South Wilmington Grade Separation (#25), Avalon Development District (#26), "C" Street/Figueroa Street Interchange (#27), and I-110/SR 47 Connector Improvement Program (#32)) to disturb unknown paleontological resources. Reasonably foreseeable future projects within upland areas that may affect paleontological resources include those in the Community of San Pedro (#46, #47, #49, #52, #53, #54, #55, #56, #57, #58), Community of Wilmington (#60, #62, #63), Harbor City, Lomita, and Torrance (#65, #67, #68, #69, #70, #71), and City of Long Beach (#87, #88, #89). The County of Los Angeles (Los Angeles County 2007) and City of Long Beach (City of Long Beach 2007) do not have code requirements ensuring that paleontological resources encountered during construction are professionally assessed and preserved. Therefore, such past, present, and foreseeable future projects may result in the destruction of paleontological resources. The impacts of each of these projects would result in a significant cumulative impact.

4.2.4.3.2 Contribution of the Proposed Project

Except in the western reach of the Waterfront Red Car Line/California Coastal Trail, construction-related excavations would be confined to areas underlain by recent sediments or artificial fill materials, and the proposed Project would disturb ground within areas of low paleontological sensitivity. However, even in these areas the depths the thickness of fill materials is as yet unknown, as is the thickness of the Holocene-age younger alluvium; therefore, depth of cover to buried geologic deposits that may contain paleontological resources is not known. Therefore there is a potential disturbance to paleontological resources at depth by deep excavations for the proposed Project. Therefore, the incremental effect of the proposed Project on paleontological resources would be considered cumulatively considerable under CEQA when considered in conjunction with past projects and related present and future projects outside of the jurisdiction of the Port of Los Angeles.

4.2.4.3.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of proposed Project **MM CR-6** would reduce the cumulative impacts of the proposed Project. Under **MM CR-6** a program would be developed by a qualified vertebrate paleontologist to monitor for non-renewable paleontological resources during initial ground disturbance in sensitive areas, that is, deep excavations in areas not made up of artificial fill materials. If fossils were found,

work would temporarily cease until a qualified vertebrate paleontologist evaluates the significance of the fossil and, if determined to be a significant, systematically removes and stabilizes the specimen in anticipation of its preservation, and curation in a qualified professional research facility. These actions would eliminate the proposed Project's cumulatively considerable contribution to cumulative impacts. Therefore, with implementation of **MM CR-6**, the proposed Project would not contribute to significant cumulative impacts to paleontological resources.

4.2.4.4 Cumulative Impact CR-5: Disturbance of Historic Architectural Resources—Less than Cumulatively Considerable

Cumulative Impact CR-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to disturb structures that have been determined eligible for the California Register of Historic Places or the National Register of Historic Places, or otherwise considered unique or important historic architectural resources under CEQA.

4.2.4.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects within urban settings including the proposed Project area have involved demolition of significant historic architectural structures, most often without the benefit of their recordation (photographs and professional drawings) beforehand. Though each structure over 50 years old is not necessarily unique, historic buildings are capable of contributing to understanding events that have made a significant contribution to the broad patterns of history and/or may have been associated with the lives of persons significant in the past and/or may have been architecturally distinctive. Their destruction without proper recordation has minimized the ability to reconstruct the region's heritage.

Proposed present and future Port projects requiring removal of significant or potentially significant historical architectural resources (i.e., demolition of structures over 45 years of age) include the following:

- Canner's Steam Demolition Project (#7). Demolition of two unused buildings and other small accessory structures at the former Canner's Steam Plant in the Fish Harbor area of the Port.
- Pan-Pacific Fisheries Cannery Buildings Demolition Project (#20). Demolition of two unused buildings and other small accessory structures at the former Pan-Pacific Cannery in the Fish Harbor area of the Port.

- Dana Strand Public Housing Redevelopment Project (#63) in the Community of Wilmington. The existing facility is being torn down and redeveloped to provide a 116-unit affordable housing, and public facilities.
- 1437 Lomita Boulevard Condominiums project (#65) within the City of Lomita. Demolition of existing closed hospital to construct 160 condominium units, 1437 Lomita Boulevard (at Senator Avenue), Harbor City.
- Port of Long Beach, the Administration Building Replacement Project (#78). Replacement of the existing Port Administration Building with a new facility on an adjacent site.
- Southwest Marine Demolition Project (#31). Demolition of buildings associated with the World War II emergency shipbuilding historic district. Demolition of all buildings and other small accessory structures at the Southwest Marine (Bethlehem Shipyard).

Cumulative impacts associated with past, present, and reasonably foreseeable future projects regarding historical architectural resources would be cumulatively significant since these projects would include the removal of significant or potentially significant historical architectural resources.

4.2.4.4.2 Contribution of the Proposed Project

As documented in Section 3.4.4.3 (Impact CR-5) there are five properties located within the proposed Project's Area of Potential Effects that are listed in or have been determined to be eligible for the NRHP, the California Register, and/or the Los Angeles Historic-Cultural Monument List. Impacts on these properties associated with the proposed Project would either not occur or be less than significant. There is one property that has been determined eligible for the California Register and/or the Local Register of Historical Resources by the lead agency. However, it was determined either no impact or less-than-significant impacts would occur on this property as a result of the proposed Project. There are eight properties that have either been determined significant by the lead agency, and/or have been determined to be significant in a historical resources survey. As discussed under Impact CR-5, the project would implement landscaping around historic resources and reuse the Bekins building for the Red Car Museum. Impacts associated with the proposed Project on these properties would either not occur or be less than significant.

The proposed Project would have no adverse effects on historic architectural resources, and impacts would be less than significant. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact CR-5 when combined with past, present, and reasonably foreseeable future projects.

4.2.4.4.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.5 Geology

4.2.5.1 Scope of Analysis

The geographic scope for cumulative impacts varies for geological resources, depending on the geologic issue. The geographic scope with respect to seismicity includes the Wilmington Harbor community and extends to adjacent areas, including the community of San Pedro, and the greater Port of Los Angeles. An earthquake capable of creating substantial damage or injury at the proposed project site could cause substantial damage or injury throughout this area of man-made fill, which is prone to liquefaction and differential settlement. The geographic scope with respect to subsidence/settlement, expansive soils, and unstable soil conditions would be confined to the proposed project area, as these impacts are site-specific and relate primarily to construction techniques. There are no landslides, mudflows, and modification of topography or prominent geologic features, as the Port area is generally flat, not subject to slope instability, and contains no unique geologic features.

Past, present, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with geologic resources are those that involve the addition of new land area, infrastructure, and personnel that would be subject to earthquakes and unstable soils.

All projects located in the proposed project area are subject to severe seismically induced ground shaking due to an earthquake on a local or regional fault. Structural damage and risk of injury as a result of such an earthquake are possible for most of the cumulative projects listed in Table 4-1, with the exception of, for example, the Channel Deepening Project and the Artificial Reef Project, as these projects do not involve existing or proposed structural engineering or onsite personnel.

For the purposes of this EIR, the timeframe of current or reasonably anticipated projects extends to the year 2020, and the vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.5.4.2.

4.2.5.2 Cumulative Impact GEO-1: Damage or Risk due to Fault Rupture, Seismic Ground Shaking, Liquefaction, or other Seismically Induced Ground Failure—Cumulatively Considerable and Unavoidable

Cumulative Impact GEO-1 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would place structures and/or infrastructure in danger of substantial damage or expose people to substantial risk following a seismic event.

Southern California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 52 major earthquakes (i.e., of M6 or greater) since 1796. Earthquakes of M7.8 or greater occur at the rate of about two or three per 1,000 years, corresponding to a 6 to 9% probability in 30 years. Therefore, it is reasonable to expect a strong ground motion seismic event during the lifetime of any proposed project in the region.

Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Numerous active faults in the Los Angeles region are capable of generating earthquake-related hazards, particularly in the harbor area, where the Palos Verdes Fault is present and hydraulic and alluvial fill are pervasive. Also noteworthy, due to its proximity to the site, is the Newport-Inglewood Fault, which has generated earthquakes ranging from M4.7 to M6.3 (LAHD 1991a). Large events could occur on more distant faults in the general area, but the effects at the cumulative geographic scope would be reduced due to the greater distance.

Seismic groundshaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium dense, saturated sands and silts. The effects of liquefaction may result in structural collapse if total and/or differential settlement of structures occurs on liquefiable soils

4.2.5.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects would not change the risk of seismic ground shaking. However, past projects have resulted in the backfilling of natural drainages at Port of Los Angeles berths with various undocumented fill materials. In addition, dredged materials from the harbor area were spread across lower Wilmington from 1905 until 1910 or 1911 (Ludwig 1927). In combination with natural soil and groundwater conditions in the area (i.e., unconsolidated, soft, and saturated natural alluvial deposits and naturally occurring shallow groundwater), backfilling of natural drainages and spreading of dredged materials associated with

past development at the Port has resulted in conditions with increased potential for liquefaction following seismic ground shaking.

In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working on site in the communities of Wilmington and San Pedro, as well as at the Port of Los Angeles (i.e., the cumulative geographic scope). This past development has placed commercial, industrial, and residential structures and their occupants in areas that are susceptible to seismic ground shaking. Thus, these developments have had the effect of increasing the potential for seismic ground shaking to result in damage to people and property. The proposed Project and many of the related projects share interconnected infrastructure (e.g., roads, utilities, pipelines, wharves, etc.) that would be impacted by seismically induced ground failure. The amount of overlapping infrastructure that is susceptible to failure is increased by the addition of each cumulative project. Infrastructure failure at multiple facilities is cumulatively greater than failure at individual facilities, as regional infrastructure becomes increasingly unusable with combined failure.

All of the present and reasonably foreseeable future projects listed in Table 4-1, with the exception of the Channel Deepening Project (#4) and the Artificial Reef Project (#6), as these do not involve existing or proposed structural engineering or onsite personnel, would also result in increased infrastructure, structure, and number of people working on site in the cumulative geographic scope. Therefore, the effects of past, present, and reasonably foreseeable future projects would result in significant cumulative impacts.

4.2.5.2.2 Contribution of the Proposed Project

As discussed in Sections 3.5.4.3.1 the proposed Project would result in significant impacts from both construction and operation of the proposed Project relative to Impact GEO-1, even with incorporation of modern construction engineering and safety standards. Segments of the active Palos Verdes Fault zone cross the Los Angeles Harbor in the vicinity of the westerly portion of the proposed project site. Current data suggest that segments of the fault may cross beneath the proposed multi-use CCT expansion along John S. Gibson Boulevard. Because the proposed project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soils, there is a substantial risk of seismic impacts. For example, part of the proposed Project includes the adaptive reuse of the Bekins Storage Property for a Waterfront Red Car Museum. Increased exposure of people and property during operations to seismic hazards from a major or great earthquake cannot be precluded even with the incorporation of modern construction engineering and safety standards. Therefore, potential impacts due to seismically induced ground failure would remain.

The proposed Project would not increase the risk of seismic ground shaking, but it would contribute to the potential for ground shaking to result in ground failure (e.g., liquefaction, differential settlement). It would also contribute to the potential for

seismically induced ground shaking to result in damage to people and structures, because it would increase the amount of structures and people working in the area. The incremental contribution of the proposed Project would be cumulatively considerable.

4.2.5.2.3 Mitigation Measures and Residual Cumulative Impacts

Project engineers use a combination of probabilistic and deterministic seismic hazard assessment for seismic design prior to any construction projects. Structures and infrastructure planned for areas with high liquefaction potential must have installation or improvements comply with regulations to ensure proper construction and consideration for associated hazards.

However, even with incorporation of modern construction engineering and safety standards, no mitigation is available that would reduce impacts to less than cumulatively considerable in the event of a major earthquake. Therefore, the proposed Project would result in a cumulatively considerable and unavoidable impact.

4.2.5.3 Cumulative Impact GEO-2: Damage or Risk due to Land Subsidence/Settlement—Less than Cumulatively Considerable

Cumulative Impact GEO-2 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in substantial damage to structures or infrastructure or expose people to substantial risk of injury as a result of subsidence or soil settlement. In the absence of proper engineering, new structures could be cracked and warped as a result of saturated, unconsolidated/compressible sediments.

4.2.5.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site, because the effects of subsidence/settlement are site-specific and related primarily to construction techniques. Past projects on the site of the proposed Project have contributed to fill and therefore added to the risk of subsidence/settlement.

Regional subsidence due to historic oil withdrawal has been arrested through subsurface water injection; therefore, regional subsidence impacts are not anticipated. While localized settlement could occur as a result of improperly placed proposed project–related fill (e.g., pipeline trench backfill) or collapse of subsurface soils during HDD operations, this would not be cumulatively considerable such as to rise

to a cumulatively significant impact from past, present, and reasonably foreseeable future projects.

4.2.5.3.2 Contribution of the Proposed Project

Settlement impacts from construction and operation in proposed project areas would be less than significant because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and Caltrans, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Sections 91.000 through 91.7016 regulate construction in upland areas of the Port. These building codes and criteria provide requirements for construction, grading, excavations, use of fill, and foundation work, including type of materials, design, procedures, etc., and are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Because the proposed Project would result in less than significant (individual) impacts for GEO-2**,** and no other past (other than those projects on the proposed project site), present, or reasonably foreseeable future projects contribute to cumulative impacts, the cumulative impact is less than significant, and the proposed Project would not result in a cumulatively considerable impact.

4.2.5.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.5.4 Cumulative Impact GEO-3: Damage or Risk due to Expansive Soils—Less than Cumulatively Considerable

Cumulative Impact GEO-3 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in substantial damage to structures or infrastructure or expose people to substantial risk of injury as a result of expansive soils. Expansive soil may be present in dredged or imported soils used for grading. Expansive soils beneath a structure could result in cracking, warping, and distress of the foundation.

4.2.5.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site, because the effects of expansive soils are site-specific and related primarily to construction techniques. Past projects on the site of the proposed Project have contributed to fill and therefore risk of expansive soils. However, because only past, present, and reasonably foreseeable future projects on the proposed project site would contribute along with the proposed Project to a cumulative impact in this impact area, and no other such projects are identified, impacts would not be cumulatively significant.

4.2.5.4.2 Contribution of the Proposed Project

Expansive soil impacts from construction and operation in the proposed project area would be less than significant. The proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Sections 91.000 through 91.7016 regulate construction in upland areas of the Port. These building codes and criteria provide requirements for construction, grading, excavations, use of fill, and foundation work, including type of materials, design, procedures, etc., and are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Because the proposed Project would result in less-than-significant (individual) impacts for GEO-3, and no other past (other than those projects on the proposed Project site), present, or reasonably foreseeable future projects contribute to cumulative impacts, the cumulative impact is less than significant. Therefore, the contribution of the proposed Project under Impact GEO-3 would not result in cumulatively considerable impacts when combined with past, present, and reasonably foreseeable future projects.

4.2.5.4.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.5.5 Cumulative Impact GEO-4: Damage or Risk due to Landslides or Mudflows—No Cumulative Impact

Cumulative Impact GEO-4 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would expose people or property to a substantial risk of landslides or mudslides.

4.2.5.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.5.5.2 Contribution of the Proposed Project

Because the topography in the cumulative geographic area and the proposed project area is flat and not subject to landslides or mudflows, the proposed project would not expose places, structures, or people to substantial damage or substantial risk of harm. As there would be no project-specific impact, there would also be no cumulatively considerable impacts.

4.2.5.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.5.6 Cumulative Impact GEO-5: Damage or Risk due to Unstable Soil Conditions from Excavation, Grading, or Fill—Less than Cumulatively Considerable

Cumulative Impact GEO-5 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in substantial damage to structures or infrastructure or expose people to substantial risk of injury as a result of collapsible or unstable soils.

Excavations that occur in natural alluvial and estuarine deposits, as well as artificial fill consisting of dredged deposits or imported soils, may encounter relatively fluid materials near and below the shallow groundwater table. Groundwater is locally present at depths as shallow as 10 feet (3 meters). In the absence of proper engineering, new structures could be cracked and warped as a result of saturated, unstable, or collapsible soils, exposing building personnel to a safety hazard.

4.2.5.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site, because the effects of unstable soil conditions are site-specific and related primarily to

construction techniques. Past projects on the site of the proposed Project have contributed to fill and therefore added to the risk of unstable soil conditions. However, because only past, present, and reasonably foreseeable future projects on the proposed project site would contribute along with the proposed Project to a cumulative impact in this impact area, and no other such projects are identified, impacts would not be cumulatively significant.

4.2.5.6.2 Contribution of the Proposed Project

Due to the implementation of standard engineering practices regarding saturated, collapsible soils, people and structures on the proposed project site would not be exposed to substantial adverse effects from construction and operation of the proposed Project, and impacts would be less than significant. The proposed Project would result in less-than-significant (individual) impacts for Impact GEO-5**.** No other past (other than those projects on the proposed project site), present, or reasonably foreseeable future projects contribute to cumulative impacts; therefore, the cumulative impact is less than significant, and the proposed Project would not make a cumulatively considerable contribution.

4.2.5.6.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required

4.2.5.7 Cumulative Impact GEO-6: Destruction or Modification of One or More Prominent Geologic or Topographic Features—No Cumulative Impact

Cumulative Impact GEO-6 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in one or more distinct and prominent geologic or topographical features being destroyed, permanently covered, or materially and adversely modified. Such features include hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

4.2.5.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.5.7.2 Contribution of the Proposed Project

Since the proposed project area is relatively flat and paved, with no prominent geologic or topographic features except for Slip #5, proposed project operations would not result in any distinct and prominent geologic or topographic features being destroyed or permanently covered. The operation of the proposed Project includes the development of a waterfront promenade along Slip #5 and the development of two floating docks on Slip #5. Currently, Slip #5 is a working slip used to support Port operations. Therefore, operations of the proposed Project would not materially or adversely modify the existing operation of Slip #5. Rather, the proposed Project would enhance and improve operations within Slip #5.

4.2.5.7.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.6 Groundwater and Soils

4.2.6.1 Scope of Analysis

The geographic scope for cumulative impacts on groundwater quality and soil quality varies, depending on the impacted resource. The geographic scope with respect to contaminated soils would be confined to the proposed project area. Contaminated soil impacts are site-specific and relate primarily to potential exposure of contaminants to onsite personnel during construction, or to onsite personnel or recreational users subsequent to construction. However, the geographic extent with respect to contaminated groundwater would be thesemi-perched aquifer and underlying Gage Aquifer, which underlie much of the coastal area of southern Los Angeles and Long Beach. The term “semi-perched” serves to distinguish zones of shallow, elevated water that are underlain by saturated rocks from perched zones, which by definition are underlain by unsaturated rocks (USGS 2008).

Since the proposed Project would result in no impacts with respect to changes in potable water levels, reduction in potable groundwater capacity, and potential violation of regulatory water quality standards at an existing production well, there would be no cumulatively considerable impacts and no need to define the geographic scope. Because the groundwater beneath the proposed project area is highly saline non-potable groundwater, it is not used by any utility for public water purposes, such as storage of imported water; regardless of summer or winter peak water usage season, or whether it be a drought season or an emergency. The proposed project construction activities would not interfere with the potential yields of any adjacent groundwater wells or well fields (public or private) as all groundwater beneath the entire vicinity of the proposed project area is highly saline and non-potable. It is also

not expected that any construction activities would adversely alter the rate or direction of groundwater flow in the vicinity of the proposed Project.

The cumulative area of influence is predominantly underlain by deep, unconfined potable aquifers and highly saline non-potable groundwater, and is not a designated recharge area for potable groundwater. Spills of petroleum products and hazardous substances, due to long-term industrial land use in the area, have resulted in contamination of some onshore soils and shallow groundwater. Most of the cumulative area of influence has been disturbed in the past, may contain buried contaminated soils, and is covered in non-permeable surfaces.

The time frame for the cumulative analysis of contaminated soil and groundwater must include the historical time since the proposed project area was developed, and must extend for decades into the future. Hazardous substances can be retained in soil and groundwater for decades after the original spill occurred.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.6, "Groundwater and Soils."

4.2.6.2 Cumulative Impact GW-1: Exposure of Soils Containing Toxic Substances and Petroleum Hydrocarbons—Less than Cumulatively Considerable

Cumulative Impact GW-1 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in exposing soils containing toxic substances and petroleum hydrocarbons, associated with prior operations, which would be deleterious to humans. Exposure to contaminants associated with historical uses of the proposed project area could result in short-term effects (duration of construction) to onsite personnel and/or long-term impacts to future site occupants.

4.2.6.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope for contaminated soils is the same as the proposed project site, because the effects of soil contamination are site-specific, in that they relate primarily to potential exposure of contaminants to onsite personnel during construction, or to onsite personnel or recreational users subsequent to construction. Past and present projects on the site of the proposed Project, including those discussed in Section 3.6, have contributed to soil contamination. Therefore, past and present projects within the proposed project vicinity contribute to a cumulatively considerable impact regarding soil.

4.2.6.2.2 Contribution of the Proposed Project

As discussed in Section 3.6, portions of the proposed Project have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation.

Grading and construction (e.g., excavations for utilities and foundations) required for the proposed Project would potentially expose construction personnel and existing operations personnel to contaminated soil. Human health and safety impacts would be significant pursuant to exposure levels established by Cal/EPA's OEHHA for soil contamination. However, the proposed Project would be required to remediate and remove existing soil contamination prior to the full operation of the proposed Project. Therefore, the construction of the proposed Project would expose humans to soil contamination and would be cumulatively considerable.

Although, the proposed Project may expose construction workers to existing soil contamination caused by past and present land uses during construction activities, the operation of the proposed Project would not actually result in an increase of exposure to soil contamination and would overall reduce the existing amount of soil contamination, and therefore exposure to those contaminates, caused by other past and present projects. Therefore, the operation of the proposed Project would not expose humans to soil contamination and the operation of the proposed Project would not be cumulatively considerable.

4.2.6.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measures **MM GW-1** (Preparation of a Soil Management Plan or Phase II Environmental Site Assessment); **MM GW-2a** (Remediate Former Oil Wells in the Avalon Development District [Area A], Avalon Waterfront District [Area B], and within the Immediate Vicinity of the Waterfront Red Car Line/CCT [Area C]); **MM GW-2b** (Remediate Soil along Existing and Former Rail Lines); **MM GW-2c** (Health Based Risk Assessment for the Marine Tank Farm); and **MM GW-3** (Contamination Contingency Plan for Non-Specific Facilities and Unidentified Sources of Hazardous Materials) would reduce the proposed project impacts to less than significant cumulative levels (Section 3.6, "Groundwater and Soils"). Therefore, proposed project impacts would not remain at cumulatively considerable levels.

4.2.6.3 Cumulative Impact GW-2: Movement of, Expansion of, or Increase in Existing Contaminants—Less than Cumulatively Considerable

Cumulative Impact GW-2 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would change the rate or direction of movement of existing contaminants, expand the area affected by contaminants, or increase the level of groundwater contamination, which would increase the risk of harm to humans (see Table 3.6-1 in Section 3.6, "Groundwater and Soils"). Excavation and grading activities in contaminated soils would potentially result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances, thus potentially exposing construction and existing operations personnel, future occupants of the site, and future recreational users to contaminants.

4.2.6.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope with respect to cross-contamination related to soil and groundwater contamination would be the aerial extent of the semi-perched aquifer and underlying Gage Aquifer, which underlie much of the coastal area of southern Los Angeles and Long Beach, as groundwater contamination can spread over relatively large areas subsequent to construction. Past projects on the site of the proposed Project, as discussed in Section 3.6, "Groundwater and Soils," have contributed to soil and groundwater contamination. Present and reasonably foreseeable future projects would have no impact on soil or groundwater contamination on site. However, the effects of past projects are cumulatively considerable.

4.2.6.3.2 Contribution of the Proposed Project

As discussed for Cumulative Impact GW-1, soil in limited and isolated portions throughout the proposed Project have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses (See Table 3.6-2). In addition, groundwater has been impacted by hazardous substances and petroleum products within the proposed project area and potentially within the larger perched aquifer. Areas within the proposed Project are in various stages of contaminant site characterization and remediation. If during proposed project construction, contaminated soils and groundwater are encountered during grading or excavations, contamination could be spread to other areas. Health and safety impacts would be significant pursuant to exposure levels established by OEHHA and the Port's adopted significance criteria for various groundwater and soil contaminants. Therefore, excavation and grading activities during construction in the existing contaminated soils would potentially result in inadvertent spreading of such

contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances, thus potentially exposing construction and existing operations personnel, future occupants of the site, and future recreational users to contaminants. Construction impacts would be cumulatively considerable.

Contamination currently exists and was generated by past and present projects prior to the design of the proposed Project. The proposed Project would be required to remediate and remove existing groundwater and soil contamination during construction activities and prior to the full operation of the proposed Project. The proposed Project may cause the existing contamination (and expand the area affected by contaminants) caused by other past projects to spread to other areas, but the proposed Project would not result in an increase in soil and groundwater contamination. The proposed Project would ultimately reduce the existing amount of soil and groundwater contamination caused by other past projects. Regardless, the potential for the proposed Project or alternatives to spread existing contamination constitutes a cumulatively considerable impact on groundwater and soils.

4.2.6.3.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation Measures **MM GW-1, MM GW-2a, MM GW-2b, MM GW-2c,** and **MM GW-3** would serve to reduce the cumulatively considerable impacts generated by the proposed project construction activities (Section 3.6, "Groundwater and Soils"). Impacts would be reduced to less than significant cumulative levels, and impacts would not remain cumulatively considerable.

4.2.6.4 Cumulative Impact GW-3: Change in Potable Groundwater Recharge Capacity or Change in Potable Water Levels—No Cumulative Impact

Cumulative Impact GW-3 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in a demonstrable and sustained reduction in potable groundwater recharge capacity or change in potable water levels sufficient to:

- reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, storage of imported water, summer/winter peaking, or to respond to emergencies and drought;
- reduce yields of adjacent wells or well fields (public or private); or
- adversely change the rate or direction of groundwater flow.

4.2.6.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.6.4.2 Contribution of the Proposed Project

As described in Section 3.6, "Groundwater and Soils," most of the proposed project area is paved and impermeable to groundwater recharge. Most of the proposed project site would be converted to park space with a smaller amount being paved, resulting in a greater amount of recharge at the majority of the site. However, the proposed project site is not a designated recharge area for potable groundwater. Also, drinking water is provided to the proposed project area by the LADWP and not through onsite groundwater sources. It is also not expected that any construction activities would adversely alter the rate or direction of groundwater flow in the vicinity of the proposed Project. Therefore, cumulative impacts would not occur, and the proposed Project would not make a cumulatively considerable contribution.

4.2.6.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.6.5 Cumulative Impact GW-4: Violation of Regulatory Water Quality Standards at an Existing Production Well—No Cumulative Impact

Cumulative Impact GW-4 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in violation of regulatory water quality standards at an existing production well, as defined in 22 CCR 4, Chapter 15 and in the Safe Drinking Water Act.

4.2.6.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.6.5.2 Contribution of the Proposed Project

Because no existing production wells are located in the vicinity of the proposed project site, the proposed Project would not contribute to any cumulative potential to violate regulatory water quality standards at existing production wells, cumulative impacts would not occur, and the proposed Project would not make a considerable contribution.

4.2.6.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.7 Hazards and Hazardous Materials

4.2.7.1 Scope of Analysis

The geographic scope for cumulative impacts associated with accidental spills, releases, or explosions of hazardous materials encompasses the entire Port of Los Angeles and Port of Long Beach, and includes the proposed project area. The importance of a regional project diminishes in magnitude with distance from the Port as potential adverse impacts associated with a hazardous material release, spill, or explosion diminish in magnitude with distance. Thus, past, present, and reasonably foreseeable future projects that would contribute to these cumulative impacts include those projects that transport hazardous materials in the vicinity of the proposed Project.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.7, "Hazards and Hazardous Materials."

4.2.7.2 Cumulative Impact RISK-1: Failure to Comply with Applicable Federal, State, Regional, and/or Local Security and Safety Regulations and/or Port Policies Guiding Port Development—No Cumulative Impact

Cumulative Impact RISK-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to fail to comply with applicable regulations and policies guiding development within the Port.

4.2.7.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

All projects within the Port area are required to comply with applicable development regulations and policies. All projects are also required to be consistent with the PMP, or be subject to approved amendments to the PMP in order to accommodate the project. Therefore, the cumulative impacts of past, present, and reasonably foreseeable future projects would be less than significant and not cumulatively considerable.

4.2.7.2.2 Contribution of the proposed Project

As discussed in Section 3.7, the proposed Project is subject to numerous security and safety regulations for operation of the proposed facilities. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during the operation of the proposed Project.

Additionally, construction and operation of the proposed Project would be required to comply with all existing hazardous waste and materials laws and regulations, including, but not limited to, RCRA, CERCLA, and Cal. Code Regs. Titles 22 and 26. The proposed Project would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable matter during the construction and operation of the proposed Project.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance review, reparation of regulatory plans, and agency oversight. The RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through project design features, fire protection, and other risk management methods.

Proposed project plans and specifications would be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings would be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequate access and firefighting features would be provided. Proposed project plans would include an internal circulation system, code-required features, and other firefighting design elements, as approved by LAFD.

A risk analysis was conducted pursuant to the Port's Risk Management Plan using CANARY and the EPA RMP Offsite Consequence Analysis Guidance for toxic releases and explosions due to the close proximity of the HGS and peaker units to the proposed Project and the diesel and aqueous ammonia that the HGS stores on site. The analysis determined the hazardous footprint of the two liquid bulk storage diesel tanks and the footprint of the toxic endpoint of aqueous ammonia (200 ppm) do not overlap with the proposed project site. Therefore, the location of the proposed

project site and the HGS is consistent with provision of the Port's Risk Management Plan.

The proposed Project would comply with applicable federal, state, regional, and/or local security and safety regulations and/or Port policies guiding Port development, including the Port RMP as discussed in Section 3.7. Impacts would be less than significant. Therefore, the incremental contribution of the proposed Project would not be cumulatively considerable under Cumulative Impact RISK-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.7.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would not be cumulatively considerable. No mitigation measures are required.

4.2.7.3 Cumulative Impact RISK-2: Interference with an Existing Emergency Response or Evacuation Plan or Requiring a New Emergency or Evacuation Plan—Less than Cumulatively Considerable

Cumulative Impact RISK-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.

4.2.7.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Virtually all of the proposed cumulative projects that would have an impact on emergency response or evacuation plans would be subject to approval by LAHD and the City of Los Angeles and would be subject to the conditional approval of these agencies. Therefore, projects that would impact applicable emergency response or evacuation plans would not be approved. Thus, past, present and reasonably foreseeable future projects are not cumulatively considerable.

4.2.7.3.2 Contribution of the Proposed Project

The proposed Project would generally increase the number of visitors and increase the square footage of available tenant space in the proposed project area.

Proposed project operations would be subject to emergency response and evacuation systems implemented by the LAHD, LAFD, and Port Police and enforced by these agencies, as well as the USCG. The proposed project construction and demolition activities would be subject to emergency response and evacuation systems implemented by the Port Police and LAFD. During construction and/or demolition activities, LAFD would require that adequate vehicular access to the proposed project area be provided and maintained. This would be ensured and enforced via the construction traffic control plan required for the proposed Project. Additionally, LAFD would be responsible for waterside first response in the event of an emergency, deploying their fireboats if need be. The USCG and Port Police would also support LAFD in the event of a waterside emergency.

The operation of the proposed Project would be subject to emergency response and evacuation systems implemented by the LAHD, LAFD, LAPD, and Port Police and would be enforced by these agencies, as well as the USCG. Existing emergency response and tsunami evacuation plans developed by the City of Los Angeles, in conjunction with LAHD, provide general emergency response guidance to all City departments including LAHD. LAHD is required to follow this broad guidance in the event of an emergency. The general Port evacuation plans are maintained and managed by AMSEC and cover all areas encompassed by the Ports of Los Angeles and Long Beach, which include the proposed Project area. These plans are being revised and are updated on an as-needed basis by the committee. The tenants of the Port and proposed project area are required to have their own emergency management plans. Therefore, any new tenants under the proposed Project would be required to have their own emergency response plan. These requirements and the adequacy of the tenant emergency plans would be enforced by LAFD, the Port Police, and the Homeland Security Division of LAHD. Therefore, the proposed Project would not substantially interfere with existing emergency response plans for existing tenants but would require new emergency responses plans for some new tenants. Furthermore, proposed Project operations would not interfere with any existing emergency response or evacuation plan.

The proposed Project would not interfere with existing emergency response plans and would not require any new plans; therefore, impacts would be less than significant. The contribution of the proposed Project would not be cumulatively considerable under Cumulative Impact RISK-2 when combined with past, present, and reasonably foreseeable future projects.

4.2.7.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.7.4 Cumulative Impact RISK-3: Substantial Increase in the Likelihood of a Spill, Release, or Explosion of Hazardous Material(s) due to a Terrorist Action—Less than Cumulatively Considerable

Cumulative impact RISK-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase the risk of a terrorist attack resulting in adverse consequences to areas at or near the proposed project site, including the spill, release, or explosion of hazardous materials.

4.2.7.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The proposed Project would incorporate a variety of land uses that are historically very different from traditional Port land uses (i.e., terminal facilities, liquid bulk fuel facilities, cargo vessels, etc.). Most of the past, present, and reasonably foreseeable future projects include typical Port land uses; therefore, when analyzing the cumulative impacts associated with RISK-3, it is logical to explore terrorism within the context of typical Port land uses. Historical experience provides little guidance in estimating the probability of a terrorist attack on a container vessel or onshore terminal facility. For a container terminal importing large numbers of containers from countries that may be considered unfriendly, the perceived threat of a terrorist attack is a primary concern of the local population. Sinking a cargo ship in order to block a strategic lane of commerce actually presents a relatively low risk, in large part because the targeting of such attacks is inconsistent with the primary motivation for most terrorist groups (i.e., achieving maximum public attention through inflicted loss of life). Sinking a ship would likely cause greater environmental damage due to spilled fuel, but this is generally not a goal of terrorist groups.

However, at the national level, potential terrorist targets are plentiful, including those having national significance, those with a large concentration of people (e.g., major sporting events, mass transit, skyscrapers, etc.), or critical infrastructure facilities. Currently, the United States has over 500 chemical facilities operating near large populations. U.S. waterways also transport over 100,000 annual shipments of hazardous marine cargo, including LPG, ammonia, and other volatile chemicals. All of these substances pose hazards that far exceed those associated with a container terminal.

Currently, San Pedro Bay handles approximately 37% of the national cargo container throughput. Nationally, cargo throughput is expected to double by 2020 (USDOT 2005), while San Pedro Bay throughput is expected to more than triple during the same period (Parsons 2006). As a result, under current growth projections, San Pedro Bay would be expected to handle 63% of the national cargo throughput volume by 2020 and then decline to 56% by 2030. While cumulative container throughput would continue to grow in importance on a national level, the San Pedro Bay Ports already represent a substantial fraction of national container terminal throughput, and

by default, an attractive economic terrorist target. Given the relative importance of the San Pedro Bay Ports under baseline conditions, cumulative growth would not be expected to materially change the relative importance as a potential terrorist target. Therefore, past, present, and reasonably foreseeable future projects are not cumulatively considerable.

4.2.7.4.2 Contribution of the Proposed Project

The risk of a terrorist attack is considered part of the baseline for the proposed Project. The proposed Project would construct a 10-acre park, waterfront promenade, 43,220 square feet of new viewing piers, an Observation Tower, and 12,000 square feet of restaurant uses; and would allow the future development of up to 150,000 square feet of industrial buildings, 58,000 square feet of retail/commercial use, and the extension of the Waterfront Red Car Line. Large-scale projects that use hazardous materials or fuels are not part of the proposed Project.

Elements that may pose a potential terrorist target would be the visitor-serving facilities such as park uses or the Observation Tower. However, given the relatively low number of park and recreational users anticipated when compared with other recreational facilities located in the region and throughout Southern California, the potential of the proposed Project to significantly increase the threat of a terrorist action is negligible. Therefore, the proposed Project would not substantially increase the likelihood of a terrorist action over existing conditions at the Port. The likelihood of a terrorist action would remain a possibility for the proposed Project, just as it does under existing conditions at the Port, but the operation of the proposed Project would not substantially increase the potential threat.

The proposed Project would comply with all existing applicable security and safety regulations, which are fully enforceable by the Port and the USCG, thereby reducing the potential vulnerability of the proposed Project to a terrorist action. The proposed Project would not substantially increase or contribute to the vulnerability of a terrorist action on the proposed project site or at adjacent land uses.

The environmental consequences of a terrorist action, including threat to human health arising from the release, explosion, or spill of hazardous materials, would remain relatively the same for the proposed Project when compared to the existing conditions. It is highly unlikely that any terrorism scenario would result in substantially more damage to property or harm to people as a result of hazardous materials spills, releases, or explosions when compared to existing conditions. The proposed Project would reduce the vulnerability of an attack by implementing the security measures discussed above, which would reduce the consequences of a release, spill, or explosion of hazardous materials. Furthermore, any hazardous materials at the proposed project site would be stored subject to the applicable state and federal laws and in accordance with the LAFD; these laws are designed to, first, prevent hazardous materials spills, releases, and explosions; and, second, reduce the consequences of a hazardous material spill, release, or explosion. The proposed

Project would not result in a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action; therefore, impacts would be less than significant. The contribution of the proposed Project would not be cumulatively considerable under RISK-3 when combined with past, present, and reasonably foreseeable future projects.

4.2.7.4.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.7.5 Cumulative Impact RISK-4: Substantial Increase in the Likelihood of an Accidental Spill, Release, or Explosion of Hazardous Material(s) as a Result of Project-Related Modifications—Less than Cumulatively Considerable

Cumulative Impact Risk-4 represents the risk associated with the proposed Project when combined with past, present, and reasonably foreseeable future project to substantially increase the likelihood of an accidental spill, release, or explosion of hazardous materials.

4.2.7.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects in the Port would result in an increase in hazardous materials and petroleum products that would potentially spill during construction and operational activities. Such spills would potentially result in soil contamination, groundwater contamination, marine water quality contamination, and health and safety impacts to onsite personnel and the public. However, past, present, and reasonably foreseeable projects must comply with all existing hazardous material regulations in place through the local, state, and federal governments. These regulations are in place to reduce the potential of accidental releases, spills, or explosions of hazardous materials and to minimize the environmental and public health impacts should such occur. Although projects cannot completely eliminate the probability associated with an accidental release, explosion, or spill, the existing regulations reduce the overall probability and minimize the impacts during a release. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts.

4.2.7.5.2 Contribution of the Proposed Project

The construction and operation of the proposed Project and each related project in the Port would be subject to applicable federal, state, and local laws and regulations governing the spill prevention, storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. Furthermore, the operation of the proposed Project would include the removal of a number of industrial uses currently present in the proposed project area. The decommissioning and removal of the LADWP Marine Tank Farm, the enhancements within the Avalon Development District, and the as-required remediation of the soil and groundwater in the LADWP Marine Tank Farm are all positive benefits that would overall reduce the amount of hazardous materials available for release in the proposed project area. Additionally, the removal of these industrial uses would allow for the development of uses that would benefit the public.

The decommissioning of the LADWP Marine Tank Farm would require the adherence to all applicable regulations described in Section 3.7.3, including LACFD regulations, which would provide oversight and prevention techniques for the decommissioning. Additionally, decommissioning would include remediation efforts to remove the known or suspected hazardous groundwater and soil contamination at the site. For a full discussion of the existing hazardous groundwater and soil contamination at these sites, please refer to Section 3.6, "Groundwater and Soils." However, any spill or release during the decommissioning of the sites would be relatively minor, fully contained, and highly unlikely given the regulatory oversight and the strict following of a clean up action plan.

The LADWP Marine Tank Farm would be decommissioned under the proposed Project. However, the decommissioning would begin in 2012. Between 2009 and 2012 construction of the Phase I portion of the land bridge and the improvements to allow for the 58,000-square-foot retail/commercial center would occur. The Phase I land bridge would be in operation prior to the demolition of the Marine Tank Farm, as could the retail/commercial.

The risk and possibility of an upset event at the LADWP Marine Tank Farm is low. As discussed in greater detail in Chapter 3.7, materials contained within the liquid bulk storage tanks are not considered hazardous pursuant to the Port RMP. Furthermore, in 2012, demolition activities at the Marine Tank Farm would be initiated with the remediation effort concluding in 2015.

The operation of the Avalon Development District under the proposed Project would not include handling, transporting, or storing hazardous materials or hazardous wastes as analyzed at the program level. Individual development proposals would be evaluated under CEQA, and state and federal hazardous material laws would apply at the project level.

Therefore, because the potential impacts from accidental spill, release, or explosion are limited to the proposed project boundary, the proposed Project's incremental contribution to cumulative impacts from construction and operation would be less than significant and would not be cumulatively considerable.

4.2.7.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.7.6 Cumulative Impact RISK-5: Expose the general public to hazards defined by the EPA and Port Risk Management Plan associated with offsite facilities—Less than Cumulatively Considerable

Cumulative Impact Risk-5 represents the risk associated with the proposed Project when combined with past, present, and reasonably foreseeable future project to expose the general public to hazards defined by the EPA and Port Risk Management Plan associated with offsite facilities.

4.2.7.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects in the Port would result not in an increase in hazardous materials that could expose the general public to hazards defined by the EPA and Port Risk Management Plan associated with offsite facilities. Past, present, and reasonably foreseeable projects must comply with all existing hazardous material and facility regulations and safeguards in place through the local, state, and federal laws. Moreover, facilities that contain hazardous materials or have operational hazards have restricted access to prevent general members of the public from exposure to hazards as defined by the EPA and Port Risk Management Plan. Although projects cannot completely eliminate the possibility of exposing the general public to such hazards, the existing regulations and restricted access reduce the overall probability and minimize the impacts if exposure were to occur. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts.

4.2.7.6.2 Contribution of the Proposed Project

As discussed above under Cumulative Impact RISK-5, the construction and operation of the proposed Project and each related project in the Port would be subject to

applicable federal, state, and local laws and regulations governing the storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. Furthermore, the operation of the proposed Project would include the removal of a number of industrial uses currently present in the proposed project area. The decommissioning and removal of the LADWP Marine Tank Farm, the enhancements within the Avalon Development District, and the as-needed remediation of the soil and groundwater in the LADWP Marine Tank Farm are all positive benefits that would overall reduce the amount of hazardous materials available for release in the proposed project area, which could expose members of the general public. Additionally, the removal of these industrial uses would allow for the development of uses that would benefit the public.

The operation of the Avalon Development District under the proposed Project would not include handling, transporting, or storing hazardous materials or hazardous wastes as analyzed at the program level. Individual development proposals would be evaluated under CEQA, and state and federal hazardous material laws would apply at the project level.

Since the hazard footprints generated by the analysis of the liquid bulk diesel storage tanks do not overlap with any portion of the proposed project area the liquid bulk diesel storage tanks would not introduce the general public to hazard(s) defined by the Port's Risk Management Plan. Furthermore, the hazardous footprint of the ammonia storage tanks analyzed under two postulated cases, which defined the area of impact with a toxic endpoint for aqueous ammonia at or below 200 ppm, does not include the proposed project site. Therefore, the proposed Project would not introduce the general public to hazard(s) defined by the EPA. Therefore, the project's contribution to existing and future cumulative impacts related to the exposure of the general public to hazards, as defined by the EPA and the RMP, would be less than significant and would not be cumulatively considerable.

4.2.7.6.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.8 Land Use and Planning

4.2.8.1 Scope of Analysis

Because the proposed Project has the capacity to affect the environment within Wilmington and the surrounding communities, the region of analysis for cumulative land use impacts includes those projects within the Port Master Plan Boundaries and included on the cumulative project list as "Port of Los Angeles Projects"; projects

within the Wilmington Community, as identified by the Wilmington-Harbor City Community Plan boundaries and included on the cumulative project list as "Wilmington Community Projects"; and those projects within the Harbor City area as included on the cumulative project list as "Projects in Harbor City, Lomita, and Torrance Projects." The proposed Waterfront Red Car Line and California Coastal Trail that follow John S. Gibson Boulevard, Pacific Avenue, and Front Street run adjacent to the San Pedro community. Therefore, projects within the San Pedro community are also included in the geographic scope of the analysis. These projects are assessed in terms of their compatibility with the existing Port, San Pedro, Wilmington, and Harbor City land uses (e.g., commercial, industrial, and recreational).

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.8, "Land Use and Planning."

4.2.8.2 Cumulative Impact LU-1: Inconsistency with the Adopted Land Use/Density Designation in the Community Plan, Redevelopment Plan, or Specific Plan for the Site—Less than Cumulatively Considerable

Cumulative Impact LU-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in development that would be inconsistent with land use/density designations in land use plans that govern buildout within the proposed project area.

4.2.8.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present actions within the proposed project vicinity have been subject to the land use/density designations stipulated in the PMP, the Port Plan, and the existing Wilmington-Harbor City CP. The Port's PMP has been certified by the Coastal Commission and all past development projects within Port boundaries have been approved pursuant to the adopted PMP, ensuring compliance with the coastal zone management program. The City approved Port Plan is the City's governing document that regulates the continued development and operation of the Port. The Wilmington-Harbor City CP is part of the General Plan of the City of Los Angeles. The CP states the objectives, policies, and programs of the Wilmington–Harbor City CPA and outlines the arrangement and intensities of land uses, the street system, and the location and characteristics of public service facilities. Over the years, the community of Wilmington has developed consistently with the Wilmington–Harbor City CP, PMP, and the Port Plan, ensuring consistency with land use/density designations to minimize impacts on surrounding areas. Similarly, existing facilities

within the proposed project vicinity, and construction and operation associated with past and current projects have been modified as necessary to ensure proposed land use/density designations are consistent with the Port Plan designation and local CPs; the same is expected of reasonably foreseeable future projects. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to land use designations and inconsistencies.

4.2.8.2.2 Contribution of the Proposed Project

As stated in Section 3.8.4.3, Impact LU-1, the proposed Project is located within the Port Plan, which is the Port's equivalent to a Community Plan, and is therefore subject to the City's zoning code. The proposed Project is also located within and under the jurisdiction of the PMP, and also in the existing Wilmington–Harbor City CP. The proposed Project would include a General Plan Amendment to the Port Plan and the Wilmington–Harbor City CP to amend both the existing jurisdictional boundaries and some of the land uses within these two plans. Additionally, rezoning would be required for some of the existing zoning currently designated under the jurisdiction of the Wilmington–Harbor City CP. The proposed Project would also include a PMP Amendment to extend the existing jurisdictional boundary of the PMP. Finally, a zone change would be required to revise some of the existing zoning within the current PMP jurisdictional boundaries. Although, the proposed Project includes several land use inconsistencies, it would ultimately be consistent with all applicable land use/zoning designations because approval of the amendments is included in the approval of the proposed Project. Therefore, the proposed Project, along with past, present, and future projects, would not contribute to a cumulatively considerable impact.

4.2.8.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable under CEQA. No mitigation measures are required.

4.2.8.3 Cumulative Impact LU-2: Inconsistency with the General Plan or Adopted Environmental Goals and Policies Contained in other Applicable Plans—Less than Cumulatively Considerable

Cumulative Impact LU-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in development that would be inconsistent with environmental objectives and policies delineated in land use plans that govern the proposed Project area.

4.2.8.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present actions within the proposed project vicinity have been subject to the objectives and policies delineated in the Wilmington-Harbor City CP, Port Plan and PMP, SCAG RCPG, the San Pedro CP, CAAP, POLA Strategic Plan, and the Los Angeles Sustainability Plan and Green Building Plan. Over the years, the Port has developed consistent with the Port Plan objectives that give priority to water-dependent developments to ensure the Port is maintained as an important local, regional, and national resource. Similarly, present projects within the PMP area have been developed to ensure proposed developments are consistent with the Port Plan and PMP objectives and policies. Additionally, past, present, and future projects within the geographical scope have, and would have to, reach consistency with the regional plans of the SCAG RCPG, the CAAP, the POLA Strategic Plan, the LA Sustainability and Green Building Plans, and the San Pedro CP. Construction and operation associated with present and future projects would be modified during the project review process to ensure consistency with the Wilmington-Harbor City CP, Port Plan and PMP, SCAG RCPG, the San Pedro CP, CAAP, POLA Strategic Plan, and the Los Angeles Sustainability Plan and Green Building Plan objectives and policies. Therefore, these projects are not cumulatively considerable, and the cumulative impacts of past, present, and reasonably foreseeable future projects would be less than significant.

4.2.8.3.2 Contribution of the Proposed Project

As stated in Section 3.8.4.3, Impact LU-2, under the proposed Project the Port Plan and PMP would be amended to expand their respective jurisdictional boundaries and would ultimately be the land use documents that would control approximately ¾ of the proposed project area currently under the jurisdiction of the Wilmington-Harbor City CP. Additionally, the proposed Project would be fully consistent with all adopted objectives and policies identified in the various regional plans, including the SCAG RCPG, the San Pedro CP, the CAAP, the POLA Strategic Plan, and the Los Angeles Sustainability Plan and Green Building Plan. Although this area would be ultimately under the control of the Port Plan and the PMP, the analysis includes the Wilmington–Harbor City CP under the General Plan of the City of Los Angeles and its consistency with the proposed Project. Even without the jurisdictional boundary change, the proposed Project is consistent with the Wilmington–Harbor City CP. According to the CP the Wilmington community has had a long-standing desire to have a marine-oriented commercial area develop on this site, which adjoins Slip No. 5 of the Los Angeles Harbor, and is the community's most convenient and direct access to the Waterfront. Furthermore, the proposed Project is consistent with CP Goal 19, which states that the Coastal Zone is to be maintained in an environmentally sensitive manner, to allow maximum use for public access and recreational activities, as well as by other coastal-dependent activities, in accordance with the policies of the California Coastal Act.

Additionally the proposed Project would be consistent with the adopted objectives and policies identified in the Port Plan and the PMP. Proposed redevelopment is consistent with General Plan Objective 1 to maintain the Port as an important local, regional, and natural resource that continues to meet the needs of foreign and domestic commerce. Further, per Objective 4, the proposed Project assures priority for water- and coastal-dependent development within the Port while maintaining and enhancing the coastal zone environment and public views of and access to coastal resources. Specifically, a component of the proposed Project is a promenade that allows visitors to better enjoy the harbor and its recreational facilities.

Because the cumulative impact is less than significant, and the proposed Project would have a less-than-significant impact on land use plan consistency, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA.

4.2.8.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.9 Noise

4.2.9.1 Scope of Analysis

The geographic scope for cumulative noise impacts includes an area roughly defined as follows: east of the I-110, north of the Vincent Thomas Bridge, north of Swinford Street, west of Quay Avenue, and south of E Street. These boundaries generally incorporate the area potentially affected by noise from construction, operation, and traffic generated by the proposed Project. This analysis assesses the potential of the proposed Project, along with related projects, to cause a substantial increase in noise as a result of project construction and operational activities (including increased traffic noise, noise from the Waterfront Red Car Line extension, and noise from the existing rail lines).

The significance criteria used for the cumulative analysis are generally the same as those used for the proposed Project in Section 3.9, “Noise”; however, some of the significance criteria have been consolidated to more concisely and clearly analyze cumulative impacts.

4.2.9.2 Cumulative Impact NOI-1: Increase in Ambient Noise Levels due to Construction—Cumulatively Considerable and Unavoidable

Cumulative Impact NOI-1 represents the potential of proposed project construction activities when combined with past, present, and reasonably foreseeable future projects to cause a substantial increase in ambient noise levels at sensitive receptors within the cumulative geographic scope.

Cumulative noise impacts would potentially occur from the construction of other projects within the area. Noise from the construction of these projects would tend to be localized, thus potentially affecting the areas immediately surrounding each prospective project site. Of these projects, those within 0.25 mile could result in construction noise that exceeds significance thresholds depending upon the timing of construction. A substantial increase would occur if existing ambient exterior noise levels increased by 5 dBA (L_{eq}) or more at a noise sensitive use. Community noise levels are measured in decibels. For a project to make a cumulatively considerable contribution to the cumulative effect, noise from the project's construction activities must increase the cumulative level by at least 5 dBA L_{eq}.

4.2.9.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The list of related and cumulative projects was reviewed to determine if construction activities associated with any of these projects could, in combination with the proposed Project, cause a cumulative construction noise impact.

The Berths 136–147 Marine Terminal (#2) would be located south of Harry Bridges Boulevard, and involves expansion and redevelopment of the TraPac Terminal, as well as the reconfiguration of wharves and backlands, and would likely overlap with the beginning stages of Phase I of the proposed Project. Where construction schedules overlap, periodically elevated noise levels due to construction activity would be extended. The Channel Deepening Project (#4) would be located throughout the channel immediately south of the proposed Project. It is likely that dredging operations associated with the Channel Deepening Project would either be concurrent with construction activities necessary for some elements of the proposed Project, or would occur in about the same timeframe (either shortly before or after), extending the period of elevated noise levels. While detailed assessments of construction noise levels that could result from related projects #2 and #4 have not been completed, it is likely that construction activities and associated noise levels would be similar to those expected from the equipment necessary to construct the proposed project elements.

There are other projects in the related and cumulative projects list that could also affect sensitive receptors within the cumulative geographic scope. The San Pedro Waterfront (#3) project is scheduled for construction from 2010 to 2015 and is located along the

Vincent Thomas Bridge down to Berths 49 and 50. The China Shipping Development Project (#16) is scheduled for construction from 2009 to 2015 and is located east of the I-110 and north of the Vincent Thomas Bridge, adjacent to sensitive receptors. Other development projects near residential areas that have the potential to create a cumulative impact include the South Wilmington Grade Separation (#25), "C" Street/Figueroa Street Interchange (#27), Port Transportation Master Plan (#28), I-110/SR47 Connector Improvement Program (#32), Single Family Homes on Gaffey Street (#54), Target on Gaffey Street (#56), and the Dana Strand Public Housing Redevelopment Project (#63). Therefore, the construction of past, present, and reasonably foreseeable future projects would have significant cumulative noise impacts on sensitive receptors (residential land uses).

4.2.9.2.2 Contribution of the Proposed Project

In the construction phase of the proposed Project, construction of the various elements would cause a significant noise impact to sensitive receptors in the vicinity. This would affect two residential neighborhoods: the residential area north of Harry Bridges Boulevard to C Street, bounded on the east by Broad Avenue and on the west by Lagoon Avenue; and the pocket residential neighborhood east of I-110, bounded on the north and east by Pacific Avenue. There would be a substantial increase in noise, as identified in Section 3.9.4.3.1.

A variety of development projects are planned (as discussed above) that would potentially be under construction concurrently. There would be significant construction noise impacts in the residential neighborhoods identified above due to the combination and concurrent construction of the development of present and reasonably foreseeable future projects and elements of the proposed Project. Therefore, the contribution of the proposed Project would be cumulatively considerable under Impact NOI-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.9.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measures **MM NOI-1a** (Temporary Noise Barriers), **MM NOI-1b** (Construction Hours), **MM NOI-1c** (Construction Days), **MM NOI-1d** (Construction Equipment), **MM NOI-1e** (Idling Prohibitions), **MM NOI-1f** (Equipment Location), **MM NOI-1g** (Quiet Equipment Selection), and **MM NOI-1h (**Notification) would reduce impacts during construction (Section 3.9, "Noise"). However, the standard controls and temporary noise barriers would not be sufficient to reduce the projected increase in the ambient noise level to the point where it would no longer cause a cumulatively significant impact during construction. The impacts to the residential neighborhoods during construction of the proposed Project will remain cumulatively considerable with mitigation.

4.2.9.3 Cumulative Impact NOI-2: Increase in Nighttime Construction Noise—No Cumulative Impact

Cumulative Impact NOI-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial increase in construction noise at night.

4.2.9.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.9.3.2 Contribution of the Proposed Project

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday. There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts would occur and impacts would not be cumulatively considerable.

4.2.9.3.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.9.4 Cumulative Impact NOI-3: Exposure of Persons to or Generation of Excessive Groundborne Vibration or Groundborne Noise Levels—Less than Cumulatively Considerable

Cumulative Impact NOI-3 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial temporary increase in groundborne noise vibration levels at sensitive receptors within the geographic scope of the project.

4.2.9.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the nature of groundborne vibration and noise, construction projects would have to occur at the same time and in very close proximity to each other to be considered cumulatively considerable. Vibration is calculated based on the Peak Particle Velocity (PPV) at a reference distance multiplied by 25 feet (the reference distance) divided by the actual distance to determine PPV for construction equipment. As distance increases a very steep rate of drop off for PPV is noticed; therefore, for groundborne vibration to be cumulatively considerable, projects would have to be in very close proximity (within a matter of feet). No projects would occur this close together.

4.2.9.4.2 Contribution of the Proposed Project

Because project construction would not occur close enough together, vibration from the proposed Project would not be cumulatively considerable.

4.2.9.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.9.5 Cumulative Impact NOI-4: Creation of Operational Noise that would Substantially Exceed Existing Ambient Noise Levels at Sensitive Receptors—No Cumulative Impact.

Cumulative Impact NOI-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial permanent increase in ambient noise levels at sensitive receptors within the geographic scope of the project.

4.2.9.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Onsite operations at the Port of Los Angeles and roadway traffic on the roadway network along major roadways in the proposed project area including Harry Bridges Boulevard, the I-110 freeway, and local streets in the Wilmington community are the dominant sources of community noise and noise sensitive receptors within the geographic scope of the proposed Project. Virtually all of the cumulative projects in

Table 4-1, with the exception of, for instance, some of the Port-wide operational plans and programs, would contribute to existing noise sources (such as traffic, terminal operations, and neighborhood sources including parks and schools). Therefore, past, present, and reasonably foreseeable future projects would result in significant cumulative operational noise at the Port.

4.2.9.5.2 Contribution of the Proposed Project

Onsite Operations

Noise from operation activities associated with the proposed Project is discussed in detail in Section 3.9.4. Based on the nature of the proposed Project and the analysis presented Section 3.9.4, onsite operational noise resulting from activities within the proposed project area is expected to be below ambient baseline noise levels at sensitive receptors or would only marginally increase.

Roadway Traffic Noise

Noise levels in a given area are primarily determined by nearby sound generators, such as local roadways or industrial uses. Ambient noise levels at affected residential neighborhoods would be primarily determined by noise sources other those of the proposed operations. The ambient noise levels at the residences nearest to the proposed Project in the neighborhood north of Harry Bridges Boulevard will be caused mostly by motor vehicle traffic on the local roadways near the residences, including the traffic traveling along C Street, Harry Bridges Boulevard, and other streets in the area. The traffic analysis presented in the Section 3.9, "Noise," examined the cumulative contribution of past, present, and future projects with and without the proposed Project. The proposed Project was found to result in a less-than-significant increase in traffic noise volumes for surrounding sensitive receptors. Onsite sensitive receptors would see a decrease in traffic noise levels due to the vacation of Avalon Boulevard. Therefore, the proposed projects would not have a cumulatively considerable contribution associated with traffic noise volumes to surrounding sensitive receptors or future sensitive receptors.

Other project components such as the Waterfront Red Car Line would affect the local noise environment and surrounding noise sensitive receptors, including the pocket residential neighborhood bound by the I-110 Freeway and Pacific Avenue. Ambient noise levels in this neighborhood would be dominated by traffic noise from I-110, and any additional noise generated by operation of the Waterfront Red Car Line would not violate any City threshold as noted in Section 3.9.

Because the noise levels resulting from onsite activities would not contribute significantly to the CNEL noise levels, noise from operation of the proposed Project will not make a cumulatively considerable contribution to cumulative noise levels. Therefore, the proposed Project would not result in cumulatively considerable onsite noise impacts.

Railway Corridor Noise

The major railroad corridors transporting cargo into and out of the ports will not be affected by the proposed Project. However the proposed Project would introduce new noise sensitive uses that would be affected by the railway corridor. This however would not be considered a cumulative impact as the railway corridor is considered the baseline and will not be affected by the proposed Project or any other past, present, or future project in the area.

Summary

Overall, the operation of the proposed Project would cause a small increase in traffic; however, this increase would not increase ambient noise levels by more than 1 dBA. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact NOI-4 when combined with past, present, and reasonably foreseeable future projects.

4.2.9.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would not contribute to a cumulatively considerable impact. No mitigation is required

4.2.9.6 Cumulative Impact NOI-5: Noise Level Generation at Existing Land Uses Surrounding the Proposed Project in Excess of a Land Use Compatibility Standard, which Would Substantially Inhibit the Usability of the Proposed Project Site—Less than Cumulatively Considerable.

Cumulative Impact NOI-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate noise levels in excess of an established land use compatibility standard resulting in a reduction in usability of the proposed project uses.

4.2.9.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Nearby operations and roadway traffic on the adjacent roadway network including Harry Bridges Boulevard and industrial operations are the dominant sources of community noise within the immediate proximity of the proposed Project. Existing noises sources producing noise which would be perceptible on the proposed project

site include the HGS, Pacific Harbor Rail Line, and nearby industrial businesses. As discussed in Section 3.9, noise from these nearby sources would not substantially affect the usability of the proposed project site. However, none of the cumulative projects in Table 4-1 would contribute to existing noise levels in excess of a land use compatibility standard which would substantially inhibit the usability of the proposed project site. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative noise on the project site.

4.2.9.6.2 Contribution of the Proposed Project

Onsite Operations

Noise from operation activities associated with the proposed Project is discussed in detail in Section 3.9.4. Based on the nature of the proposed Project and the analysis presented Section 3.9.4, onsite noise resulting from activities within the proposed project area is expected to be below ambient baseline noise levels or would only marginally increase.

4.2.9.6.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would not contribute to a cumulatively considerable impact. No mitigation measures are required

4.2.10 Population and Housing

4.2.10.1 Scope of Analysis

The Initial Study (Appendix A) found that there would be no impacts for the proposed Project on population and housing *displacement;* therefore, that impact criterion is not addressed in Section 3.10, "Population and Housing," or in this section. The scope of analysis in Section 3.10 and the associated cumulative analysis below is therefore limited to topics related to population and housing *growth*. The geographic region of analysis for cumulative effects on Population and Housing related to the proposed Project includes the Port of Los Angeles and the community of Wilmington.

For the purposes of this EIR, the timeframe of current or reasonably anticipated projects extends from 2008 to 2020, and the vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.10.4.2.

4.2.10.2 Cumulative Impact POP-1: Substantial Population Growth in an Area, either Directly or Indirectly—Less than Cumulatively Considerable

Cumulative Impact POP-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in development that would induce population growth, either directly or indirectly. Examples of a project inducing direct population growth would be one that developed new housing or removed an obstacle to growth by expanded existing infrastructure, such as roads or utilities, which would make it possible to develop housing in a previously unpopulated area. A project inducing indirect population growth would be one that fosters economic or population-expanding activities that would lead to further development, taxing existing facilities and eventually requiring construction of new facilities.

4.2.10.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects within the Port and the community of Wilmington have induced substantial population growth through the development of single- and multiple-family dwelling units as well as through the creation of a large employment base, particularly dependent upon and related to operations at the Port. Although this growth has been accommodated through careful planning by local and regional authorities, environmental impacts have resulted.

Although there are no present or future housing development projects in the Port, nearly all of the proposed present and future Port projects listed in Table 4-1 would enhance the employment opportunities at the Port and possibly within the greater Los Angeles area. Within the community of Wilmington, there is one large commercial development project that is still in the planning stage (Distribution Center and Warehouse, #62). In Wilmington, the Dana Strand Public Housing Redevelopment Project (#63) is the only present or future housing development project; however, because this project will replace an existing public housing complex, it will not substantially contribute to population growth.

Cumulative impacts associated with past, present and reasonably foreseeable future projects regarding population and housing resources would be cumulatively significant. Within the Port and the community of Wilmington, there has been a large amount of commercial and housing development in the past, and there are many present and future commercial projects planned for the Port that will significantly contribute to employment growth in the region.

4.2.10.2.2 Contribution of the Proposed Project

As discussed in Section 3.10.4.3, the proposed Project would not directly or indirectly induce substantial population growth. The proposed Project would provide additional recreation opportunities as well as a relatively small amount of light industrial space that is intended to provide employment for residents in the immediate area. However, the proposed Project would not provide any new housing, and would not directly induce development of new housing in the region by providing new infrastructure. Similarly, the amount of additional employment opportunities created by the proposed Project, when compared to the existing size of the regional economy, would not be significant, and therefore would not indirectly induce population growth through labor migration. The proposed Project would not directly or indirectly induce substantial population growth, and the cumulative impact of the proposed Project would be less than significant. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact POP-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.10.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to population growth would be less than cumulatively considerable. No mitigation measures are required.

4.2.11 Transportation and Circulation—Ground and Marine

4.2.11.1 Scope of Analysis

4.2.11.1.1 Ground Transportation

The transportation environmental setting for the cumulative surface transportation analysis includes those streets and intersections that would be used by both automobile and truck traffic to gain access to and from the Wilmington Waterfront. The streets most likely to be impacted by cumulative proposed project–related automobile and truck traffic are listed in Table 3.11-1. The 14 analysis intersections, identified in consultation with LADOT on the basis of their location in relation to the proposed Project and the potential for proposed project–related traffic to travel through them, are presented in Table 3.11-4. These roadways and intersections would also be used by construction traffic (e.g., equipment and commuting workers).

The analysis of roadway impacts presented in Section 3.11, “Transportation and Circulation,” reflects cumulative conditions; that is, future 2015 and 2020 conditions projected with the proposed Project in place include traffic from other regional development that is expected to occur whether the proposed Project is implemented

or not. This assumption provides a more realistic projection of traffic under future conditions because if land use under the proposed Project were analyzed without taking into account the cumulative effect of other regional traffic growth, the overall traffic projected under future conditions would be underestimated. In addition, future analysis takes into account several key roadway improvements in or near the study area that are expected to be completed by 2015 (described in Section 3.11.4.1.1).

4.2.11.1.2 Marine

The proposed Project would allow a slightly greater number of recreational vessels to call at the Port. Like all vessels, these ships will follow designated traffic channels when approaching and leaving the harbor. Similarly, in-water construction activities associated with the proposed Project would occur within the Port's existing federal channel limits. Since the proposed Project has the capacity to affect vessel transportation only within these channels or the berths the vessels are accessing, the region of analysis for cumulative marine transportation impacts includes the vessel traffic channels that ships use to access berths within the Main Channel, West Basin, East Basin, and precautionary areas.

The cumulative impacts include those impacts from past, present, and reasonably foreseeable future projects that will also increase the number and size of vessels using these shipping lanes, as well as increased use of the Port areas.

Under CEQA, potential cumulative impacts are identified by comparing conditions under the proposed Project to traffic growth without proposed Project conditions. Impacts are identified if marine vessels generated by the proposed Project would interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.

The following sections summarize the construction and operational roadway impacts that were identified in the surface transportation analyses presented in Section 3.11, "Transportation and Circulation."

4.2.11.2 Cumulative Impact TC-1: Significant Increase in Construction-Related Truck and Auto Traffic, Decrease in Roadway Capacity, and Disruption of Vehicular and Non-Motorized Travel—Less than Cumulatively Considerable

Cumulative Impact TC-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in impacts on roadways and intersections from a short-term temporary increase in

construction truck and automobile traffic, associated with construction worker commutes, transport and staging of construction equipment, transport of construction materials to construction sites, and hauling excavated and demolished materials away from construction sites.

4.2.11.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction of cumulative projects would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures. The following impacts could result:

- Reduced roadway capacity and an increase in construction-related congestion could result in temporary localized increases in traffic congestion that exceed applicable LOS standards.
- Construction activities could disrupt existing transit service in the proposed project vicinity. Impacts may include temporary route detours, reduced or no service to certain destinations, or service delays.
- Construction activities would increase parking demand in the proposed project vicinity and could result in parking demand exceeding the available supply.
- Construction activities would disrupt pedestrian and bicycle travel. Impacts include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and interfere with safe travel.
- Construction activities would increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

Without mitigation, the impact of cumulative construction-generated traffic on transportation operations and safety would be considered significant.

4.2.11.2.2 Contribution of the Proposed Project

Construction-related traffic due to the proposed Project would add to overall traffic congestion in the area, with most project construction occurring between 2009 and 2020.

Potential cumulative construction effects include the following:

- Temporary increases in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel demand on roadways.

- Temporary roadway lanes closures or narrowings in areas directly abutting construction activities would reduce capacity of roadways.
- Temporary roadway closures associated with the construction of transportation infrastructure would reduce the capacity of the roadway system, and/or require detours that increase travel times.
- Temporary lane or road closures could require route detours or reduced service for transit routes that run adjacent to construction activities.
- During proposed project construction, parking demand would increase from construction workers and from construction equipment that is not in use. In addition, parking spaces located adjacent to construction activities could be temporarily closed.
- Temporary sidewalk, lane, or road closures could occur adjacent to proposed project elements that are under construction, which could interfere with bicycle or pedestrian circulation.
- Heavy and slow-moving construction vehicles would mix with general-purpose vehicular and non-motorized traffic in the area.

The exact trip generation expected from construction will be determined as part of the detailed construction phasing plans that are prepared for the proposed Project. At that time, traffic and/or road closures or narrowing that are expected from other concurrent construction activities will be taken into account, as a Traffic Control Plan is developed to mitigate the construction-related contribution of the proposed Project to the overall surface transportation operations. The proposed Project would result in similar construction impacts identified for past, present, and reasonably foreseeable future projects. When combined with cumulative projects, the cumulative effects would be significant.

4.2.11.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of mitigation measure MM TC-1 (Develop and implement a Traffic Control Plan throughout project construction) would reduce the contribution of the proposed Project to cumulative construction impacts to less-than-significant levels. This measure, described in detail in Section 3.11.4.3.1 of this EIR, would address potential impacts during construction by maintaining adequate access to adjacent roadways, maintaining access to transit and to pedestrian and bicycle facilities where safe to do so, providing parking for construction-related vehicles, and providing construction traffic control to minimize effects on roadway operations. With this measure in place, residual cumulative impacts would be less than significant.

4.2.11.3 Cumulative Impact TC-2a: Degradation of LOS at Intersections—Less than Cumulatively Considerable

Cumulative Impact TC-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in traffic volumes or degradation of LOS at intersections within the proposed project vicinity.

4.2.11.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Increases in traffic volumes on the surrounding roadways, due to cumulative new development, would in turn degrade intersection operations. Cumulative base traffic forecasts include the effects of specific cumulative development projects expected to be built in the vicinity of the proposed project site prior to the buildout date, plus ambient growth rates. The list of related projects was based on data from LADOT and from the Community Redevelopment Agency of the City of Los Angeles, as well as a review of other recent traffic studies conducted for projects in the vicinity.

Table 3.11-7 summarizes the trip generation projections that were completed for the proposed Project. Traffic estimated under the Without Project scenario reflects trips generated by other planned regional development. Projections under the proposed Project reflect the net increase in trips over the Without Project scenario. One location under Without Project conditions, the intersection of Avalon Boulevard and Anaheim Street is projected to operate at LOS E in 2020. Thus, without mitigation, the impact of cumulative traffic on intersection LOS is considered significant.

4.2.11.3.2 Contribution of the Proposed Project

The proposed Project would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity. Because the impacts from the proposed Project are compared to the baseline that includes cumulative projects, the contribution from the proposed Project would be cumulatively considerable for one intersection in 2020. At the intersection of Avalon Boulevard and Anaheim Street, the projected V/C increase due to the proposed project is 0.024 in the PM peak hour. This exceeds the threshold of 0.02 that is defined when an intersection is operating at LOS E or worse. Thus, when combined with cumulative projects, the cumulative effects of the proposed Project would be significant .

4.2.11.3.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure MM-2 would be implemented to address the intersection impact identified in year 2020. This measure would fully mitigate the impact at this location

to less-than-cumulatively considerable levels through 2020. Thus, with mitigation in place, the cumulative LOS impacts at this intersection would be less than significant under CEQA.

4.2.11.4 Cumulative Impact TC-2b: Significant Increase in Traffic Volumes and Degradation of Operations along CMP Facilities—Less than Cumulatively Considerable

Cumulative Impact TC-2b represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in traffic volumes or degradation of LOS on CMP facilities within the proposed project vicinity.

4.2.11.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Increases in traffic volumes on the surrounding roadways, due to cumulative future development, would in turn degrade operations along CMP facilities. Cumulative base traffic forecasts include the effects of specific cumulative development projects expected to be built in the vicinity of the proposed project site prior to the buildout date, plus ambient growth rates.

Table 3.11-7 summarizes the trip generation projections that were completed for the proposed Project. Traffic estimated under the Without Project scenario reflects trips generated by other planned regional development. Projections under the proposed Project reflect the net increase in trips over the No Project scenario. The impact of cumulative traffic on intersection LOS would be less than significant.

4.2.11.4.2 Contribution of the Proposed Project

The proposed Project would increase traffic volumes and degrade LOS along CMP facilities within the proposed project vicinity. However, cumulative increases in traffic would not degrade LOS to a level that exceeds adopted standards. Thus, the cumulative impacts of the proposed Project on CMP facilities are less than significant.

4.2.11.4.3 Mitigation Measures and Residual Cumulative Impacts

Because no cumulatively significant impacts on CMP facilities would occur, no mitigation is required. Residual cumulative impacts would be less than significant.

4.2.11.5 Cumulative Impact TC-3: Increased Demand for Transit Service beyond the Supply of Such Services—Less than Cumulatively Considerable

Cumulative Impact TC-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in transit demand within the proposed project vicinity.

4.2.11.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Increases in project-generated trips, due to cumulative new development, would increase transit demand. Cumulative base traffic forecasts include the effects of specific cumulative development projects expected to be built in the vicinity of the proposed project site prior to the buildout date, plus ambient growth rates.

Table 3.11-7 summarizes the trip generation projections that were completed for the proposed Project. Traffic estimated under the Without Project scenario reflects trips generated by other planned regional development. Projections under the proposed Project reflect the net increase in trips over the Without Project scenario. The impact of cumulative transit demand would be less than significant.

4.2.11.5.2 Contribution of the Proposed Project

The proposed Project would increase transit demand within the proposed project vicinity, as a result of the commercial, recreational, cultural, and business-oriented proposed project elements.

As discussed in the Section 3.11.2, "Environmental Setting," there are five bus lines that provide service in the vicinity of the proposed project site. Based on the existing operating schedules for these transit lines, 16 buses in the AM peak hour and 16 buses in the PM peak hour are estimated to serve the vicinity.

Cumulative increases in transit demand would likely be accommodated with existing transit service. Additionally, if cumulative demand on regional bus routes approaches or exceeds capacity by the long-range planning years of 2015 or 2020, the transit providers have the option of adding routes or increasing the frequency of existing service as a matter of standard operating procedure. Thus, the cumulative impacts of the proposed Project on transit are less than significant.

4.2.11.5.3 Mitigation Measures and Residual Cumulative Impacts

As no cumulatively significant impacts on transit would occur, no mitigation is required. Residual cumulative impacts would be less than significant.

4.2.11.6 Cumulative Impact TC-4: Violation of the City's Adopted Parking Supply, and Parking Demand Exceeding Supply—Less than Cumulatively Considerable

Cumulative Impact TC-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in parking demand in the proposed project vicinity that would exceed supply.

4.2.11.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Completion of future cumulative development projects would increase future parking demand, and local development regulations govern the level of parking supply required for each new development. For the proposed Project, the required parking supply reflects the level needed for the development that would occur, over the cumulative parking supply that would be required to accommodate other regional development. Because parking supply for cumulative development is regulated by development regulations, the impact of cumulative parking demand is less than significant.

4.2.11.6.2 Contribution of the Proposed Project

The proposed Project would increase parking demand within the proposed project vicinity. Under the requirements of the Harbor Enterprise Zone, 440 additional parking spaces would be required over parking required by other cumulative development. An additional 506 parking spaces are proposed, which exceeds this requirement. Thus, cumulative impacts to parking would be less than significant.

4.2.11.6.3 Mitigation Measures and Residual Cumulative Impacts

As no cumulative significant impacts on parking would occur under the proposed Project, no mitigation is required. Residual cumulative impacts would be less than significant.

4.2.11.7 Cumulative Impact TC-5: Significant Increase in Safety Hazards—Less than Cumulatively Considerable

Cumulative Impact TC-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant conflict with vehicles and pedestrians at cross streets.

4.2.11.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects must conform to local development standards, and thus are not expected to include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized travelers. Thus, their cumulative impacts on safety are less than significant.

4.2.11.7.2 Contribution of the Proposed Project

The proposed Project does not include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized travelers. Thus, the cumulative impacts of the proposed Project on safety are less than significant.

4.2.11.7.3 Mitigation Measures and Residual Cumulative Impacts

As no cumulative significant impacts on safety would occur under the proposed Project, no mitigation is required. Residual cumulative impacts would be less than significant.

4.2.11.8 Cumulative Impact VT-1a: Interference with Operation of Designated Vessel Traffic Lanes and/or Impairment to the Level of Safety for Vessels Navigating the Main Channel, West Basin Area, East Basin Area, or Precautionary Areas due to Construction—Less than Cumulatively Considerable

Cumulative Impact VT-1a represents the potential of construction of the proposed Project when combined with past, present, and reasonably foreseeable future projects

to increase vessel traffic congestion or reduce the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas.

As reported in Section 3.11.2, vessel traffic levels are highly regulated by the USCG Captain of the Port (COTP) and the Marine Exchange of Southern California via the Vessel Transportation Service (VTS) to ensure the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Mariners are required to report their position to the COTP and the VTS prior to transiting through the Port; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes. In the event that scheduling conflicts occur and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the Port.

4.2.11.8.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the proposed project vicinity have resulted in deepening navigation channels and upgrading existing wharf infrastructure to accommodate modern container ships. Incremental Port development has resulted in water-dependent developments that have been necessary to accommodate the needs of foreign and domestic waterborne commerce. In response to past actions, several measures have been implemented to ensure the safety of vessel navigation in the harbor area. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and are regulated by various agencies and organizations to ensure navigational safety.

Present and reasonably foreseeable Port projects, including the proposed Project, could result in marine vessel safety impacts if they introduce construction equipment to the harbor, Main Channel, and/or precautionary areas; and/or interfere with USCG-designated vessel traffic lanes. In-water construction activities are associated with many of the Port projects listed in Table 4-1; including the Pier 400 Container Terminal and Transportation Corridor (#1), Berths 136-147 Terminal (#2), Channel Deepening (#4), Cabrillo Way Marina (#5), San Pedro Breakwater Artificial Reef (#6), Berth 226-236 (Evergreen) Container Terminal Improvements (#8), SSA Outer Harbor Fruit Facility Relocation (#10), Pacific LA Marine Terminal, Westway Decommissioning, Consolidated Slip Restoration (#14), Berths 97-109 China Shipping Development (#16), Berths 171-181 Pasha Marine Terminal Improvements (#17), San Pedro Waterfront (#22), Berth 302-305 (APL) Container Terminal Improvements (#24), Berths 212-224 (YTI) Container Terminal Improvements (#29), and the Berths 121-131 (Yang Ming) Container Terminal Improvements (#30). Construction activities would introduce construction equipment into the Main Channel. The Port utilizes standard safety precautions in piloting these vessels through harbor waters and standard measures including compliance with LAHD standards for construction and dredging safety. USACE permit requirements would also apply.

Proposed improvements associated with other projects would improve the overall conditions in the Los Angeles Harbor by creating berth depths sized to accommodate the modern, deeper-draft class of vessels. The deeper draft berths would improve the efficiencies of shipping and Port operations by reducing the relative number of vessels and vessel trips required to accommodate projected container throughput at the Port.

Therefore, the past, present, and foreseeable future projects would not create significant cumulative construction impacts related to navigation hazards.

4.2.11.8.2 Contribution of the Proposed Project

The construction phase of the proposed Project would involve the use of construction vessels and equipment to conduct limited fill, dredge, and construction within the harbor, Main Channel, and precautionary areas. These types of activities are routinely conducted in the Port, and contractors performing in-water construction activities are subject to applicable rules and regulations stipulated in all LAHD contracts. The Port would utilize standard safety precautions in piloting these vessels through harbor waters, and standard measures including compliance with LAHD standards for construction and dredging safety. Thus, the short-term presence of supply barges/support boats in the harbor, Main Channel, and precautionary areas would not reduce the existing level of safety for vessel navigation in the Port.

These practices and procedures ensure safe transit of vessels operating within, as well as to and from, the proposed project area. Given the continued use of standard practices and implementation of COTP uniform procedures, the projected cumulative increase in construction-related vessel calls would not significantly decrease the margin of safety for marine vessels within the cumulative area impacted by the proposed Project.

Therefore, construction of the proposed Project, considered together with other present and reasonably foreseeable future projects, would result in less-than-significant impacts.

4.2.11.8.3 Mitigation Measures and Residual Cumulative Impacts

As construction of the proposed Project would have less-than-significant impacts on marine transportation, no mitigation measures would be required. Impacts would remain less than significant.

4.2.11.9 Cumulative Impact VT-1b: Interference with Operation of Designated Vessel Traffic Lanes and/or Impairment to the Level of Safety for Vessels Navigating the Main Channel, West Basin Area, East Basin Area, or Precautionary Areas due to Operations—Less than Cumulatively Considerable

Cumulative Impact VT-1b represents the potential for operation of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase vessel traffic congestion or reduce the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas.

As reported in Section 3.11.2, vessel traffic levels are highly regulated by the USCG COTP and the Marine Exchange of Southern California via the VTS to ensure that the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Mariners are required to report their position to the COTP and the VTS prior to transiting through the Port; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes. In the event that scheduling conflicts occur and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the Port.

4.2.11.9.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the proposed project vicinity have resulted in deepening navigation channels and upgrading existing wharf infrastructure to accommodate modern container ships. Incremental Port development has resulted in water-dependent developments that have been necessary to accommodate the needs of foreign and domestic waterborne commerce. In response to past actions, several measures have been implemented to ensure the safety of vessel navigation in the harbor area. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and are regulated by various agencies and organizations to ensure navigational safety.

Present and reasonably foreseeable future projects, including the proposed Project, could result in marine vessel safety impacts if they introduce construction equipment to the harbor, Main Channel, and/or precautionary areas; and/or interfere with USCG designated vessel traffic lanes. Operational activities are associated with many of the Port projects listed in Table 4-1; including the Pier 400 Container Terminal and Transportation Corridor (#1), Berths 136-147 Terminal (#2), Channel Deepening (#4), Cabrillo Way Marina (#5), San Pedro Breakwater Artificial Reef (#6), Berth 226-236 (Evergreen) Container Terminal Improvements (#8), SSA Outer Harbor

Fruit Facility Relocation (#10), Pacific LA Marine Terminal, Westway Decommissioning, Consolidated Slip Restoration (#14), Berths 97-109 China Shipping Development (#16), Berths 171-181 Pasha Marine Terminal Improvements (#17), San Pedro Waterfront (#22), Berth 302-305 (APL) Container Terminal Improvements (#24), Berths 212-224 (YTI) Container Terminal Improvements (#29), and the Berths 121-131 (Yang Ming) Container Terminal Improvements (#30). Construction activities would introduce construction equipment into the Main Channel. The Port utilizes standard safety precautions in piloting these vessels through harbor waters, and standard measures including compliance with LAHD standards for construction and dredging safety.

Proposed improvements associated with other projects would improve the overall conditions in the Los Angeles Harbor by creating berth depths sized to accommodate the modern, deeper-draft class of vessels. The deeper draft berths would improve the efficiencies of shipping and Port operations by reducing the relative number of vessels and vessel trips required to accommodate projected container throughput at the Port.

Therefore, the past, present, and foreseeable future projects would not create significant cumulative operational impacts related to navigation hazards.

4.2.11.9.2 Contribution of the Proposed Project

During operations, the proposed Project is expected to attract slightly increased levels of recreational vessel traffic (fewer than 48 vessels per day) to the harbor, Main Channel, and precautionary areas.

The cumulative increase in Port recreational vessel volume, in combination with increased recreational and cargo volume (i.e., containers and TEUs) from other reasonably foreseeable future Port projects, would result in additional vessel traffic within the harbor, Main Channel, and precautionary areas. The increased vessel volumes would in turn increase the risk of in-water vessel traffic hazards. However, the rate of vessel accidents (i.e., collisions, collisions with stationary objects or structures, and groundings) in the Port is relatively low (0.0038% probability; see Section 3.11.2.2.2 for additional information) compared to vessel traffic volumes within the Port.

Standard practices and procedures ensure safe transit of vessels operating within, as well as to and from, the proposed project area. Given the continued use of standard practices and implementation of COTP uniform procedures, the projected cumulative increase in vessel calls would not significantly decrease the margin of safety for marine vessels within the cumulative area impacted by the proposed Project.

Therefore, operations of the proposed Project, considered together with other present and reasonably foreseeable future projects, would result in less-than-significant impacts.

4.2.11.9.3 Mitigation Measures and Residual Cumulative Impacts

Because operations of the proposed Project would have less-than-significant impacts on marine transportation, no mitigation measures would be required. Impacts would remain less than significant.

4.2.12 Utilities

4.2.12.1 Scope of Analysis

Cumulative impacts on utilities can result from the combined demand of the proposed Project with past, present, and future related projects on any of the utilities for which the proposed Project may have impacts (i.e., water supply, landfill and wastewater treatment capacities, and energy). For the purposes of the cumulative effect analysis of utilities, the timeframe of current or reasonably anticipated projects extends from 2008 to 2020.

The geographic scope of the cumulative effect analysis of utilities depends on the service area of the individual utility provider and the jurisdiction over which increased demand for utility services from the proposed Project could reduce the availability of such utility services. Since the proposed Project has the capacity to affect the environment within the Port and surrounding communities, the region of analysis for cumulative impacts includes the Port of Los Angeles and extends to adjacent areas, including the communities of Wilmington and San Pedro. Cumulative impacts are, therefore, assessed in terms of their compatibility with existing Port industrial uses. For stormwater, the geographic scope includes the Wilmington Waterfront and immediately adjacent lands within the Harbor's subwatershed because this represents the drainage area that would be influenced by the proposed Project. The service areas of the Bureau of Sanitation (wastewater), Los Angeles County Sanitation Districts (solid waste), and LADWP (water and electricity) encompass the City of Los Angeles. The Southern California Gas Company (Gas Company) (natural gas) serves most of central and Southern California. However, the geographic region for cumulative utilities impacts is the Port and Harbor District because the infrastructure immediately serving the proposed Project is located within this service area. Service subareas of utility providers are sufficiently separated such that increased service demands from the proposed Project would not threaten such provisions in other areas (i.e., central and Southern California in the case of the Gas Company). Direct impacts of the proposed Project would be localized to the Port area, and indirect impacts could extend further within the communities of San Pedro and Wilmington.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.12, "Utilities."

4.2.12.2 Cumulative Impact UT-1: Construction or Expansion of Utilities—Less than Cumulatively Considerable

Cumulative Impact UT-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require substantial demand for utilities and therefore require the substantial construction or expansion of utility lines to meet that demand.

4.2.12.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created a demand for storm drain, water, and wastewater line infrastructure that is currently accommodated by existing utility lines. Storm drains within the area are maintained by the LAHD and have sufficient capacity to accommodate demands (Zambrano 2007).

Many of the projects identified in Table 4-1 involve relocation of existing facilities within the Port and vicinity, and generally do not require any expansion of facilities. Therefore, it is expected that stormwater runoff, water consumption, and wastewater generation would remain similar to current levels. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional demands on utilities and service systems. These projects include the Pier 400 Container Terminal and Transportation Corridor Project, Evergreen Improvements Project (#8), Pacific L.A. Marine Terminal LLC Crude Oil Terminal (#12), Berths 97–109 China Shipping Terminal Development Project (#16), Berths 171–181 Pasha Marine Terminal Improvements (#17), Berths 302–305 APL Container Terminal Expansion (#24), Berths 121–131 Yang Ming Container Terminal (#30), Dana Strand (#63), Ponte Vista (#69), and Middle Harbor Terminal Redevelopment, Port of Long Beach (#72). The related projects would likely require construction and/or expansion of water, wastewater, and storm drains utility systems on their respective sites, and may have to connect with nearby supply utility lines (usually in streets and other public rights-of-way).

The sewer mainlines in the Wilmington area are flowing near capacity. Based on the estimated wastewater flows and the current flow capacity of the existing sewer lines in the Wilmington Community, the existing sewer system would not be able to accommodate the total flow from the future projects. The demand from past and the present projects would be accommodated in the existing sewer system (as has been analyzed in Berths 136–147 Marine Terminal, West Basin ,and Dana Strand Housing projects' environmental impact documents). However, the wastewater flow from future projects like Banning Elementary School #1 would potentially have a cumulatively considerable impact on wastewater utility lines. The future projects would be required to construct secondary sewer lines of adequate capacity to support the main sewer lines. The construction of various utility lines would be carried out as part of the individual projects. A Public Services Relocation Plan would be prepared as

part of the individual projects to address impacts from construction and/or expansion of utilities. The Public Services Relocation Plan would be reviewed by the service providers and City departments prior to implementation. Because the sewer lines are flowing at capacity in the Wilmington community area, past, present, and reasonably foreseeable future projects would result in significant cumulative impacts on utilities.

4.2.12.2.2 Contribution of the Proposed Project

The proposed Project would retain, relocate, or rebuild and protect electrical utilities as appropriate as part of the proposed Project. Additionally, the proposed Project would require an expansion of the existing wastewater lines to accommodate proposed project wastewater flows. Furthermore, the proposed Project would include adding several mainlines off of the existing 24-inch recycled water mainline so that all landscaping and water features would be supplied with recycled water.

The proposed Project would also require relocation of electrical lines and potable water lines for construction. The relocation of existing electrical lines and potable water lines would not be associated with an increase in demand for electricity under the proposed Project or inadequate existing infrastructure capacity (see Cumulative Impact UT-3 for further discussion regarding electricity and UT-2 for further discussion regarding water demand); therefore, the proposed Project would not have a cumulatively considerable impact on electrical utilities, when combined with past, present, and reasonably foreseeable future projects.

The sewer mainlines in the Wilmington area are flowing near capacity. Based on the estimates of wastewater flows and the current flow capacity of the existing sewer lines, the system would not be able to accommodate the total flow from the proposed Project without wastewater infrastructure upgrades and expansions. All wastewater infrastructure improvements and connections would occur within City streets, comply with the City's municipal code, and be performed under permit by the City Bureau of Engineering and/or LADWP. The existing sewer infrastructure would not be able to accommodate the proposed project demand, as well as cumulative wastewater flows from the related projects, without wastewater infrastructure upgrades and expansions. Therefore, without mitigation the proposed Project would have a cumulative considerable impact on wastewater utilities, when combined with past, present and reasonably foreseeable future projects.

The proposed Project would result in the expansion of the 24-inch recycled water line along Harry Bridges Boulevard to provide the four proposed water features and landscaping with recycled water. Recycled water can be provided through the TITP with the extension of several mainlines off of the existing 24-inch recycled water line. The construction of these new mainlines would be a beneficial cumulative impact, as they would ultimately reduce the amount of potable water the proposed Project would use and reduce the overall demand for water of the proposed Project. Therefore, when combined with past, present, and reasonably foreseeable future projects the expansion of the recycled waterline would be cumulatively considerable.

4.2.12.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measure **MM UT-4** (Section 3.12, "Utilities") requiring construction of secondary lines to main sewer lines of adequate capacity for the proposed Project by the project proponent would reduce the cumulatively considerable residual impacts to less-than-significant levels.

4.2.12.3 Cumulative Impact UT-2: Exceeding Existing Water Supply, Wastewater, or Landfill Capacities—Less than Cumulatively Considerable

Cumulative Impact UT-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate substantial solid waste, and/or require substantial water and/or wastewater demands that would exceed the capacity of existing facilities.

4.2.12.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Operation of past projects has resulted in existing demands for water and generation of wastewater and solid waste. These demands are currently accommodated by existing facilities. In order to properly plan for water supply, the LADWP determines water demands using factors such as demographics, weather, economy, and trends in development. In the 2005 Urban Water Management Plan, LADWP forecasted the City of Los Angeles to grow 0.4% annually over the next 25 years, for an increase of approximately 368,000 persons over the next 25 years. It is projected that LADWP, along with MWD, will have adequate water supply capabilities to meet anticipated growth and increased demands until the year 2035 under wet, dry, and multiple-dry years (LADWP 2005)[1]. In terms of the City's overall water supply condition, the water requirement for any project that is consistent with the City's General Plan has been taken into account in the planned growth of water demand. LADWP's forecast specifically includes anticipated demand from projects that are included in the Port's Community Plan or the PMP, including all past, present, and 21 reasonably foreseeable future Port projects (LADWP 2005). The California Urban Water Management Planning Act requires water suppliers to develop water management plans every 5 years. Because of this, the LADWP would continue to project future water demands and supply through new UWMPs every 5 years.

[1] The 2005 MWD UWMP is also incorporated by reference and is available at LAHD Environmental Management Division, 425 South Palos Verdes Street, San Pedro, CA and at http://www.mwdh2o.com/. Section A.3 of the 2005 MWD UWMP provides justifications for its supply projections including existing supplies, historical supplies, and contracts for future supplies.

Together with local groundwater sources, the Los Angeles–Owens River Aqueduct, purchases from the MWD, and recycled water, LADWP estimates that it will have adequate supply for future projects (LADWP 2007).

The TITP wastewater treatment plant is currently operating at 56% of its daily capacity of 30 mgd, treating about 17.5 mgd (City of Los Angeles Bureau of Sanitation 2008a). The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (City of Los Angeles 2006); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for future years (beyond 2020). Wastewater from the related projects would not significantly affect existing or future capacity at TITP due to its substantial remaining capacity beyond 2020. Consequently, the past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to wastewater treatment capacity.

The landfill that serves the Port area is the Sunshine Canyon SLF. Sunshine Canyon SLF has a daily throughput capacity of 12,100 tons allotted for City use and is expected to accommodate demands until 2037 (CIWMB 2008a). In addition there are several other landfills identified in Section 3.12, "Utilities" for secondary uses. However, the City of Los Angeles, as well as Southern California in general, is currently faced with reduced landfill space due to increases in population. To comply with AB 939, recycling studies for the City of Los Angeles have been conducted and currently there is a citywide diversion rate of 62%, and a goal of 70% by 2015, 90% by 2025, with an ultimate goal of zero waste by 2030 (Pereira pers. comm. 2008).

Additionally, the City of Industry is considering an Environmental Impact Report on the Puente Hills Intermodal Facility, in summer 2008. This waste-by-rail project's goal is to accommodate the solid waste removal needs for Los Angeles County by transporting solid non-hazardous waste to Mesquite Landfill in Imperial County. The proposed facility would eventually have the capacity of two trains per day, handling a total of 8,000 tons of municipal solid waste per day. It is expected to be operational by 2011 (Puente Hills Intermodal Facility DEIR 2008).

Many of the projects identified in Table 4-1 are Port redevelopment projects within the proposed project vicinity, and generally do not require any expansion of facilities. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional utility demands and generations for water, wastewater, and solid waste. These projects include the Pier 400 Container Terminal and Transportation Corridor Project, (#1), Evergreen Improvements Project (#8), Pacific L.A. Marine Terminal LLC Crude Oil Terminal (#12), Berths 97–109 China Shipping Terminal Development Project (#16),Berths 171–181 Pasha Marine Terminal Improvements (#17), Berths 302–305 APL Container Terminal Expansion (#24), Berths 121–131 Yang Ming Container Terminal (#30), Dana Strand (#63), Ponte Vista (#69), and Middle Harbor Terminal Redevelopment (Port of Long Beach) (#72). While the number of related projects would increase the demands for water as well as generation of wastewater and solid waste, existing and planned

capacity would be able to accommodate and process wastewater and solid waste, and provide adequate water supply for future projects. Based on the above, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts on the provision of water nor result in a significant cumulative impact on wastewater treatment or landfill capacity .

4.2.12.3.2 Contribution of the Proposed Project

Operation of the proposed project would demand about 44,180 gpd or 50 acre-feet per year (afy) of water in 2015 and about 85,312.5 gpd or 96.5 afy in 2020. The proposed Project would utilize 20.7 afy and 56.5 afy of recycled water in 2015 and 2020, respectively. The 2015 water demand of the proposed Project after use of recycled water would represent 0.004% of the estimated water demand of 705,000 afy for the LADWP service area in 2015. The 2020 water demand of the proposed Project after use of recycled water would represent 0.005% of the estimated water demand of 731,000 afy for the LADWP service area in 2020. The Water Supply Assessment prepared for the proposed Project found that LADWP would be able to accommodate the proposed Project's water demand. Because the proposed Project's water demand is low, and because ongoing water supply planning would continue to occur via new or updated UWMPs in the future, the proposed Project would not result in significant impacts, nor would the cumulative impact be significant. Thus, the incremental contribution of the proposed Project would not result in a cumulatively considerable impact.

Wastewater generation from the proposed Project would contribute 1.1% of the TITP daily capacity. Because the TITP currently operates at 56% capacity, these increases would be considered negligible. The amount of wastewater generated by the proposed Project would not significantly affect existing or future capacity at TITP due to the limited operational proposed project flows and the adequate remaining capacity at TITP beyond 2020 (to 2045), as described above. Therefore, the proposed Project's incremental contribution would not result in a cumulatively considerable impact on wastewater treatment capacity.

The proposed project operations would generate about 3,600 pounds of solid waste per day in 2020 at full buildout. With the current recycle diversion rate of 62%, the amount of solid waste that would go the Sunshine Canyon landfill represents 0.006% of the permitted daily throughput of 12,100 tons. If the goal of 70% diversion is achieved by 2015, that amount would be reduced to 0.005%. Finally, if the goal of 100% diversion is achieved by 2030, the amount of solid waste sent to Sunshine Canyon SLF Landfill would be 0% for the project horizon date of 2037. It is important to note that these goals are optimistic. The increases in solid waste demands would be less than cumulatively considerable due to compliance with AB 939 and the proposed waste-by-rail system. Since the cumulative impact of past present, and future projects is less than significant, and the proposed Project's contribution is less than significant, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

4.2.12.3.3 Mitigation Measures and Residual Cumulative Impacts

To further reduce impacts to water demand and wastewater capacities, LADWP has supplied water conservation mitigation measures that would be implemented for the proposed Project. Implementation of Mitigation Measure **MM UT-5 (Water Conservation and Wastewater Reduction)** would reduce impacts from the proposed Project (Section 3.12, "Utilities"). The proposed Project's incremental impacts would be less than cumulative considerable and a significant cumulative impact would not occur.

4.2.12.4 Cumulative Impact UT-3: Increased Energy Demands, Supply Facilities, and Distribution Infrastructure—Less than Cumulatively Considerable

Cumulative Impact UT-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate increases in energy demands such that the construction of new energy supply facilities and distribution infrastructure would be required.

4.2.12.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past and present projects has resulted in existing demands for energy and natural gas. These demands and generations are currently accommodated by existing facilities as provided by the LADWP and the Gas Company. Many of the projects identified in Table 4-1 involve relocation of existing facilities within the Port and vicinity, and generally do not require any expansion of facilities. Therefore, it is expected that electricity and natural gas consumption would remain similar to current levels. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional demand on electricity and natural gas. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), Evergreen Improvements Project (#8), Pacific L.A. Marine Terminal LLC Crude Oil Terminal (#12), Berths 97–109 China Shipping Terminal Development Project (#16), Berths 171–181 Pasha Marine Terminal Improvements (#17), Berths 302–305 APL Container Terminal Expansion (#24), Berths 121–131 Yang Ming Container Terminal (#30), and Middle Harbor Terminal Redevelopment (#72). These related projects would place an additional demand on electricity and natural gas.

LADWP has a total generating capacity of approximately 8,129 megawatts available in 2015 and 7,721 megawatts available in 2020 to serve a peak Los Angeles demand of about 6,540 megawatts per day in 2015 and 6,876 in 2020. Under the Los Angeles

City Charter (Sections 220 and 673), LADWP has the power and duty to construct, operate, maintain, extend, manage, and control water and electric works and property for the benefit of the City and its inhabitants. LADWP's Integrated Resource Plan (IRP) anticipates load growth and plans new generating capacity or demand side management programs to meet load requirements for future customers. The LADWP prepared IRPs in 2000 and 2007 to provide a framework to assure that future energy needs of LADWP customers are reliably met at the least cost and are consistent with the City commitment to environmental excellence (City of Los Angeles 2007). In 2002, SB 1078 implemented a Renewable Portfolio Standard, which established a goal that 20% of the energy sold to customers be generated by renewable resources by 2017. The IRP provides objectives and recommendations to reliably supply LADWP customers with power and to meet the 20% renewable energy goal by 2010. As of the 2007 IRP, LADWP prepared a Load Forecast that predicts that LADWP customers' electricity consumption will increase at an average rate of 1.1% per year and that peak demand will increase an average of 70 megawatts per year for the foreseeable future. For 2025, LADWP predicts that peak demand will reach 7,370 megawatts and that total resources will amount to 8,516 megawatts (including a reserve margin). Based on the LADWP IRP, and the LADWP's current generating capacity, electrical resources, and reserves LADWP will adequately provide electricity for the Port; they will have adequate generation to serve the current customer load and reasonably foreseeable future projects (Gupta pers. comm. 2007). The IRP does not provide load demand forecasts or supply resources beyond 2025 because its planning horizon extends only to 2025. However, because LADWP is required by the Charter to provide a reliable supply of electricity for its customers and because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the past, present, and reasonably foreseeable future projects would not result in the need to construct a new unplanned off-site power station or facility.

Natural gas service to the project site would be supplied by the Gas Company. As a public utility, Gas Company is under the jurisdiction of the state PUC and can be affected by actions of federal regulatory agencies. While regulatory actions may affect the regional and local supply and pricing of natural gas, substantial changes in this utility supply are not anticipated based on current supply and demand projections (Gas Company 2007). Therefore, past, present, and reasonably foreseeable future projects would not contribute to a cumulatively considerable impact on natural gas service.

4.2.12.4.2 Contribution of the Proposed Project

The proposed Project would result in minimal increased demands for electricity and natural gas. Energy expenditures during construction would be short term in duration, occurring periodically during each of the proposed project construction phases. Construction would not result in substantial waste or inefficient use of energy because programs such as the Green Terminal Program and the Construction

Recycling Program implement policies that make construction and development projects more energy efficient. (Port of Los Angeles 2008)

All new buildings constructed under the proposed Project would adhere to the Port's Green Building Policy of implementation of LEED-certified ratings wherever applicable. It is the Port's desire to be the most energy efficient port to date. Energy efficiency standards would be incorporated on various buildings to decrease energy demands. The increase in electricity demands associated with the proposed Project would not exceed existing supplies or result in the need for major new facilities. Additionally, the LADWP IRP anticipates load growth and plans new generating capacity or demand side management programs to meet load requirements for future customers. Furthermore, the proposed Project would incorporate energy conservation measures in compliance with California's Building Code CCR Title 24 that requires building energy efficient standards for new construction (including requirements for new buildings, additions, alterations, and, in nonresidential buildings, repairs). Incorporation of these design standards, as required by state law, would reduce wasteful energy consumption.

The proposed project natural gas demand represents 0.001 and 0.002% of the total daily capacity of the Gas Company in 2015 and 2020, respectively (4,675 MMcf per day available in 2015 and 2020). Project-related natural gas demands (space and water heating) would not be substantial.

Therefore, the proposed Project would not result in a significant increase in demands on electricity and natural gas. Since the cumulative impact is less than significant, the increased demands for electricity and natural gas by the Project beyond 2020 would not result in a cumulatively considerable contribution to a significant cumulative impact.

4.2.12.4.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.13 Public Services

4.2.13.1 Scope of Analysis

Cumulative impacts on public services can result from the combined demand of the proposed Project along with past, present, and future related projects on any of the public services for which the proposed Project may have impacts (i.e., police and fire protection, and parks and recreation). The geographic scope depends on the service area of the individual public service and the jurisdiction over which increased demand for services from the proposed Project could reduce the availability of such services. Since the proposed Project has the capacity to affect the environment

within the Port and surrounding communities, the region of analysis for cumulative impacts includes the Port of Los Angeles and extends to adjacent areas, including the community of Wilmington, and are assessed in terms of their compatibility with existing Port industrial uses. For the Port Police, this area is localized to the Ports of Los Angeles and Long Beach and neighboring harbor area communities, such as Wilmington. The service area of the LAPD and LAFD encompasses the City of Los Angeles; however, the police and fire stations identified as serving the proposed Project serve only the Port and harbor area. The geographic scope for parks and recreation would be limited to the neighboring Wilmington and San Pedro communities. Direct impacts from the proposed Project would be localized to the Port area, and indirect impacts could extend further within the City.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.13, "Public Services."

4.2.13.2 Cumulative Impact PS-1: Inadequate Level of Law Enforcement and Emergency Services during Construction—Less than Cumulatively Considerable

Cumulative Impact PS-1 represents the potential for proposed project construction activities, when combined with past, present, and reasonably foreseeable future projects, to affect the law enforcement and emergency services such that public service agencies would not be able to maintain an adequate level of service during construction.

4.2.13.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects would not disrupt law enforcement or emergency response times during construction because these projects have been completed and are operational. Construction of present and reasonably foreseeable future projects may lead to traffic disruption through lane closures, road closures etc. These disruptions would potentially impact the emergency response times of the law enforcement and emergency services providers. Present and future cumulative projects within the Port would be required, as would the proposed Project, pursuant to the WATCH Manual, to coordinate with law enforcement agencies and emergency services during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. The WATCH Manual would include temporary traffic controls such as alternate response routes and maintain emergency vehicular access through tapers, diversions, and detours, hand signaling controls, barricades, lighting devices, and sign placement to ensure minimum response times during construction of the related projects. Therefore impacts of past, present, and reasonably foreseeable future projects would not be cumulatively considerable.

4.2.13.2.2 Contribution of the Proposed Project

At no time would construction of the proposed Project impact response times for LAFD, LAPD, or the Port Police. Proposed project construction would require the use of one or more sites for construction staging of equipment and materials, which would be vulnerable to unauthorized trespassing or theft; however, private security provided by the Port and LAPD, as needed, would protect against such risk. LAHD would be required, pursuant to the WATCH Manual, to coordinate with law enforcement agencies and emergency services during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Coordination with various agencies and various traffic control measures proposed as a part of the WATCH manual would ensure that impacts on law enforcement and emergency services, including response times, due to the proposed Project would remain less than cumulatively significant. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact PS-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.13.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.13.3 Cumulative Impact PS-2: Inadequate Level of Police Protection Services and Infrastructure during Operations—Less than Cumulatively Considerable

Cumulative Impact PS-2 represents the potential for the operation of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase the demand for additional law enforcement officers and/or facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without additional facilities.

4.2.13.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The LAPD is not the primary police service provider in the Port area and primarily provides support to the Port Police under special circumstances (as described in Section 3.13, “Public Services”); therefore, cumulative Port development would only mainly impact the Port Police. Operation of past projects has created an existing demand for police protection that is adequately accommodated by the Port Police and LAPD. LAPD’s level of service and response times are considered adequate

(Roupoli pers. comm. 2008); however, the department is continuing to work on ways to further reduce response times. Scheduled improvements to LAPD facilities in the Harbor Community include upgrades to and replacement of the Harbor Station to increase efficiency. Additionally, the Port Police has increased staffing levels in conjunction with the Port in order to maintain adequate service levels for present and future projects (Provinchain pers. comm. 2008).

Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation of existing facilities within the Port and vicinity or do not otherwise involve expansion of facilities; therefore, these would not result in an increase in public resources. However, several of the projects would utilize or increase the demand for local police services by increasing the amount of Port land used for operations. Specifically, the Pier 400 Container Terminal and Transportation Corridor Project (#1), Evergreen Improvements Project (#8), Pacific L.A. Marine Terminal LLC Crude Oil Terminal (#12), Berths 97–109 China Shipping Terminal Development Project (#16), Berths 171–181 Pasha Marine Terminal Improvements (#17), Berths 302–305 APL Container Terminal(#24), Berths 121–131 Yang Ming Container Terminal (#30), and Middle Harbor Terminal Redevelopment, Port of Long Beach (#70), would generate increased on-land terminal operations.

Development of present and reasonably foreseeable future projects could substantially increase the residential and employee populations in the area, increasing the demand for police protection services. Depending upon the demand generated from the present and reasonably foreseeable future projects, the Port Police and LAPD would continue to increase staffing in conjunction with future development in order to ensure that adequate service would be provided to all future project sites. Also, most of these projects would include mandated security features, including terminal security personnel, gated entrances, perimeter fencing, terminal and backlands lighting, and camera systems under the Maritime Transportation Security Act that would reduce the demand for law enforcement personnel.

Furthermore, to provide for future development and projects, scheduled improvements for the Port Police include construction of a Wilmington Substation at 300 Water Street near Berth 195, which will be occupied as a temporary substation sometime in 2008. The Port Police are also in the process of building a new station at 330 S. Centre Street (between 3rd and 5th Streets). The new station is projected to be completed in 2010. Other improvements include expanding existing Port Police facilities to house mobile incident command vehicles, bicycle unit equipment, security officer equipment and vehicles, hazardous material response vehicles, an expanded marine unit facility, a marine mammal facility, K-9 kennel and K-9 training centers, and a Port Police dive and in-water training center. (Provinchain pers. comm. 2008.). Law enforcement services have developed over time in concert with surrounding development needs, and because of this, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to the demand for law enforcement.

4.2.13.3.2 Contribution of the Proposed Project

The proposed Project would not substantially increase the demand for police protection services. LAPD is not the primary police service provider in the Port area; the primary service provider is the Port Police. However, LAPD does have jurisdiction over the proposed project area north of Harry Bridges Boulevard, which is located in the Wilmington Harbor City CP. The proposed Project would result in increased daytime population in the area, including new employees, visitors, and recreators. Furthermore, the proposed Project could support a variety of public events within the open space areas that would increase the daytime population over a certain period of time (e.g., weekends). The increased daytime population would not burden LAPD such that they would not be able to maintain an adequate level of service (Plows pers. comm. 2008). The proposed Project and the individual elements on privately owned land parcels (e.g., industrial and commercial development) would support crime prevention through environmental design approaches such as adequate security lighting and highly visible open space areas. This would reduce the demand for law enforcement personnel. Currently, Port Police are adequately staffed with sworn personnel to provide for the activities of the Port, and the proposed project elements are not estimated to change the ability of Port Police to provide security for the Port (Plows pers. comm. 2008).. The Port Police are estimated to have 223 positions authorized for fiscal year 2007–2008, which includes 142 total sworn officers (recently approved to grow to 212); the Port Police can adequately provide for the proposed Project and would be able to accommodate Port growth and development as it proceeds (Provinchain pers. comm. 2008). The proposed Project does not involve any development that would directly increase the local population.

The proposed Project would require police services to be present at occasional public gatherings and events. However, these would occur only a few times a year over weekend hours, and the level of police service would not be substantially affected.

Consequently, no new or expanded police protection services would be required to serve the project; the proposed Project would have no adverse effects and the cumulative impact of the proposed Project would be less than significant. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact PS-2 when combined with past, present, and reasonably foreseeable future projects.

4.2.13.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.13.4 Cumulative Impact PS-3: Inadequate Level of Fire Protection and Emergency Services and Infrastructure—Less than Cumulatively Considerable

Cumulative Impact PS-3 represents the potential of the operation of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require the addition of a new fire station, or the expansion, consolidation, or relocation of an existing facility, to maintain service.

4.2.13.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Operation of past projects has created an existing demand for fire protection that can be accommodated by the LAFD; emergency response times to the area are considered adequate. The citywide average response time is approximately 6 to 8 minutes. LAFD response time is 5 minutes or less by land and up to 10 minutes by water. As required response times are 9 minutes by land and 14 minutes by water, these response times are considered adequate. (Roupoli pers. comm. 2008)

Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation of existing facilities within the Port and vicinity or do not otherwise involve expansion of facilities. Therefore, these would not result in an increased demand on fire protection. However, several of the projects would utilize or increase the demand for firefighting by increasing the amount of Port land used for operations. Specifically, the Pier 400 Container Terminal and Transportation Corridor Project (#1), Evergreen Improvements Project (#8), Pacific L.A. Marine Terminal LLC Crude Oil Terminal (#12), Berths 97–109 China Shipping Terminal Development Project (#16), Berths 171–181 Pasha Marine Terminal Improvements (#17), Berths 302–305 APL Container Terminal(#24), Berths 121–131 Yang Ming Container Terminal (#30), and Middle Harbor Terminal Redevelopment, Port of Long Beach (#70), would generate increased on-land terminal operations. These projects would be designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection, and would be subject to LAFD review and approval. These codes and ordinances would include measures such as requiring fire protection infrastructure (i.e., fire hydrants and sprinklers) and ensuring that the LAFD is given the opportunity to review and approve any changes in site access. Additionally, present and reasonably foreseeable future cumulative projects would be required to follow the Watch Manual and to coordinate with the law enforcement agencies during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Furthermore, fire stations in the area are generally distributed to facilitate quick emergency response throughout the proposed project area. Also, as future cumulative development occurs and land uses are intensified, future projects would be subject to stricter fire codes that would

further reduce the need for LAFD services. Consequently, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to fire protection services.

4.2.13.4.2 Contribution of the Proposed Project

The proposed Project would not substantially increase the demand for fire protection services. The proposed Project would be designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection, which would be subject to LAFD review and approval. In addition, emergency response times would not increase because existing fire lanes and hydrants would not be removed. The proposed Project would be required to update and resize the water mains, including the locations of fire hydrants to conform to Los Angeles City's Fire Codes (Roupoli pers. comm. 2008). Any site access alterations would be reviewed and approved by the LAFD. The proposed Project would require firefighting services to be present at occasional public gatherings and events. However, these would occur only a few times a year over weekend hours, and the level of police service would not be substantially affected. The proposed Project would have no adverse effects on fire protection and emergency services, and the cumulative impact of the proposed Project would be less than significant. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact PS-3 when combined with past, present, and reasonably foreseeable future projects.

4.2.13.4.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.13.5 Cumulative Impact PS-4: Reduction in Level of Service for Recreation and Parks—Less than Cumulatively Considerable

Cumulative Impact PS-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require the addition of recreation and park facilities to maintain service levels.

4.2.13.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Some of the projects in the related projects list in Table 4-1 are growth-inducing, and their cumulative effect will likely result in an intensification of use of existing

recreational resources in the proposed project vicinity. However, these residential projects would be evaluated under a separate environmental process and would be required to comply with existing local and state regulations mandating recreational facilities that would specifically support these new projects. The present and reasonably foreseeable future projects in the vicinity of the proposed Project also include some projects that would provide new open space and recreation resources for the public, including: TraPac Terminal project (#2), San Pedro Waterfront Enhancements Project (#3), Cabrillo Marine Aquarium Expansion (#48), East Wilmington Greenbelt Community Center (#61), and Queensway Bay Master Plan (#90). The addition of these projects in conjunction with the proposed Project would result in a significant increase in recreational opportunities and may even benefit existing recreational resources in the proposed project vicinity by reducing the existing impact on those recreational resources.

4.2.13.5.2 Contribution of the Proposed Project

The proposed Project includes development of recreational facilities and open spaces such as parks, promenades, bike and pedestrian trails, and plazas. These new recreational amenities would relieve the burden on existing recreation facilities and open spaces. LAHD would be responsible for ongoing maintenance and operations of the open spaces and recreational facilities for the proposed Project. The operations would include active maintenance, security, marketing and event master planning, and administration. Financing of the operations and ongoing maintenance activities would be funded by LAHD investment and publicly available resources such as the Port Harbor Revenue Fund; state, local, and federal grants; State Bond Financing; Infrastructure Facilities District; and Tax Increment Districts (Wilmington Waterfront Master Program 2007). LAHD would adequately provide resources for the maintenance and operation of the proposed Project. The proposed Project would have no adverse effects on parks and recreation, and the cumulative impact of the proposed Project would be less than significant. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact PS-4 when combined with past, present, and reasonably foreseeable future projects.

4.2.13.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.14 Water Quality, Sediments, and Oceanography

4.2.14.1 Scope of Analysis

The geographic scope for cumulative impacts on water quality, sediments, and oceanography varies depending on the impact. The geographic scope with respect to

water and sediment quality and changes to the surface area of a water body would be confined to the inner Los Angeles Harbor and lands draining to that harbor, because this water body represents receiving waters for the cumulative projects related to construction activities and long-term operations. The geographic scope for surface water hydrology and flooding is the proposed Project backlands and immediately adjacent lands within the Dominguez Channel subwatershed, because it represents the drainage area that would be influenced by the proposed Project and other cumulative projects. The geographic scope for surface water movement includes a broader area consisting of the Los Angeles–Long Beach Harbor because the Federal Breakwater shelters the two harbors as a unit and water circulates within the harbor complex.

The temporal scope to identify past, present, and future projects that contribute to the cumulative effects analysis on water quality, sediments, and oceanography spans historic Port activities dating back to the early 1900s through to future projects and conditions in 2038. The CEQA Baseline for determining the significance of potential impacts is March 2008 and this year has been used to distinguish between past projects and present activities.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.14.4.2.

4.2.14.2 Cumulative Impact WQ-1: Increased Risk of Flooding—Less than Cumulatively Considerable

Cumulative Impact WQ-1 addresses the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.

4.2.14.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The waterfront portion of the proposed Project is within the 100-year flood zone. Past development has increased the amount of impervious surface area within the watershed and has also included installation of a storm drain system to collect and convey storm runoff. This system has mitigated the impacts of past development with respect to flooding potential. Cumulative projects would affect the flooding potential only if the increased runoff volumes or altered drainage patterns exceeded the capacity of the storm drainage system to convey runoff of excess water volumes off site. Cumulative projects with the potential to affect drainage patterns and runoff volumes include the following identified in Table 4-1: San Pedro Waterfront Project (#3), Berth 226–236 (Evergreen #8), Charter School and Port Police Headquarters (#9), SCIG (#20), San Pedro Waterfront Enhancements Project (#22), Joint Container

inspection Facility (#23), Port Transportation Master Plan (#28), Southwest Marine Demolition (#31), I-110/SR-47 Connector (#32), Inner Cabrillo Beach Water Quality Improvement (#33), 15th Street Elementary School (#46), Pacific Corridor Redevelopment (#47), Cabrillo Marine Aquarium (#48), Gas Station/Mini Mart (#49), Fast Food Restaurant (#50), Mixed use development (#51), Condominiums (#52), Pacific Trade Center (#53), Single Family Homes (#54), Mixed use development (#55), Target (#56), Palos Verdes Urban Village (#57), Temporary Little League Park (#58), Condominiums (#59), Distribution Center and Warehouse (#62), Dana Strand Public Housing (#63), Private School (#64), Kaiser Permanente South Bay Master Plan (#67), Drive through restaurant (#68), Ponte Vista (#69), Warehouse (#70), Sepulveda Industrial Park (#71), Pier A West redevelopment (#74), Pier A East (#75), San Pedro Bay Rail Study (#79), Gerald Desmond Bridge Replacement (#80), Chemoil Marine Terminal (#82), Schuyler Heim Bridge Replacement (#83), I-710 Major Corridor Study (#84), Renaissance Hotel (#86), D'Orsy Hotel (#87), City Place Development (#88), The Pike at Rainbow Harbor (#89), and Queensway Bay Master Plan (#90).

All of these projects would have a "negligible" potential to contribute to increased flooding, with the exception of two, the I-710 Major Corridor Study (#84) and Queensway Bay Master Plan (#90), which would have a "minor" potential to contribute to increased flooding. Those projects involve the potential to increase impervious surface area, an impact that can generally be addressed by providing stormwater detention and infiltration facilities. Similar to the proposed Project, these cumulative projects are located on flat terrain, such that minor grading and paving associated with project construction and post-construction operations would not alter runoff patterns, velocities, or volumes sufficiently to increase risks of local flooding or harm to people, property, or biological resources. Therefore, past, present, and reasonably foreseeable future projects are not cumulatively considerable.

4.2.14.2.2 Contribution of the Proposed Project

As discussed in Section 3.14, any new onsite storm drains installed for the proposed Project would be designed for a 10-year storm event, which is consistent with the capacity of the existing facilities. Site elevations would remain generally the same as a result of proposed Project. There would be a slight decrease in impervious surface in the proposed project area due to the creation of parks. Site grading and the storm drain system would be adequate to convey runoff to the harbor, without the risk of flooding, under most conditions. Runoff associated with a 50- or 100-year storm event would exceed the design capacity of the storm drain system, resulting in temporary ponding of water on site. However, because the terrain of the proposed project site and adjacent properties is flat and runoff velocity would not be increased, the proposed Project would not substantially increase the risk of harmful flooding, and impacts, including cumulative impacts, of the proposed Project would be less than significant. Therefore, the contribution of the proposed Project would not be cumulatively considerable under Impact WQ-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.14.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.14.3 Cumulative Impact WQ-2: Change in the Amount of Surface Water in a Water Body—Less than Cumulatively Considerable

Cumulative Impact WQ-2 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially reduce or increase the amount of surface water in a water body.

4.2.14.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The proposed Project site is within a commercial harbor environment that has been highly modified by past dredging, filling, and shoreline development in support of maritime operations. Over time wharves have been built, harbors dredged, and channels deepened; and to the extent these structures are still present and sediments have not filled back into the dredged areas, changes to surface area and volume persist to the present day.

Cumulative past, present, and future projects identified on Table 4-1 which would have a negligible potential to increase or decrease the surface area or volume of the Los Angeles–Long Beach Harbor include: Cabrillo Way Marina, Phase II (#5), Berths 226–236 (Evergreen #8), Berths 121–131 (Yang Ming #30), Inner Cabrillo Beach Water Quality Improvement Program (#33), Middle Harbor Terminal Redevelopment (#72), Piers G & J Terminal Redevelopment Project (#73), and Pier A East (#75). These projects have a negligible impact potential because they represent redevelopment projects that do not propose to alter the surface area or volume of the Los Angeles-Long Beach Harbor.

Cumulative past, present, and future projects identified on Table 4-1 that could have a minor increase or decrease in the surface area or volume of the Los Angeles–Long Beach Harbor include: Pier 400 Container Terminal (#1), Berths 136–147 Marine Terminal (TraPac #2), San Pedro Waterfront Project (#3), Berths 97–109, China Shipping (#16), Berths 302–305 (APL) Container (#24), Cabrillo Marine Aquarium Expansion (#48), San Pedro Bay Rail Study (#79), Chemoil Marine Terminal (#81), Schuyler Heim Bridge Replacement (#83), I-710 (Long Beach Freeway) Major Corridor Study (#84), and Pike Property Development (#89). These projects have a minor impact potential because although they do propose placing material into or removing material from the harbor, they propose only localized and small changes in harbor surface area or volume. Some of these projects propose to increase, and

others to decrease harbor surface area or volume. Thus the net potential change in harbor surface area or volume, resulting from implementation of all the listed projects, is approximately zero.

Cumulative past, present, and future projects that could considerably increase or decrease the surface area or volume of the Los Angeles–Long Beach Harbor include: Gerald Desmond Bridge Replacement (#80) and Queensway Bay Master Plan (#90). These projects have a considerable potential to affect harbor surface area or volume because they represent potentially large areas of fill and/or excavation. However, mitigation or design change could substantially diminish the impact potential associated with these two projects.

Many of the projects listed above would place fill in the harbor, totaling over 700 acres (283 hectares), of which about 600 acres (243 hectares) are completed or under construction. Other cumulative projects with a dredging component, such as Channel Deepening (#4), have removed watershed-derived sediments that accumulated within navigational channels and new project areas. The largest such project, channel deepening, has removed up to 8 million cubic yards of fill and thereby increased the volume of water in the harbor.

These cumulative projects have caused a cumulatively significant reduction in the surface area of the inner Los Angeles–Long Beach Harbor. It is not clear if the projects have cumulatively increased or decreased the volume of water in the harbor.

4.2.14.3.2 Contribution of the Proposed Project

Construction of the proposed Project would result in a minimal change in the surface area and volume of the inner Los Angeles Harbor. Although the proposed Project would result in a small reduction in the surface area and volume of the inner Los Angeles Harbor from placement of piling, and the placement of a new bulkhead using cut and fill, the resulting surface area net decrease represents much less than a 1% change in the surface area and volume of Slip 5, and a much smaller change in the inner Los Angeles–Long Beach Harbor. The proposed Project would have no adverse effect on changing the amount of surface water, and the cumulative impact of the proposed Project would be less than significant. The contribution of the proposed Project would not be cumulatively considerable under Impact WQ-2 when combined with past, present, and reasonably foreseeable future projects.

4.2.14.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.14.4 Cumulative Impact WQ-3: Adverse Changes in Surface Water Movement—Less than Cumulatively Considerable

Cumulative Impact WQ-3 addresses the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to permanently alter surface water movements sufficient to produce a substantial change in the velocity or direction of water flow.

4.2.14.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past dredging, filling, and shoreline development operations have altered surface water movement in the harbor. For example, water circulation patterns have been altered by the past, present, and future cumulative projects.

Cumulative past, present, and future projects (Table 4-1) that could cause a negligible or minor adverse change in the surface water movement of the Los Angeles–Long Beach Harbor include: Pier 400 Container Terminal (#1), Berths 136–147 Marine Terminal (#2), San Pedro Waterfront Project (#3), Channel Deepening Project (#4), Cabrillo Way Marina, Phase II (#5), Artificial Reef, San Pedro Breakwater (#6), Consolidated Slip Restoration (#15), Berths 97–109 China Shipping (#16), Berths 171–181 (#17), Berths 206–209 Interim Container Terminal Reuse (#18), Berths 302–305 (APL) Container Terminal Improvements (#24), Inner Cabrillo Beach Water Quality (#33), Middle Harbor Terminal Redevelopment (#72), Piers G & J Terminal Redevelopment Project (#73), Pier A East (#75), San Pedro Bay Rail Study (#79), I-710 (Long Beach Freeway) Major Corridor Study (#84), and Pike Property Development (#89). These projects have a negligible impact potential because they propose very small or localized placement of materials into the Los Angeles-Long Beach Harbor.

Cumulative past, present, and future projects (Table 4-1) that could cause a considerable adverse change in the surface water movement of the Los Angeles-Long Beach Harbor include: Cabrillo Marine Aquarium Expansion (#48), Gerald Desmond Bridge Replacement Project (#80), Chemoil Marine Terminal (#81), Schuyler Heim Bridge Replacement (#83), and Queensway Bay Master Plan (#90). These projects have a considerable impact potential because they can substantially alter harbor hydraulics by either placing a large volume of material into the water or by placing material at a hydraulically sensitive point, such as an existing constriction or junction in the harbor.

These cumulative past, present, and future projects include dredging and/or placement of fill, and placement of piling-supported overwater structures. Changes to the hydro-morphology of the harbor could affect water quality by inhibiting the exchange of waters between different portions of the harbor, which, in turn, could

limit mixing and dilution of runoff. However, baseline studies and other routine monitoring efforts (e.g., Port of Los Angeles 2008), discussed in Section 3.14, "Water Quality, Sediments, and Oceanography," have not reported hypoxic (low oxygen concentrations) conditions or other anomalous spatial patterns in water quality indicators that could reflect stagnation or limited water exchange between areas within the harbor complex. This is reasonable because fill would not be placed for any project in an area that disrupts vessel navigation. The channels and waterways that are maintained for vessel navigation provide water exchanges between different areas of the harbor complex that are adequate to avoid stagnation. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts.

4.2.14.4.2 Contribution of the Proposed Project

Blind slip areas, such as Slip 5, tend to be areas of lower circulation due to their morphology. However, dissolved oxygen data collected since 2000 (Port of Los Angeles 2008) indicate that any associated circulation reduction is not sufficient to result in a material decrease in water quality. This evidence supports the conclusion that tidal circulation is sufficient to keep the waters of Slip 5 well-mixed, with water quality comparable to that measured in the principal navigation channels of the Inner Harbor. The proposed Project would place round pilings and, potentially, sheet pile at locations around the north perimeter of Slip 5. This would reduce water movement near the piling, but due to the continual tidal action in Slip 5 and the distance between pilings this would not result in stagnation or cause adverse impacts on marine water quality. Thus, cumulative impacts on surface water movement from piling placement would not be significant, and the proposed Project without mitigation would not make a cumulatively considerable contribution to water quality effects relative to the CEQA baseline.

4.2.14.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project would be less than cumulatively considerable. No mitigation measures are required.

4.2.14.5 Cumulative Impact WQ-4: Discharge Effects to Water and Sediment Quality—Cumulatively Significant and Unavoidable; Project Contribution Cumulatively Considerable

Cumulative Impact WQ-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to create pollution, cause nuisances, or violate applicable standards as defined in Section

13050 of the California Water Code (see definitions below) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

4.2.14.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Water and sediment quality within the geographic scope are affected by activities within the harbor, inputs from the watershed including aerial deposition of particulate pollutants, and effects from historical (legacy) inputs to the harbor. As discussed in Section 3.14, "Water Quality, Sediments, and Oceanography," portions of the Los Angeles and Long Beach Harbors are identified on the current 303(d) list as impaired for a variety of chemical and bacteriological stressors and effects to biological communities. For those stressors causing water quality impairments, TMDLs will be developed that will specify load allocations from the individual input sources, such that the cumulative loadings to the harbor would be below levels expected to adversely affect water quality and beneficial uses of the water body. Bacteria TMDLs have been completed for Inner Cabrillo Beach and the Los Angeles Harbor Main Channel. In addition, a framework has been developed and analysis is underway to develop Toxic and Metal TMDLs for waterbodies within the Los Angeles and Long Beach Harbors (Anchor et al. 2005:123). In the absence of restricted load allocations, the impairments would be expected to persist.

Present and reasonably foreseeable future projects with in-water construction components, such as dredging and pier upgrades, would result in temporary and localized effects on water quality that would be individually comparable to those associated with the proposed Project. Such changes to water quality associated with in-water construction for the other related projects would be temporary in nature, with a duration less than or equal to the time during which in-water work was performed. Therefore, cumulative impacts would occur only if both the temporal and spatial influences of concurrent projects overlapped. Of the cumulative projects listed in Table 4.1, none are proposing in-water work within Slip 5, the area that would be affected by in-water work for the proposed Project. Thus, there is no potential for overlapping construction impacts between the proposed Project and other projects identified in Table 4-1.

The Dominguez watershed is characterized primarily by urban and industrial land uses with a high proportion of paved surface. Therefore, soil loadings to the harbor are not excessive and waters are not impaired by sedimentation. Cumulative projects involving demolition or construction are expected to disturb soils and make them subject to erosion by wind or runoff, with potentials for subsequent transport into, and accumulation in, the harbor. Soils exposed by construction activities would be subject to erosion, transport off site, and deposition in the harbor. The sedimentation effects associated with each of these projects would be temporary in nature and thus would be cumulative only if the projects were to overlap in both the spatial and temporal extent of their impacts on water quality. Given the size of the affected area

and the number of projects, it is likely that several projects would overlap in temporal extent, but these projects are distributed over a large area. In addition, these projects would be subject to sediment and erosion control requirements and would be required to prevent and control sediment in runoff. None of the projects identified in Table 4-1 is known to have been individually shown to have a significant impact attributable to sedimentation. Thus the cumulative impacts of concurrent backland construction projects would not have a significant impact on sedimentation.

Many projects, once operational, would result in wastewater and/or stormwater discharges that could contain a variety of constituents such as dissolved metals and organic compounds. However, given that wastewater and stormwater discharges would be regulated by NPDES permits, impacts from these discharges would be minimized to a level consistent with existing regulation and approved TMDLs for the constituents of concern. The permits would specify constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters.

Cumulative projects associated with the development of Port facilities are expected to contribute to a greater number of ship visits to the Ports of Los Angeles and Long Beach. Increases in vessel traffic would be expected to result in higher mass loadings of contaminants such as copper that are released from vessel hull anti-fouling paints. Portions of the Los Angeles Harbor are impaired with respect to copper; thus increased loadings associated with increases in vessel traffic relative to baseline conditions would likely exacerbate water and sediment quality conditions for copper. In addition, with the increase in vessel traffic, the risk of accidental or illegal discharges could reasonably be expected to increase in proportion to the increased ship traffic. Waste loadings to the harbor would also be expected to increase. The significance of this increased loading related to these discharges would depend on the volumes and composition of the releases and the timing and effectiveness of spill response actions. The combined effect of these projected increases in vessel traffic is a cumulatively significant impact because which would result in asubstantial increase in contaminant loading in the Ports of Los Angeles and Long Beach.

4.2.14.5.2 Contribution of the Proposed Project

In-water construction activities, primarily piling placement, would disturb bottom sediments. Disturbances of bottom sediments would alter some water quality parameters such as DO, nutrients, and turbidity. These changes would be of short duration and localized to the mixing zone associated with the construction activity. As discussed in Section 3.14, changes to water quality from in-water construction are not expected to exceed applicable standards outside of any approved mixing zone. Because the effects are not expected to overlap in time and space with those from other projects, the impacts of such disturbances would not be cumulatively considerable relative to the CEQA baseline. Once the construction phase of the proposed Project was completed, operations would not be expected to cause further disturbances to bottom sediments or contribute to cumulative impacts.

The proposed Project would not result in any direct discharge of wastewater to the harbor. However, stormwater runoff from the onshore portions of the proposed project area would flow into the harbor, along with runoff from adjacent areas of the large, primarily urbanized, watershed. Stormwater runoff from backland areas within the proposed project site would be governed by a stormwater permit, similar to those required for the other cumulative projects, that specifies constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters. Relative to the CEQA baseline, the proposed project operations would contribute similar or lower volumes of runoff (due to the decreased surface area associated with reduced impervious area due to park development) and no substantial differences in the chemical composition of the runoff because the land uses would be similar or less industrial. While the inputs from the proposed Project would be negligible compared with those from the entire watershed, the runoff could contain contaminants (e.g., metals) that have been identified as stressors for portions of the Los Angeles and Long Beach Harbors. Thus, the proposed Project's contribution would be cumulatively considerable without mitigation.

The proposed Project would not alter the levels of vessel traffic visiting the Ports of Los Angeles and Long Beach, and thus would not contribute to higher mass loadings of contaminants such as copper that are released from vessel hull anti-fouling paints, and would not contribute to accidental spills and illegal vessel discharges within the harbor. Thus the proposed Project's contribution to contaminant loading due to anti-fouling paints, accidental spills, and illegal vessel discharges would be less than cumulatively considerable.

4.2.14.5.3 Mitigation Measures and Residual Cumulative Impacts

Best management practices to prevent or minimize contaminant loadings to the harbor from stormwater runoff from past, present, and future projects, including the proposed Project, are required by the SUSMP, which is incorporated into the Los Angeles County Urban Runoff and Stormwater NPDES Permit issued by the RWQCB. SUSMP requirements must be incorporated into the proposed project plan and approved prior to issuance of building and grading permits. Specifically, the SUSMP requires that each project incorporate BMPs specifically designed to minimize stormwater pollutant discharges. While adopted BMPs will vary by project, all BMPs must meet specific design standards to mitigate stormwater runoff and control peak flow discharges. The SUSMP also requires implementation of a monitoring and reporting program to ensure compliance with the constituent limitations in the permit. These BMPs and compliance monitoring would reduce the residual cumulative impacts from runoff to less than cumulatively considerable.

4.2.15 Summary of Impact Determinations

Table 4-2 summarizes the cumulative impact determinations of the proposed Project. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the conclusions of the technical reports.

For each type of potential impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 4-2. Summary Matrix of Potential Cumulative Impacts and Mitigation Measures Associated with the Proposed Project

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Aesthetics			
AES-1: Adverse Effect on a Scenic Vista from a Designated Scenic Resource due to Obstruction of Views	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
AES-2: Damage to Scenic Resources (Including, but not Limited to, Trees, Rock Outcroppings, and Historic Buildings) within View of a State Scenic Highway	No Cumulative Impact	Mitigation not required	No Cumulative Impact
AES-3: Degradation of Existing Visual Character or Quality of a Site and its Surroundings	No Cumulative Impact	Mitigation not required	No Cumulative Impact
AES-4: Negative Shading on the Existing Visual Character or Quality of the Site or its Surroundings	No Cumulative Impact	Mitigation not required	No Cumulative Impact
AES-5: New Source of Substantial Light or Glare that would Adversely Affect Day or Nighttime Views of the Area	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
Air Quality			
AQ-1: Construction-Related Increase of a Criteria Pollutant for which the Proposed Project Region is in Nonattainment under a National or State Ambient Air Quality Standard	Cumulatively Considerable and Unavoidable	Implement Mitigation Measures MM AQ-1 through MM AQ-9	Cumulatively Considerable and Unavoidable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
AQ-2: Construction-Related Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation	Cumulatively Considerable and Unavoidable	Implement Mitigation Measures MM AQ-1 through MM AQ-9	Cumulatively Considerable and Unavoidable
AQ-3: Operations-Related Increase of a Criteria Pollutant for which the Project Region is in Nonattainment under a National or State Ambient Air Quality Standard	Cumulatively Considerable and Unavoidable	Implement Mitigation Measures MM AQ-1 through MM AQ-9	Cumulatively Considerable and Unavoidable
AQ-4: Operations-Related Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation	Cumulatively Considerable and Unavoidable	Mitigation not required	Cumulatively Considerable and Unavoidable
AQ-5: Operations-Related Onroad Traffic Contribution to an Exceedance of the 1-hour or 8-hour CO Standards	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
AQ-6: Objectionable Odors at the Nearest Sensitive Receptor	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
AQ-7: Exposure of Receptors to Significant Levels of Toxic Air Contaminants	Cumulatively Considerable and Unavoidable	Mitigation not required	Cumulatively Considerable and Unavoidable
AQ-8: Conflict with or Obstruction of Implementation of an Applicable AQMP	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
AQ-9: Contribution to Global Climate Change—Cumulatively Considerable and Unavoidable	Cumulatively Considerable and Unavoidable	Implement Mitigation Measures MM AQ-1 through MM AQ-15	Cumulatively Considerable and Unavoidable
Biological Resources			
BIO-1: Adverse Impact on Sensitive Species	Cumulatively Considerable	Mitigation not available	Cumulatively Considerable
BIO-2: Alteration or Reduction of Natural Habitats, Special Aquatic Sites, or Plant Communities	Cumulatively Considerable	Mitigation not available	Cumulatively Considerable
BIO-3: Interference with Migration or Movement Corridors	No Cumulative Impact	Mitigation not required	No Cumulative Impact
BIO-4: Disruption of Local Biological Communities	Cumulatively Considerable	Mitigation not available	Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
BIO-5: Loss of Marine Habitat	Cumulatively Considerable	The loss of 2,200 square feet of marine habitat as a result of the proposed Project will be mitigated at a ratio of 1.5 to 1. Thus 3,300 square feet (0.08 acres) of marine habitat at the Inner Harbor Mitigation Bank will be dedicated to the proposed Project. Although this will ensure that the proposed Project will have a less than significant impact after mitigation, it would still be considered a significant cumulative impact, and the proposed Project's contribution would be cumulatively considerable.	Cumulatively Considerable
Cultural Resources			
CR-1, CR-2, CR-3: Adverse Effect on Known and Unknown Prehistoric or Historical Archaeological Resources including Buried Human Remains	Less than Cumulatively Considerable with Mitigation	Implement Mitigation Measures MM CR-1 through MM CR-5	Less than Cumulatively Considerable
CR-4: Loss of or Loss of Access to Paleontological Resources	Less than Cumulatively Considerable with Mitigation	Implement Mitigation Measure MM CR-6	Less than Cumulatively Considerable
CR-5: Disturbance of Historic Architectural Resources	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
Geology			
GEO-1: Damage or Risk due to Fault Rupture, Seismic Ground Shaking, Liquefaction, or other Seismically Induced Ground Failure s	Cumulatively Considerable and Unavoidable	No Mitigation Available	Cumulatively Considerable and Unavoidable
GEO-2: Damage or Risk due to Land Subsidence/Settlement	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
GEO-3: Damage or Risk due to Expansive Soils	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
GEO-4: Damage or Risk due to Landslides or Mudflows	No Cumulative Impact	Mitigation not required	No Cumulative Impact
GEO-5: Damage or Risk due to	Less than Cumulatively	Mitigation not required	Less than Cumulatively

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Unstable Soil Conditions from Excavation, Grading, or Fill	Considerable		Considerable
GEO-6: Destruction or Modification of One or More Prominent Geologic or Topographic Features	No Cumulative Impact	Mitigation not required	No Cumulative Impact
Groundwater and Soils			
GW-1: Exposure of Soils Containing Toxic Substances and Petroleum Hydrocarbons	Less than Cumulatively Considerable, but Mitigation Recommended	Implement Mitigation Measures MM GW-1, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3	Less than Cumulatively Considerable
GW-2: Movement of, Expansion of, or Increase in Existing Contaminants	Less than Cumulatively Considerable, but Mitigation Recommended	Implement Mitigation Measures MM GW-1, MM GW-2a, MM GW-2b, MM GW-2c, and MM GW-3"	Less than Cumulatively Considerable
GW-3: Change in Potable Groundwater Recharge Capacity or Change in Potable Water Levels	No Cumulative Impact	Mitigation not required	No Cumulative Impact
GW-4: Violation of Regulatory Water Quality Standards at an Existing Production Well	No Cumulative Impact	Mitigation not required	No Cumulative Impact
Hazards and Hazardous Materials			
RISK-1: Failure to Comply with Applicable Federal, State, Regional, and/or Local Security and Safety Regulations and/or Port Policies Guiding Port Development	No Cumulative Impact	Mitigation not required	No Cumulative Impact
RISK-2: Interference with an Existing Emergency Response or Evacuation Plan or Requiring a New Emergency or Evacuation Plan	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
RISK-3: Substantial Increase in the Likelihood of a Spill, Release, or Explosion of Hazardous Material(s) due to a Terrorist Action	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
RISK-4: Substantial Increase in the Likelihood of an Accidental Spill, Release, or Explosion of Hazardous Material(s) as a Result	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
of Project-Related Modifications			
RISK-5: Expose the general public to hazards defined by the EPA and Port Risk Management Plan associated with offsite facilities	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
Land Use and Planning			
LU-1: Inconsistency with the Adopted Land Use/Density Designation in the Community Plan, Redevelopment Plan, or Specific Plan for the Site	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
LU-2: Inconsistency with the General Plan or Adopted Environmental Goals and Policies Contained in other Applicable Plans	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
Noise			
NOI-1: Increase in Ambient Noise Levels due to Construction	Cumulatively Considerable and Unavoidable	Implement Mitigation Measures MM NOI-1a, MM NOI-1b, MM NOI-1c, MM NOI-1d, MM NOI-1e, MM NOI-1f, MM NOI-1g, and MM NOI-1h	Cumulatively Considerable and Unavoidable
NOI-2: Increase in Nighttime Construction Noise	No Cumulative Impact	Mitigation not required	No Cumulative Impact
NOI-3: Exposure of Persons to or Generation of Excessive Groundborne Vibration or Groundborne Noise Levels	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
NOI-4: Creation of Operational Noise that would Substantially Exceed Existing Ambient Noise Levels at Sensitive Receptors	No Cumulative Impact	Mitigation not required	No Cumulative Impact
NOI-5: Noise Level Generation at Existing Land Uses Surrounding the Proposed Project in Excess of a Land Use Compatibility Standard, which Would Substantially Inhibit the Usability of the Proposed Project Site	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Population and Housing			
POP-1: Substantial Population Growth in an Area, Either Directly or Indirectly	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
Transportation and Circulation—Ground and Marine			
TC-1: Significant Increase in Construction-Related Truck and Auto Traffic, Decrease in Roadway Capacity, and Disruption of Vehicular and Non-Motorized Travel	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
TC-2a: Degradation of LOS at Intersections	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
TC-2b: Significant Increase in Traffic Volumes and Degradation of Operations along CMP Facilities	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
TC-3: Increased Demand for Transit Service beyond the Supply of Such Services	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
TC-4: Violation of the City's Adopted Parking Supply, and Parking Demand Exceeding Supply	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
TC-5: Significant Increase in Safety Hazards	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
VT-1a: Interference with Operation of Designated Vessel Traffic Lanes and/or Impairment to the Level of Safety for Vessels Navigating the Main Channel, West Basin Area, East Basin Area, or Precautionary Areas due to Construction	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
VT-1b: Interference with Operation of Designated Vessel Traffic Lanes and/or Impairment to the Level of Safety for Vessels Navigating the Main Channel, West Basin Area, East Basin Area, or Precautionary Areas due to Operations	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Utilities			
UT-1: Construction or Expansion of Utilities	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
UT-2: Exceeding Existing Water Supply, Wastewater, or Landfill Capacities	Less than Cumulatively Considerable	Implement Mitigation Measure MM UT-5	Less than Cumulatively Considerable
UT-3: Increased Energy Demands, Supply Facilities, and Distribution Infrastructure	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
Public Services			
PS-1: Inadequate Level of Law Enforcement and Emergency Services during Construction	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
PS-2: Inadequate Level of Police Protection Services and Infrastructure during Operations	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
PS-3: Inadequate Level of Fire Protection and Emergency Services and Infrastructure	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
PS-4: Reduction in Level of Service for Recreation and Parks	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
Water Quality, Sediments, and Oceanography			
WQ-1: Increased Risk of Flooding	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
WQ-2: Change in the Amount of Surface Water in a Water Body	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
WQ-3: Adverse Changes in Surface Water Movement	Less than Cumulatively Considerable	Mitigation not required	Less than Cumulatively Considerable
WQ-4: Discharge Effects to Water and Sediment Quality	Cumulatively Significant and Unavoidable; Project Contribution Cumulatively Considerable	Best management practices to prevent or minimize contaminant loadings to the harbor from stormwater runoff from past, present, and future projects, including the proposed Project, are required by the SUSMP, which is incorporated into the Los Angeles County Urban Runoff and Stormwater NPDES Permit issued by the RWQCB. SUSMP requirements must be	Cumulatively Significant and Unavoidable; Project Contribution Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		incorporated into the proposed project plan and approved prior to issuance of building and grading permits. Specifically, the SUSMP requires that each project incorporate BMPs specifically designed to minimize stormwater pollutant discharges. While adopted BMPs will vary by project, all BMPs must meet specific design standards to mitigate stormwater runoff and control peak flow discharges. The SUSMP also requires implementation of a monitoring and reporting program to ensure compliance with the constituent limitations in the permit. These BMPs and compliance monitoring would reduce the residual cumulative impacts from runoff to less than cumulatively considerable.	

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PROJECT ALTERNATIVES

5.1 Introduction

This chapter discusses development alternatives to the proposed Project. Various alternatives were considered during the preparation of this draft EIR, but several were eliminated from further discussion because they did not satisfy the requirements for an alternative as defined by CEQA. Section 15126.6 of the CEQA Guidelines states that an "EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, that would feasibly attain most of the basic objectives of the project, which would avoid or substantially lessen any of the significant effects of the project." Accordingly, two alternatives that meet most of the proposed project objectives and that would avoid or substantially lessen a significant impact are identified in Section 5.2.1. These alternatives are summarized in Table 5-1. In addition, as required by CEQA, the No Project Alternative is included in the analysis. Section 5.4 identifies the environmentally superior alternative. All three alternatives have been qualitatively analyzed in this draft EIR at a level that provides sufficient information about the environmental effects of each alternative for comparative purposes and to allow for informed decision-making. The alternatives are as follows:

- Alternative 1—Reduced Development: No Avalon Development District (Areas A and B)
- Alternative 2—Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain
- Alternative 3—No Project Alternative

5.2 Project Alternatives

5.2.1 CEQA Requirements for Alternatives

CEQA's evaluation criteria for alternatives are described fully in Chapter 1, Section 1.6.8. Briefly, the CEQA Guidelines, Section 15126.6, require that an EIR present a

range of reasonable alternatives to the proposed project, or to the location of the project, that could feasibly attain a majority of the basic project objectives, but would avoid or substantially lessen one or more significant environmental impacts of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the project objectives, are ostensibly feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project (CEQA Guidelines, Section 15126.6[f]). The EIR must also identify the environmentally superior alternative other than the No Project Alternative. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the Project objectives, are infeasible, or do not avoid or substantially lessen any significant environmental effects (CEQA Guidelines, Section 15126.6[c]).

5.2.2 CEQA Project Objectives and Project Alternative Section Criteria

The proposed Project's objectives were developed based on the community planning process described in Chapter 2, "Project Description." Objectives are numbered 1 through 6 for ease of reference within this chapter.

1. create a project that will serve as a regional draw and attract visitors to the Wilmington Waterfront;
2. design and construct a waterfront park, promenade, and dock to enhance the connection of the Wilmington community with the waterfront while integrating design elements related to the Port's and Wilmington's past, present, and future;
3. construct an independent project that integrates design elements consistent with other area community development plans to create a unified Los Angeles waterfront through the integration of publicly oriented improvements;
4. enhance the livability and economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region by promoting sustainable economic development and technologies within the existing commercial Avalon Development District; and
5. integrate environmental measures into design, construction, and operation to create an environmentally responsible project.

5.2.3 Alternatives Considered

This document presents a reasonable range of alternatives pursuant to CEQA. LAHD defines a reasonable range of alternatives in light of its legal mandates under the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Sec. 601), the California Coastal Act (PRC Div 20 S30700 et seq.), and LAHD's leasing policy (LAHD 2006). The Port is one of only five locations in the state identified in the

California Coastal Act for the purposes of international maritime commerce (PRC Div 20 S30700 and S30701). These mandates identify the Port and its facilities as a primary economic/coastal resource of the state and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, environmental preservation, and public recreation (California State Lands Commission 2001). In developing an appropriate range of alternatives, the starting point is the proposed Project's objectives.

Three alternatives—including the No Project Alternative and two alternative development scenarios that meet most of the proposed Project's objectives—are analyzed in this draft EIR. Both alternative development scenarios meet a majority of the proposed Project's objectives and would reduce at least one potentially significant impact of the proposed Project. This chapter presents a description of these three alternatives and provides a summary of other alternatives considered but eliminated from further discussion. The analysis of alternatives need not be as in-depth as the analysis for the proposed Project, but should be at a level that allows the decision-maker to make an informed determination regarding the differences in impacts between the proposed Project and each of its alternatives. Table 5-1 provides a summary comparison of each of the alternatives in relation to the proposed Project.

Table 5-1. Summary of Proposed Project and Alternatives at Full Buildout (2020)

Alternative	*Total Project Acres*	*Acres Subject to Construction Activity**	*Proposed Retail/Commercial and Restaurant (square feet)*	*Proposed Industrial (square feet)*	*Total Fill in Water (square feet)*	*New Over-Water Viewing Piers (square feet)*
Proposed Project	94	90	70,000	150,000	2,200	43,220
Alternative 1 Reduced Development: No Avalon Development District	63	55	12,000	0	2,200	43,220
Alternative 2 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain	94	82	70,000	150,000	2,200	43,220
Alternative 3 No Project	94	0	0	0	0	0

*Construction activity includes, but is not limited to, grading, grubbing, trenching, demolition, and new construction and improvements. Avalon Triangle Park is a separate development project and is only included in the proposed Project boundary due to the Port Plan and PMP boundary adjustment and land use redesignation.

5.2.3.1 Alternative 1—Reduced Development: No Avalon Development District

As compared to the proposed Project, Alternative 1 would reduce the development footprint by not improving the Avalon Development District (Areas A and B) generally north of Harry Bridges Boulevard and in a portion north of A Street between Marine Avenue and Avalon Boulevard. Instead, this alternative would only develop the Avalon Waterfront District, CCT, and provide program-level planning for the Waterfront Red Car Line (discussed in greater detail in Section 2.6.3).

The Avalon Waterfront District is generally bounded by A Street and a portion of Harry Bridges Boulevard to the north, Broad Avenue to the east, Fries Avenue to the west, and the waterfront to the south. The Waterfront Red Car Line/CCT would begin at Swinford Street, run along Front Street, connect with John S. Gibson Boulevard, and then continue onto Harry Bridges Boulevard until terminating at Avalon Boulevard. This alternative would reduce the amount of construction materials, construction vehicle emissions, earthwork, grading, and construction noise; shorten construction time; and reduce operational impacts in comparison to the proposed Project.

Alternative 1 would not include streetscape and pedestrian enhancements along portions of Harry Bridges Boulevard, C Street, portions of Avalon Boulevard, Lagoon Avenue, Island Avenue, portions of Fries Avenue, Marine Avenue, and portions of Broad Avenue. Nor would it develop the infrastructure to support approximately 150,000 square feet of development for light industrial uses (for green technology businesses) or the 58,000 square feet of retail/commercial uses. In addition, Alternative 1 would not include implementation of the Waterfront Red Car Museum, rehabilitation of the 14,500-square-foot Bekins Property, or development and landscaping of the 1-acre Railroad Green. Extension of the Waterfront Red Car Line and California Coastal Trail to the San Pedro Community, beginning at Swinford Street and ending at Avalon Boulevard, however, would remain as a development component of Alternative 1 as planned under the proposed Project.

The Avalon Development District would remain underdeveloped in its existing condition. This area would have the potential to undergo redevelopment in the future, but it would not be in combination or coordination with the Wilmington Waterfront Development Program. Under this alternative, development of the infrastructure within the Avalon Development District would not be assured and the land would potentially remain vacant indefinitely.

As with the proposed Project, however, the boundary extensions would include the entire Avalon Waterfront District and Avalon Triangle Park, but would not include Avalon Development District Area B. No physical changes would occur at the Avalon Triangle Park site.

Alternative 1 would develop the Avalon Waterfront District in the same manner as the proposed Project, as discussed in greater detail in Section 2.6.2. Briefly, elements that would occur include:

- **Waterfront Promenade**—adding pedestrian-oriented features and improvements such as a waterfront promenade with viewing piers and 12,000 square feet of restaurant/retail development, a 200-foot Observation Tower with a pedestrian ramp, removing the Los Angeles Department of Water and Power (LADWP) Marine Tank site and associated pipe conveyance infrastructure, and remediating the site; this area is generally defined by the current Water Street alignment and the National Polytechnic University (College of Oceaneering) to the north, Fries Avenue to the west, and the current Avalon Boulevard alignment to the east. The Port harbor and views of the water at Slip 5 are along its southern border.
- **Land Bridge and Elevated Park**—a 10-acre Land Bridge with an elevated park and a pedestrian "water" bridge enhanced by an integrated water feature that will provide the surrounding community with open space and improved pedestrian access to the waterfront; this area is generally bounded by A Street to the north, Avalon Boulevard to the east, the Harbor Generating Station and its associated peaker unit to the west, with the Harbor Rail Line and Slip No. 5 to the south.
- **Avalon Triangle Park**—located south of Harry Bridges Boulevard, between Broad Avenue and Avalon Boulevard. Avalon Triangle Park is not part of the proposed Project, but it would be included within the area that would be encompassed by the proposed Port Plan and PMP boundary expansion.
- **Avalon Boulevard, Broad Avenue, and Water Street Realignment**—downgrade and vacate Avalon Boulevard south of A Street, realign Broad Avenue to the waterfront, and realign Water Street to run adjacent to the Pacific Harbor Rail Line, which is proposed to travel under the proposed Land Bridge to improve pedestrian circulation and provide space for the waterfront promenade.

The elements or actions associated with the Avalon Waterfront District primarily include the development of a waterfront promenade, including visitor-serving amenities such as commercial development and an observation tower; the development of a Land Bridge with open space and an elevated park, an Entry Plaza and a pedestrian water bridge connecting Harry Bridges Boulevard to the waterfront promenade. The existing LADWP Marine Tank site in the area would be demolished, and surface parking and traffic improvements are proposed.

5.2.3.1.1 Alternative 1 Objectives Analysis

Alternative 1 would meet nearly all of the proposed project objectives except for Objective #4, which aims to enhance the livability and the economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region by promoting sustainable economic development and technologies within the existing commercial Avalon Development District. Because Alternative 1 would not develop the Avalon Development District, sustainable economic development and technologies would not be promoted in this area.

5.2.3.2 Alternative 2—Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain

Alternative 2 is an alternative development scenario that would reduce the amount of construction and demolition activities by leaving the LADWP Marine Tank Farm in place and reducing the size of the land bridge by only building the Phase 1 portion. Alternative 2 would also develop the Avalon Development District (Areas A and B), discussed in greater detail in Section 2.6.1. This alternative would reduce the amount of construction materials, resources, construction vehicle emissions and noise, earthwork and grading, and demolition work when compared with the proposed Project. However, because the LADWP Marine Tank Farm would remain in place, no site remediation would occur and the land bridge would not connect to the Avalon Development District. Access to the waterfront would still be provided by the proposed pedestrian "water" bridge, but the land bridge would terminate at the LADWP Marine Tank Farm site boundary. This would result in an approximately 4-acre Phase I land bridge park, roughly 6 fewer acres than the proposed Project.

Other than not including the Phase II portion of the land bridge and not removing the LADWP Marine Tank Farm, Alternative 2 would propose the same elements as the proposed Project, including realigning Water Street. As with the proposed Project, development and infrastructure improvements would occur at the Avalon Development District including the CCT, program-level planning would occur for the Waterfront Red Car Line, and the Port Plan and PMP boundary extensions would include all of the area identified with the proposed project boundary.

5.2.3.2.1 Alternative 2 Objectives Analysis

Alternative 2 would meet nearly all the proposed project objectives except for Object #2, which aims to design and construct a waterfront park and promenade to enhance the connection of the Wilmington community with the waterfront. While the pedestrian "water" bridge would still be constructed allowing safe pedestrian access to the waterfront from the intersection of Avalon and Harry Bridges Boulevards, the LADWP Marine Tank Farm storage tanks would remain in place and would continue to disrupt views and access to the waterfront. The result would be a continuation of a physical and visual disconnect between the Wilmington community and the waterfront.

5.2.3.3 Alternative 3—No Project

Alternative 3 considers what would reasonably be expected to occur on the site if no future discretionary actions occurred. LAHD would not issue any discretionary permits or discretionary approvals, and would take no further action to construct or permit the construction of any portion of the proposed Project. This alternative would not allow implementation of the proposed Project or other physical improvements associated with the proposed Project. Under this alternative, no construction impacts associated with a discretionary permit would occur.

The following existing conditions, onsite tenants, resident companies, and public facilities along with associated foreseeable actions, would occur, or continue to operate, if the No Project Alternative was selected:

- LADWP would continue to maintain the oil storage tanks (3) and accessory structures, and may renew the lease prior to its expiration set for 2012; remediation of the LADWP site would not occur.
- Light industrial and heavy commercial uses, such as the Marine Technical Services Dockside Machine & Ship Repair, would continue to exist and operate north of A Street and north of Harry Bridges Boulevard, along the Avalon Development District; though no area-wide redevelopment plan would be implemented and many buildings would remain in a blighted or underused condition and many sites would remain vacant.
- The historic Bekins Property buildings would not undergo adaptive reuse or reconditioning, but instead would remain on site in their existing condition.
- Banning's Landing Community Center would continue to operate and its associated parking lot would remain in place.
- The waterfront and existing bulkhead would remain in their existing, deteriorated condition.
- Relocation of Catalina Freight and demolition of the onsite building located at the waterfront could still occur as the tenant is being relocated independently of the proposed Project.
- The National Polytechnic University (f. College of Oceaneering) would continue to operate as with the proposed Project, but no improvements would be made to the surface parking lot and landscaping.
- Avalon Boulevard would continue through to the waterfront; Broad Avenue would terminate at Avalon Boulevard; Water Street would not be realigned.
- Movement of goods would continue by rail transport and through heavy truck operations using the exiting transportation corridors and street network.
- The Port of Los Angeles Plan, Wilmington–Harbor City Community Plan, and the Port Master Plan would remain unchanged.
- Development of Avalon Triangle Park would still proceed independently.

5.2.3.3.1 Alternative 3 Objectives Analysis

This alternative would not allow any discretionary approvals on the proposed project site. Because the site would remain in its existing condition, no proposed project objectives would be met.

5.3 Impact Analysis of Project Alternatives

For each of the 14 environmental resources analyzed in this Draft EIR, Chapter 3 identifies significant impacts associated with the proposed Project. The two design alternatives and the No Project Alternative described in 5.2.3 are qualitatively

evaluated in Sections 5.3.2 and 5.3.3 below. Section 5.4 identifies the alternative which qualifies as the overall Environmentally Superior Alternative.

As with the proposed Project, three of the environmental resources evaluated (Air Quality, Geology, and Noise) have unavoidable significant impacts for the two design alternatives. Five of the environmental resources evaluated (Biological Resources, Cultural Resources, Groundwater and Soils, Transportation, and Utilities) have significant impacts that could be mitigated to a less-than-significant level for the proposed Project and one or both of the design alternatives. The remaining resources—Aesthetics; Land Use and Planning; Hazards and Hazardous Materials; Population and Housing; Public Services; and Water Quality, Sediments, and Oceanography—have no significant impacts associated with any alternatives**.** The discussion below describes the significant impacts for each resource associated with each alternative and compares the alternatives' impacts with the proposed Project's impacts.

5.3.1 Alternative Impact Analysis Summary

Table 5-2 presents a summary of the results of the analysis for the resource areas that involve significant impacts from one or more of the alternatives, and identifies the alternatives that would result in significant unavoidable impacts, as discussed in Section 5.3.2 below. Resources with significant impacts that can be mitigated to less than significant are discussed in 5.3.3.

Table 5-2. Summary of CEQA Significance Analysis by Alternative

*Environmental Resource Area**	*Proposed Project*	*Alternatives 1*	*Alternative 2*	*No Project Alternative 3*
Air Quality	S	S	S	L
Biological Resources	M	M	M	N
Geology	S	S	S	S
Noise	S	S	S	N
Cultural Resources	M	S	M	S
Groundwater and Soils	M	M	S	S
Transportation	M	L	M	L
Utilities	M	M	M	L

Notes:

*Only environmental resources with unavoidable significant impacts or significant but mitigable impacts are included in the table and the analysis used to rank alternatives; the analysis includes project-level impacts, not cumulative effects.

S = Significant Unavoidable
M = Significant but Mitigable
L = Less than Significant
N = No Impact

The proposed Project and both Alternative 1 and Alternative 2 have unavoidable significant impacts in the areas of Air Quality, Geology, and Noise. Alternative 2 would also have a significant and unavoidable impact on groundwater and soils, while it would be mitigable under the proposed Project and Alternative 1. Alternative 1 would have a significant and unavoidable impact on cultural resources. The proposed Project, Alternative 1, and Alternative 2 would have the same significant but mitigable impacts on biological resources and utilities. Alternative 1 would have less-than-significant impacts on transportation, whereas under the proposed Project and Alternative 2 impacts would be significant but mitigable. The No Project Alternative, which would continue the current conditions on site indefinitely, would have significant impacts on Geology, Cultural Resources, and Groundwater and Soils.

During construction, the proposed Project, Alternative 1, and Alternative 2 would have unavoidable significant impacts in the areas of Noise and Air Quality. No construction-related impacts would occur under the No Project Alternative as no construction would occur under this alternative.

Table 5-3 ranks the alternatives on the basis of a comparison of their environmental impacts with those of the proposed Project. The ranking is based on the significance determinations for each resource area, as discussed in Chapter 3 and the qualitative analysis below, and reflects differences in the levels of impact among alternatives. This ranking also takes into consideration the relative number of significant impacts that are mitigated to a level below significance, the number of impacts that remain significant after mitigation, and the relative intensity of impacts. As shown in Table 5-2 above and Table 5-3, the No Project Alternative is the environmentally superior alternative because it would impact fewer resources; however, because CEQA requires a selection of a design alternative in the event the No Project Alternative is the environmentally superior, the Reduced Development: No Avalon Development District Alternative is the environmentally superior alternative because it would have reduced impacts.

Table 5-3. Comparison of Alternatives to the Proposed Project (with Mitigation; CEQA Impacts)

*Environmental Resource Area**	*Alternative 1*	*Alternative 2*	*No Project Alternative 3*
Air Quality	-1	-1	-2
Biological Resources	0	0	-1
Geology	-1	1	1
Noise	-1	-1	-2
Cultural Resources	1	-1	1
Groundwater and Soils	0	1	1
Transportation	-1	0	-1
Utilities	-1	-1	-2
Total	**-4**	**-2**	**-5**

*Environmental Resource Area**	*Alternative 1*	*Alternative 2*	*No Project Alternative 3*

Notes:

*Only environmental resources with unavoidable significant impacts or significant but mitigable impacts are included in the table and the analysis used to rank alternatives; the analysis includes project-level impacts, not cumulative effects.

-2 = Impact considered to be substantially less when compared with the proposed Project.
-1 = Impact considered to be somewhat less when compared with the proposed Project.
0 = Impact considered to be equal to the proposed Project.
1 = Impact considered to be somewhat greater when compared with the proposed Project.
2 = Impact considered to be substantially greater when compared with the proposed Project.

Where significant unavoidable impacts would occur across different alternatives but there are impact intensity differences between those alternatives, numeric differences are used to differentiate alternatives (i.e., in some cases, there are differences at the individual impact level, such as differences in number of impacts or relative intensity).

5.3.2 Resources with Significant Unavoidable Impacts

Tables 5-2 and 5-3 identify the alternatives that would result in both unavoidable and significant impacts and those impacts on resources that would be significant without mitigation but would be reduced to less than significant with mitigation, as analyzed in Chapter 3 for the proposed Project and qualitatively analyzed for each alternative in the section below.

5.3.2.1 Air Quality

5.3.2.1.1 Proposed Project

Construction of the proposed Project would result in the generation of emissions of CO, VOCs, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Emissions would originate from mobile and stationary construction equipment exhaust, tugboat and small boat exhaust, delivery truck exhaust, employee vehicle exhaust, and dust from clearing the land and exposed soil eroded by wind. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content.

Overall, a 99-month active construction period is anticipated, starting in the third quarter of 2009 and concluding around the fourth quarter of 2017. The total amount of construction, the duration of construction, and the intensity of construction activity could have a substantial effect on the amount and concentration of construction emissions and the resulting impacts occurring at any one time.

Impacts from construction of the proposed project would be significant. Implementation of MM AQ-1 through MM AQ-9 would reduce nearly all significant impacts related to construction emissions to less than significant with the exception of NO_X. Moreover, NO_X, PM_{10}, and $PM_{2.5}$ still exceed the SCAQMD significance thresholds. Construction emission impacts related to NO_X emissions would remain significant and unavoidable and NO_X, PM_{10}, and $PM_{2.5}$ still exceed the SCAQMD significance thresholds.

In addition, because there would be an overlap between Phase I operation and construction in 2011, the combined total of construction and operational impacts is expected to be significant for NO_X and PM_{10}, while for 2015, the combined total is expected to be significant for NO_X. Implementing **MM AQ-1** through **MM AQ-9** would reduce impacts from NO_X and PM_{10}, but not to a level below significance.

Finally, the proposed Project is located in an industrial area and is adjacent to several sources of toxic air contaminant emissions—most notably, the Harbor Generating Station to the west, the Ports of Los Angeles and Long Beach to the south and southeast, and Port-related diesel trucks traveling along Harry Bridges Boulevard to the north. Although proposed Project operations are not expected to produce significant health risk impacts on the surrounding community, people visiting the proposed project site could be exposed to elevated levels of TACs from these adjacent emission sources. Of particular concern are sensitive receptors, including those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality).

Because the proposed Project would attract sensitive individuals to a location that most likely has a higher risk than their place of residence, a health risk impact would result. The magnitude of the impact would depend on a variety of factors, including the frequency and duration of a person's visit, the person's exertion level (i.e., breathing rate) during the visit, the amount of Port and industrial activity occurring during the visit, and the prevailing meteorological conditions (wind speed, wind direction, and atmospheric stability level). While most visitors would probably receive a relatively slight health risk impact, the possibility exists that a frequent visitor could accumulate a significant long-term cancer or non-cancer impact. The possibility also exists that any visitor could receive a significant short-term (acute) impact if the visit takes place during a high level of adjacent industrial activity coupled with worst-case meteorological conditions. Therefore, the proposed Project would expose visitors to significant health risk impacts associated with air pollutants from other sources. Impacts would be significant and unavoidable.

5.3.2.1.2 Reduced Development: No Avalon Development District Alternative (1)

Alternative 1 would substantially reduce the amount of construction that would take place within the Avalon Development District. Impacts from construction emissions would be substantially reduced as well. However, as discussed above, impacts from construction and operation would overlap largely at the Avalon Waterfront District.

While construction emissions would be reduced, it would likely not be enough to reduce impacts from construction emissions and the combination of construction and operation emissions during 2011 through 2015. Impacts would be reduced as compared to the proposed Project, but would still remain significant even after the implementation of **MM AQ-1** through **MM AQ-9**.

Moreover, because the Avalon Waterfront District would still be developed under this scenario, impacts visitors to the proposed project site would still exist. These visitors could be exposed to elevated levels of TACs from these adjacent emission sources. Of particular concern are sensitive receptors, including those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). As compared to the proposed Project, Alternative 1 would have a reduced impact on air quality, but the impact would still remain significant and unavoidable.

5.3.2.1.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain Alternative (2)

Alternative 2 would reduce the amount of construction that would take place within the Avalon Waterfront District, specifically at the Marine Tank Farm site. Impacts from construction emissions would be reduced. However, baseline air quality impacts at the Marine Tank Farm location would likely be greater than the operational air quality impacts from the addition of the remaining 6-acre land bridge. Furthermore, while construction emissions would be reduced, it would likely not be enough to reduce impacts from construction emissions and the combination of construction and operation emissions during 2011 through 2015 to a level less than significant. As with Alternative 1, impacts would be reduced as compared to the proposed Project, but would still remain significant even after the implementation of **MM AQ-1** through **MM AQ-9**.

Even considering that the Land Bridge would be reduced in size from 10-acres to 4-acres, impacts on people visiting the proposed project site would still exist. These visitors could be exposed to elevated levels of TACs from these adjacent emission sources. Of particular concern are sensitive receptors, including those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). As compared to the proposed Project, Alternative 2 would have a reduced impact on air quality, but the impact would still remain significant and unavoidable.

5.3.2.1.4 No Project Alternative (3)

Under Alternative 3, no additional discretionary approvals would occur. Development on the site would consist of the existing operations and improvements which would be allowed by the underlying zoning by right. The industrial businesses located in the Avalon Development District Area B would continue to operate. The Marine Tank Farm located in the north portion of the Avalon Waterfront District

would continue to operate. Because large scale construction would not occur, air quality impacts from construction would be reduced to a less than significant impact. Operational air quality impacts would be reduced initially, but over time would be comparable to the proposed Project as vehicle standards improve and emissions are further restricted.

In contrast to the proposed Project, the No Project Alternative would not construct a visitor-oriented development. Consequently, visiting purposes would be limited to meetings at Banning's Landing, business purposes at the existing Industrial buildings, and occasional visitors to the water's edge. Overall, the number of visitors would be substantially reduced. Therefore, under Alternative 3, far fewer sensitive receptors would be exposed to elevated levels of TACs from these adjacent emission sources. Impacts would be less than significant. As compared to the proposed Project, Alternative 3 would have a reduced impact on air quality.

5.3.2.2 Geology

5.3.2.2.1 Proposed Project

Seismic activity along the Palos Verdes Fault zone, or other regional faults, would potentially produce fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Seismic hazards are common to the Los Angeles region and would not be increased by the proposed Project. However, because the proposed project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soil, there is a substantial risk of seismic impacts such as fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Because construction would occur over an extended period, increased exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded, even with incorporation of modern construction engineering and safety standards. Similarly, increased exposure of people and property during operations cannot be precluded, even with incorporation of such safety standards. Therefore, impacts due to seismically induced ground failure would be significant and unavoidable.

Implementation of **MM GEO-1** would require a site-specific geotechnical investigation to be completed by a California-licensed geotechnical engineer and/or engineering geologist prior to any construction activities, the results of which will be incorporated into the structural design of proposed project components. However, even with mitigation, impacts from seismic hazards would remain significant.

5.3.2.2.2 Reduced Development: No Avalon Development District Alternative (1)

Alternative 1 would reduce the development footprint in comparison to the proposed Project by not including the industrial area north of Harry Bridges Boulevard (Area A) and north of A Street (Area B). This would eliminate the approximately 150,000

square feet of industrial and 58,000 square feet of retail commercial use for which the proposed Project would construct necessary infrastructure and pedestrian amenities. This alternative would result in fewer people coming to the proposed project site. However, the land bridge park, waterfront promenade, and Observation Tower would still bring public crowds for public gatherings a few times a year as well as relatively smaller numbers on a daily and weekend basis for recreation.

As with the proposed Project, because the proposed project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soil, there is a substantial risk of seismic impacts such as fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Construction would occur over an extended period, and increased exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded, even with incorporation of modern construction engineering and safety standards. Similarly, increased exposure of people and property during operations cannot be precluded, even with incorporation of such standards. When compared with the proposed Project, Alternative 1 would bring fewer people to the proposed project site and no buildings would be constructed in the Avalon Development District, but impacts due to seismically induced ground failure at the Avalon Waterfront District would remain significant and unavoidable.

Impacts from seismically induced events would be reduced by this development alternative when compared with the proposed Project, but not to a less-than-significant level.

5.3.2.2.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain Alternative (2)

Alternative 2 would develop the Avalon Development District, Waterfront Red Car Line/CCT, and much of the Avalon Waterfront District in the same manner as the proposed Project; however, this alternative would only complete the Phase I portion of the Avalon Waterfront District's interim land bridge. The Phase II portion, which would be developed on the LADWP Marine Tank Farm site by the proposed Project, would not be developed under this alternative. The site would remain in operation and under the ownership of LADWP.

As with the proposed Project, because the area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soil, there is a substantial risk of seismic impacts such as fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Construction would occur over an extended period, and increased exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded, even with incorporation of modern construction engineering and safety standards. Similarly, increased exposure of people and property during operations cannot be precluded, even with such safety standards. In comparison to the proposed Project, Alternative 2 would bring fewer people to the proposed project site by reducing the size of the land bridge and by reducing its functionality by not connecting it with the Avalon Development District.

However, impacts from seismically induced events from this alternative would be slightly greater than those from the proposed Project because the existing liquid bulk storage tanks would remain adjacent to the proposed park indefinitely. As with the proposed Project, impacts would be significant and unavoidable.

5.3.2.2.4 No Project Alternative (3)

Alternative 3 would not have any construction-related impacts on geologic resources, including impacts from seismically induced events. However, existing facilities, including the LADWP Marine Tank Farm and industrial and commercial buildings within the Avalon Development District, are potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soil. Consequently, there is a substantial risk of seismic impacts such as fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure within the proposed project area. Because existing facilities would not use modern engineering standards, existing structures are at a greater risk of seismically induced damage due to their age and construction techniques and materials. The result is that the historic Bekins Building would be exposed to greater risk of loss or damage, and the early 1900s waterfront bulkhead, which is beginning to show signs of distress, would be more likely to suffer damage leading to exposure of people and property to harm.

However, the No Project Alternative would expose fewer people to potential fault rupture, seismic ground shaking, liquefaction, or other seismically-induced ground failure within the project area. As discussed, No Project Alternative impacts from geologic hazards would expose fewer people to geologic hazards but would not update existing buildings to modern engineering standards when compared with the proposed Project; impacts as compared with the proposed Project would remain significant and unavoidable.

5.3.2.3 Noise

5.3.2.3.1 Proposed Project

Construction Noise. Construction activities would typically last more than 10 days in any 3-month period. Based on the thresholds for significance, an impact would be considered significant if noise from these construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use. Using the acoustic center from construction between Harry Bridges Avenue and C Street bound by Broad Street to the east and Lagoon Avenue to the west would raise the noise level approximately 6 dBA above the existing noise environment. Pile driving from the proposed park area would raise the noise levels approximately 15 dBA at the closest sensitive receptor (ST-3) as well as other noise-sensitive land uses in the area adjacent to ST-3. The construction of the Waterfront Red Car Line would raise noise levels at the closest sensitive receptors along Shields Drive (overlooking Pacific Avenue) by approximately 20 dBA.

Furthermore, the overlap of the Phase 1 operational stage with the Phase 2 construction stage would mean recreational users would be exposed to construction related noise. Proposed project elements such as the waterfront promenade and the first portion of the land bridge would be operational by 2012. Recreational users would be exposed to noise generated from the proposed Project construction. Operational locations located adjacent to Phase 2 construction sites would be exposed to intermittent noise levels that would prevent recreational and leisurely activities within these areas.

Construction would exceed the construction noise standards of more than 5 dB increase in ambient noise levels at the closest sensitive receptor ST-3. Although the City's noise ordinance exempts construction activities from the noise standard (providing that such activities take place between the hours of 7:00 a.m. and 9:00 p.m. Monday through Friday, 8:00 a.m. and 6:00 p.m. on Saturdays, and no time on Sundays), control measures are recommended as mitigation to reduce the noise levels to the extent practicable. However, even with the recommended control measures, the increase in noise levels would be considered a significant impact.

Implementation of mitigation measure **MM NOI-1** would reduce impacts resulting from construction noise; however, it would not be sufficient to reduce the projected increase in the ambient noise level to a level below significance. Even with implementation of this mitigation measure, construction equipment noise levels would be expected to remain significant. Thus, impacts on sensitive receptors resulting from construction would remain significant even after mitigation.

5.3.2.3.2 Reduced Development: No Avalon Development District Alternative (1)

Alternative 1 would reduce the development footprint and construction activities in comparison to the proposed Project by not including the industrial area north of Harry Bridges Boulevard (Area A) and north of A Street (Area B). This would eliminate the approximately 150,000 square feet of industrial and 58,000 square feet of retail commercial use for which the proposed Project would construct the necessary infrastructure and pedestrian amenities.

When compared with the proposed Project, Alternative 1 would result in reduced construction-related noise impacts because it is a smaller project and because construction would occur farther away from sensitive receptors in the Wilmington Community (ST-3, ST-4, ST-5, and ST-6). However, construction related impacts (Impact NOI-1) would remain significant and unavoidable.

Impacts from Alternative 1 related to noise would be reduced when compared to the proposed Project, but would remain significant and unavoidable.

5.3.2.3.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain Alternative (2)

Alternative 2 would develop the Avalon Development District, Waterfront Red Car Line/CCT, and much of the Avalon Waterfront District in the same manner as the proposed Project; however, this alternative would only complete the Phase I portion of the Avalon Waterfront District's interim land bridge. The Phase II portion, which would be developed on the LADWP Marine Tank Farm site by the proposed Project, would not be developed under this alternative. The site would remain in operation and under the ownership of LADWP.

Because this alternative would not develop the Phase II portion of the land bridge, the Harbor Generating Station and peaker plant units would not be located adjacent to the land bridge and any noise associated with their operation would have a reduced impact on the new park uses.

Alternative 2 would result in similar construction-related noise impacts as the proposed Project because construction would still occur in the Avalon Development District, and only noise associated with the construction of the Phase II land bridge would be eliminated. Sensitive receptors located in the Wilmington Community (ST-3, ST-4, ST-5, and ST-6) would still be impacted by construction-related noise (Impact NOI-1). However, construction duration and intensity after Phase I is complete (in approximately 2013) would be reduced.

Impacts from noise associated with Alternative 2 would be reduced when compared to the proposed Project because the alternative would propose park elements farther away from existing noise sources and would reduce construction duration and intensity after 2013; however, impacts from this alternative would remain significant and unavoidable due to construction-related impacts at the Avalon Waterfront District and Avalon Development District even with implementation of **MM NOI-1**.

5.3.2.3.4 No Project Alternative (3)

Alternative 3 would continue the existing uses on the proposed project site. Noise levels would remain the same as the baseline measurements listed in Section 3.9, "Noise." Existing noise-generating sources include freight trains, heavy truck traffic, surrounding Port tenant operations (including the Harbor Generating Station and peaker units), and passenger car traffic along Harry Bridges and Avalon Boulevards. Unlike the proposed project and the two design alternatives, the Alternative 3 would not bring sensitive receptors (recreational users) to the proposed project site. No construction-related noise impacts would occur. Impacts related to noise, namely noise generated from construction activities, would be substantially less than those generated from the proposed Project. No noise-related impacts would occur under the No Project Alternative.

5.3.3 Resources with Significant Impacts that Can Be Mitigated to Less than Significant

5.3.3.1 Biological Resources

5.3.3.1.1 Proposed Project

The proposed Project would result in the loss of 0.05 acres of aquatic marine habitat within the Inner Harbor. The loss of this habitat would be considered a significant effect upon aquatic marine resources including EFH for Pacific ground fish and coastal pelagic species that occur in the harbor. This impact would be mitigated in accordance with established interagency mitigation requirements, as described previously in Section 3.3, "Biological Resources." Implementation of MM BIO-1 would reduce impacts on marine habitat to less-than-significant levels.

5.3.3.1.2 Reduced Development: No Avalon Development District (Alternative 1)

Alternative 1 would reduce the development footprint and construction activities in comparison to the proposed Project by not including the industrial area north of Harry Bridges Boulevard (Area A) and north of A Street (Area B). This would eliminate the approximately 150,000 square feet of industrial and 58,000 square feet of retail commercial use for which the proposed Project would construct the necessary infrastructure and pedestrian amenities.

Alternative 1 would construct the same area of over-the-water viewing piers and floating docks and have the same in-water impacts. As with the proposed Project, implementation of MM BIO-1 would reduce impacts on marine habitat to less-than-significant levels.

Impacts from Alternative 1 related to biological resources would be the same as the proposed Project's, and would be less than significant after mitigation.

5.3.3.1.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain (Alternative 2)

Alternative 2 would develop the Avalon Development District, Waterfront Red Car Line/CCT, and much of the Avalon Waterfront District in the same manner as the proposed Project; however, this alternative would only complete the Phase I portion of the Avalon Waterfront District's interim land bridge. The Phase II portion, which would be developed on the LADWP Marine Tank Farm site by the proposed Project, would not be developed under this alternative. The site would remain in operation and under the ownership of LADWP.

Alternative 2 would construct the same area of over-the-water viewing piers and floating docks and have the same in-water impacts. As with the proposed Project, implementation of MM BIO-1 would reduce impacts on marine habitat to less-than-significant levels.

Impacts from Alternative 2 related to biological resources would be the same as the proposed Project's, and would be less than significant after mitigation.

5.3.3.1.4 No Project (Alternative 3)

Alternative 3 would continue the existing uses on the proposed project site. No in-water construction would occur and over-the-water viewing piers and floating docks would not be constructed. No impacts on biological resources would occur.

5.3.3.2 Cultural Resources

5.3.3.2.1 Proposed Project

Archaeology

Archival research has indicated that the proposed Avalon Development District is located within the center of the historic community of Wilmington. Therefore, future developments in this area have the potential to temporarily unearth and permanently destroy sensitive historical archaeological resources associated with the early development of Wilmington. Impacts on archaeological resources related to proposed project construction in the Avalon Development District would be significant. Furthermore, should avoidance of the Pacific Electric Railway not be determined feasible, impacts on this resource would be significant. Implementation of **MM CR-1**, **MM CR-2**, **MM CR-3,** and **MM CR-5** would reduce these impacts to a less-than-significant level.

Within the Avalon Waterfront District, excavation and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy significant historical archeological resources associated with (1) Phineas Banning, Banning's Landing, and the early development of the port; and (2) a portion of Banning's Landing utilized by Northern forces during the Civil War for a depot to supply forces at the Drum Barracks. These areas should be avoided during construction to avoid impacts on significant archaeological resources. However, should avoidance be determined infeasible, a significant impact would occur. Implementation of **MM CR-4** would reduce this potential impact to a less-than-significant level.

Paleontology

Excavation, trenching, and pile driving, as well as other ground-disturbing actions, have the potential to damage or destroy significant paleontological resources within the proposed project area. Paleontological resources were analyzed for the five

components of the proposed Project: the project-level impact analysis for the Avalon Waterfront District, Avalon Development District Area B, and the California Coastal Trail, and the program-level impact analysis for Avalon Development District Area A, Avalon Triangle Park, and the Waterfront Red Car Line.

Excavation in the Avalon Waterfront District and removal of the LADWP oil tanks and remediation of the site would encounter Holocene-age sediments and artificial fill. The thickness of these overlying sediments above geologic deposits that may contain paleontological resources is not known. Any excavation operations within the LADWP Marine Tank Farm that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources. These features would involve excavation for bridge footing in some areas, and for buildings and other structures.

Artificial fill materials presumably were derived from earlier channel dredging operations and were placed in such a way as to provide topographically high areas for development. No fossils of scientific interest are located in the artificial fill materials. Any organic remains have lost their original stratigraphic and geologic context due to the disturbed nature of the artificial fill materials.

The thickness of these fill materials is uncertain, as is the thickness of the Holocene-age younger alluvium; therefore, depth of cover to buried geologic deposits that may contain paleontological resources is not known. Without being able to review site-specific excavation plans and a more comprehensive geotechnical report of subsurface conditions in areas of deep excavation, it is not possible to assess the extent (i.e., depth of bedrock, depth of excavations, etc.) of proposed project impacts on paleontological resources. However, any excavation operations that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

Within the Avalon Development District, near-surface excavations would encounter Holocene-age sediments and artificial fill, and, again, the depth to buried geologic deposits that may contain paleontological resources is not known. Any excavation operations within the Avalon Development District that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

The eastern extent of the Waterfront Red Car Line/California Coastal Trail from Avalon Boulevard along Harry Bridges Boulevard is underlain by Holocene-age beach sediments and artificial fill. The thickness of these overlying sediments above geologic deposits that may contain paleontological resources is not known.

The western extent of the Waterfront Red Car Line/California Coastal Trail west of Figueroa Street along John S. Gibson Boulevard to Swinford Street is underlain by Quaternary alluvium, Quaternary older alluvium, and Pleistocene-age offshore marine deposits of San Pedro Sand. The Pleistocene-age San Pedro Sand is mapped at the surface between the Northwest and Southwest Slips, and in patches near the

Vincent Thomas Bridge. These deposits are of fossil-bearing age, and are of scientific interest if intact.

Any excavation operations for the Waterfront Red Car Line Extension/California Coastal Trail that reach underlying deposits of older Quaternary Alluvium or the San Pedro Sand have the potential to temporarily unearth and permanently destroy sensitive paleontological resources.

Construction of the proposed Project would result in significant impacts because of the potential to damage or destroy significant nonrenewable fossil resources. Implementation of **MM CR-6** by a qualified vertebrate paleontologist would reduce impacts to less-than-significant levels.

Historical Buildings

The proposed Project would not have a significant impact on Historical Buildings. As part of the proposed Project, the Bekins Building would be rehabilitated in accordance with the Secretary of the Interior's Guide to Rehabilitating Historic Buildings. All buildings proposed for demolition by the proposed Project do not qualify for historic designation.

5.3.3.2.2 Reduced Development: No Avalon Development District Alternative (1)

Alternative 1 would reduce the development footprint in comparison to the proposed Project by not including the industrial area north of Harry Bridges Boulevard (Area A) and north of A Street (Area B). This would eliminate the approximately 150,000 square feet of industrial and 58,000 square feet of retail commercial uses for which the proposed Project would construct the necessary infrastructure and pedestrian amenities. This would eliminate trenching and infrastructure installation in the Avalon Development District, resulting in less potential to disturb unknown archaeological or paleontological resources. The potential at the Avalon Waterfront District would remain the same as the proposed Project because all elements, including the land bridge park, waterfront promenade, and Observation Tower, would still be constructed. However, because the Bekins Building would not be rehabilitated in accordance with the Secretary of the Interior's Guidelines to Rehabilitating Historic Buildings, over time impacts to the Bekins Building would continue to deteriorate. Impacts on this historic structure would be greater under Alternative 1**.**

In comparison to the proposed Project, Alternative 1 would reduce the potential to disturb unknown archaeological or paleontological resources during construction because of the reduced proposed project footprint, but impacts would remain significant without mitigation. As with the proposed Project, with mitigation, impacts on archaeological and paleontological resources would be less than significant. Impacts on the historic Bekins Building would be greater under Alternative 1. Therefore, impacts under the Alternative 1 would initially be mixed

when compared with the proposed Project, but over time impacts to the historic Bekins Building would be significant and unavoidable.

5.3.3.2.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain Alternative (2)

Alternative 2 would develop the Avalon Development District (Areas A and B), Waterfront Red Car Line/CCT, and much of the Avalon Waterfront District in the same manner as the proposed Project; however, this alternative would only complete the Phase I portion of the Avalon Waterfront District's interim land bridge. The Phase II portion, which would be developed on the LADWP Marine Tank Farm site by the proposed Project, would not be developed under this alternative. The site would remain in operation and under the ownership of LADWP.

Impacts on unknown archaeological or paleontological resources would be slightly reduced by this alternative because development and improvement of the soils underneath the LADWP Marine Tank Farm would not occur. During soil excavation and remediation, it is possible the proposed Project would disturb unknown archaeological and paleontological resources. Under Alternative 2, no changes would occur to the tank farm or the underlying soils. However, as with the proposed Project, impacts on unknown archaeological or paleontological resources would be significant prior to mitigation. After mitigation, impacts would be reduced to less than significant.

5.3.3.2.4 No Project Alternative (3)

Alternative 3 would not have any construction-related impacts on unknown archaeological or paleontological resources. No impacts would occur to either archaeological or paleontological resources. However, because the Bekins Building would not be rehabilitated in accordance with the Secretary of the Interior's Guidelines to Rehabilitating Historic Buildings, over time the Bekins Building would continue to deteriorate. Impacts on this historic structure would be greater under the No Project Alternative.

Impacts on cultural resources under the No Project Alternative would be mixed when compared with the proposed Project. Impacts on archaeological and paleontological resources would be reduced. However, impacts on historic structures would be significant and unavoidable.

5.3.3.2 Groundwater and Soils

5.3.3.2.1 Proposed Project

The proposed Project would result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be

deleterious to humans based on regulatory standards established by the lead agency for the site. Specifically, grading and construction would potentially expose construction personnel, existing operations personnel, and Phase 1 recreational users to contaminated soil, toxic plumes, or contaminated water. Grading and construction activities may also encounter previously unidentified USTs, hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes. Additionally, demolition of structures built prior to 1980 may result in the exposure of the public and/or the environment to ACMs and/or lead based paint and would require compliance with the SCAQMD. Human health and safety impacts would be significant pursuant to exposure levels established by CalEPA's OEHHA.

Implementation of **MM GW-1**: Preparation of a Soil Management Plan or Phase II Environmental Site Assessment, **MM GW-2:** Site Remediation, and **MM GW-3:** Contamination Contingency Plan for Non-Specific Facilities and Unidentified Sources of Hazardous Materials would reduce project-related impacts to less-than-significant levels.

5.3.3.2.2 Reduced Development: No Avalon Development District Alternative (1)

Alternative 1 would reduce the development footprint in comparison to the proposed Project by not including the industrial area north of Harry Bridges Boulevard and a portion north of A Street. This would eliminate the approximately 150,000 square feet of industrial and 58,000 square feet of retail commercial uses for which the proposed Project would construct the necessary infrastructure and pedestrian amenities. Grading and construction work would be limited to the Avalon Waterfront District and Waterfront Red Car Line/CCT resulting in less grading and excavating in soils. Less earthwork would reduce the potential of exposing work personnel to contaminated soils and groundwater, which would reduce the potential for adverse health effects.

However, as with the proposed Project, the demolition of the LADWP Marine Tank Farm liquid bulk storage tanks and remediation of the sites would occur. Any contaminated groundwater or soils encountered in the process of demolition and remediation would be the same as the proposed Project. Impacts from demolition and remediation within the Avalon Waterfront District would be equal to the proposed Project.

Therefore, impacts related to groundwater and soils from the implementation of Alternative 1 would be slightly less than the proposed Project because no earthwork including excavation or trenching would occur in the Avalon Development District; impacts related to groundwater and soils within the Avalon Waterfront District and Waterfront Red Car Line would be the same as the proposed Project (less than significant with mitigation).

5.3.3.2.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain Alternative (2)

Alternative 2 would develop the Avalon Development District, Waterfront Red Car Line/CCT, and much of the Avalon Waterfront District in the same manner as the proposed Project; however, this alternative would only complete the Phase I portion of the Avalon Waterfront District's interim land bridge. The Phase II portion, which would be developed on the LADWP Marine Tank Farm site by the proposed Project, would not be developed under this alternative. The site would remain in operation and under the ownership of LADWP. This would preclude development of the Marine Tank Farm site from contributing to a significant, adverse groundwater and soils impact, but it would also preclude the remediation of the site. Because the site would not undergo remediation, the long-term groundwater and soil conditions would continue to deteriorate and contamination would likely worsen. In sum, while construction-related impacts from groundwater and soils would be eliminated at the site, operational impacts would worsen.

Furthermore, impacts associated with the remaining project site grading and excavation work would be equal to the proposed Project because all other elements proposed under this alternative are the same as the proposed Project.

Impacts from potential groundwater and soil contamination on construction personnel would be slightly reduced by this alternative because of the reduced exposure and lack of remediation at the LADWP Marine Tank Farm site, but contamination at the site would potentially worsen over time to create significant groundwater and soil impacts at the project site; impacts related to groundwater and soils would be worse under this alternative when compared with the proposed Project and would be significant and unavoidable.

5.3.3.2.4 No Project Alternative (3)

Because construction activities would not occur under Alternative 3, no construction-related impacts on groundwater and soils would result. However, impacts on groundwater and soils from existing operations would continue to occur and overtime may increase when compared with existing conditions. Moreover, site remediation would not necessarily occur at the LADWP Marine Tank Farm or other locations within the proposed project site at some future time; therefore, groundwater and soil contamination would continue to be present, potentially exposing operational personnel and site occupants to health risks. Impacts from contaminated groundwater and soils would be significant and unavoidable.

Therefore, impacts on groundwater and soils from the No Project Alternative would be mixed when compared with the proposed Project.

5.3.3.3 Transportation

5.3.3.3.1 Proposed Project

Proposed project construction would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures. The following impacts would result from the proposed Project.

- Reduced roadway capacity and an increase in construction-related congestion would result in temporary localized increases in traffic congestion that exceed applicable LOS standards.
- Construction activities would disrupt existing transit service in the proposed project vicinity. Impacts may include temporary route detours, reduced or no service to certain destinations, or service delays.
- Construction activities would increase parking demand in the proposed project vicinity and may result in parking demand exceeding the available supply.
- Construction activities would disrupt pedestrian and bicycle travel. Impacts include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and interfere with safe travel.
- Construction activities would increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

Proposed mitigation would require LAHD to develop and implement a Traffic Control Plan throughout proposed project construction. Implementation of **MM TC-1** would reduce impacts during construction to a level less than significant.

During its operation, the proposed Project would increase demand for expanded commercial, recreational, and other proposed waterfront facilities and would therefore increase the number of people traveling to and from the Wilmington Waterfront area. The resulting increase in traffic volumes on the surrounding roadways would in turn degrade intersection operation at Avalon Boulevard and Anaheim Street. This impact would occur when the proposed Project's incremental contribution was added to the near term operation. Implementation of **MM TC-2** would improve the intersection's level of service to an acceptable level. The impact after mitigation would be less than significant.

5.3.3.3.2 Reduced Development: No Avalon Development District Alternative (1)

During construction, Alternative 1 would still have many if not all of the same impacts discussed under the proposed Project. Lane closures would be likely and disruption to local street networks and transit schedules might occur. As with the proposed Project, a Traffic Control Plan would be implemented throughout

construction. Impacts during construction would be mitigated to a level less than significant.

More specifically, however, Alternative 1 would substantially reduce the number of ADTs that would be generated by the proposed Project by not including the development of the Avalon District Area A (Light Industrial) and Area B (Commercial). Of the approximately 5,140 daily trips that would be generated by the proposed Project, approximately 3,537 would be eliminated from not developing the Avalon Development District. This would eliminate a substantial number of ADTs from the surrounding street network and impacts would be significantly reduced. Under this alternative, it is likely that the contribution to present and reasonably foreseeable future projects traffic volumes would be negligible and less than significant even without mitigation. When compared to the proposed Project, Alternative 1 would have reduced impacts on ground transportation.

5.3.3.3.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain Alternative (2)

As with Alternative 1, during construction Alternative 2 would have many of the same impacts discussed under the proposed Project. Lane closures would be likely and disruption to local street networks and transit schedules might occur. As with the proposed Project, a Traffic Control Plan would be implemented throughout construction. Impacts during construction would be mitigated to a level less than significant.

Like Alternative 1, Alternative 2 would reduce the number of ADTs that would be generated by the proposed Project by not completing the remaining 6-acre Land Bridge and associated parking area. However, of the approximately 5,140 daily trips that would be generated by the proposed Project only a small percent would be eliminated by not completing the Land Bridge. Traffic generated from this alternative would be similar to the proposed Project. Impacts to the surrounding street network would not be reduced in any meaningful way. Under this alternative, the traffic contribution to present and reasonably foreseeable future projects traffic volumes would be similar to the proposed Project and would be less than significant after mitigation. When compared to the proposed Project, Alternative 2 would have similar impacts on ground transportation.

5.3.3.3.4 No Project Alternative (3)

Alternative 3 would keep the existing uses in place and only allow modest improvements in future years that are allowed by right through the underlying zone. No significant construction would occur under this alternative and, therefore, this alternative would not result in any construction-related traffic impacts.

Existing traffic generators such as the LADWP Marine Tank Farm, the industrial businesses to the north in the Avalon Development District, and Banning's Landing

would continue to generate modest ADTs. Operational impacts on the street network would remain less than significant. As compared to the proposed Project, Alternative 3 would have a reduced impact on ground transportation.

5.3.3.4 Utilities

5.3.3.4.1 Proposed Project

Construction or Expansion of Utilities. The proposed Project is located within an existing industrial area, and significant water, wastewater, gas and electricity mains already exist along the streets. The proposed Project would include commercial and industrial development, demolition of existing structures, acquisition of LADWP property, removal of LADWP oil tanks, remediation of the LADWP site, building a land bridge and Observation Tower, and extension of the coastal trail and the Waterfront Red Car line along Harry Bridges Boulevard, John S. Gibson Boulevard, and Front Street. All these activities would require construction of new onsite utility lines (water, wastewater, and storm drains) to serve the proposed project operations; the relocation and/or extension of some existing utility lines would also be required. These new utilities would tie into the existing utility lines that serve the proposed Project site. The proposed Project would retain, relocate, or rebuild, and protect utilities as appropriate as part of the proposed Project. The proposed Project would include adding several mainlines off the existing 24-inch recycled water mainline so that all landscaping and water features would be supplied with recycled water.

Based on the estimated wastewater flows and the current flow capacity of the existing sewer lines, the existing sewer system would not be able to accommodate the total flow from the proposed Project. This would be a significant impact on the existing conveyance system. Individual project components such as future industrial development projects, restaurant uses, and the restroom facility associated with the Observation Tower would be connected to the existing mains, as part of the proposed Project. Specific needs for industrial tenants would be analyzed at a later stage in separate environmental documents; as individual projects are proposed, more information is available for impact analysis.

Once the design and utility connections are finalized, LAHD will build a secondary sewer line of sufficient capacity to support the nearest, largest sewer line. The construction of the secondary sewer line would be carried out within public right-of-way or existing City streets. This line will comply with the City's municipal code, and will be built under permit by the City Bureau of Engineering. Any impacts, including impacts to cultural resources, associated with excavation activities would comply with the proposed Project's MMRP.

The impacts associated with utility line relocation and rebuilding would include lane closures and affect access to commercial and industrial establishments and other land uses in the proposed project vicinity. Construction-related impacts may also involve temporary interruption of service to surrounding developments and would likely result in limited traffic diversions as a result of trenching and laying down and installation or relocation of utility lines. LAHD would prepare a Public Services

Relocation Plan as part of the proposed Project to address the public utilities that would be affected by proposed project construction, which would be reviewed by the service providers and City departments prior to implementation. All infrastructure improvements and connections would occur within City streets or public right-of-way, would comply with the City's municipal code, and would be performed under permit by the City Bureau of Engineering and/or LADWP. Additionally, the impacts of the utility line relocation and rebuilding, including services disruption, would be temporary and for a short duration, and any customers affected would be forewarned with notices. Impacts would be less than significant.

Water Supply Demand and Capacity. Operation of the proposed Project would demand about 44,180 gpd or 50 afy of water in 2015 and about 85,312.5 gpd or 96.5 afy in 2020. The projected 2015 and 2020 water demand represents an increase of 435 and 645% over the existing conditions, respectively. The projected 2015 and 2020 water demands represent an increase of 44.5 and 91.1 afy from the baseline water demand (4.5 afy), respectively. In accordance with LAHD's commitment to reduce and conserve the amount of water used in the proposed project area, infrastructure would be incorporated to support the use of reclaimed water for landscaping purposes (parks, road medians). The proposed Project would utilize 20.7 and 56.5 afy of recycled water in 2015 and 2020, respectively, from the Terminal Island Reverse Osmosis facility. Currently, there is a 24-inch recycled water mainline that runs from Terminal Island to Harry Bridges Boulevard and along Broad Avenue. The proposed Project would include constructing several mainlines off this existing line so that all landscaping and water features would be supplied with recycled water (per Table 3.12-6 a total of 49,950 gpd). The 2015 water demand of the proposed Project after use of recycled water would represent 0.004% of the estimated water demand of 705,000 afy for the LADWP service area in 2015. The 2020 water demand of the proposed Project after use of recycled water would represent 0.005% of the estimated water demand of 731,000 afy for the LADWP service area in 2020.

Pursuant to State CEQA guidelines Section 15155(a)(1)(G), it appears the proposed Project would consume an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project. For this reason, LAHD would need to comply with the WSA requirements of the State Water Code (Section 10910-10915). Preparation of the WSA is underway. It is anticipated that the WSA will conclude that there would be sufficient supply of water for the proposed Project. The WSA will be included as an appendix to the Final EIR.

5.3.3.4.2 Reduced Development: No Avalon Development District Alternative (1)

Alternative 1 would reduce the development footprint in comparison to the proposed Project by not including the industrial area north of Harry Bridges Boulevard and a portion north of A Street. This would eliminate the approximately 150,000 square feet of industrial and 58,000 square feet of retail commercial uses for which the proposed Project would construct the necessary infrastructure and pedestrian amenities. Grading and construction work would be limited to the Avalon

Waterfront District and Waterfront Red Car Line/CCT. Lack of development within the Avalon Development District would reduce the need for new or expanded utilities and would decrease the proposed Project's water demand by removing the 150,000 square feet of industrial and 58,000 square feet of retail uses.

Water demand would be based on the development within the Avalon Waterfront District and California Coastal Trail's greenbelt. This alternative would still construct several mainlines off of the existing 24-inch recycled water mainline that runs from Terminal Island to Harry Bridges Boulevard and along Broad Avenue for all proposed landscaping and water features. Demand in this area would be equal to the proposed Project.

Therefore, impacts on existing utilities resulting from the implementation of Alternative 1 would be reduced when compared with the proposed Project because no development would occur in the Avalon Development District; as with the proposed Project, impacts would be less than significant after mitigation.

5.3.3.4.3 Reduced Construction and Demolition: LADWP Marine Tank Farm to Remain Alternative (2)

Alternative 2 would develop the Avalon Development District, Waterfront Red Car Line/CCT, and much of the Avalon Waterfront District in the same manner as the proposed Project; however, this alternative would only complete the Phase I portion of the Avalon Waterfront District's interim land bridge. The Phase II portion, which would be developed on the LADWP Marine Tank Farm site by the proposed Project, would not be developed under this alternative. The site would remain in operation and under the ownership of LADWP. This would preclude development of the Marine Tank Farm site and reduce the load on the existing utility systems by reducing energy need for the land bridge; it would also reduce water demand by proposing approximately 6 fewer acres of landscaping/open lawn as the proposed Project. However, with the reduction in the land bridge, fewer solar panels would be installed because of the lack of canopies proposed with the Phase II land bridge. Other locations may be feasible, but they would require additional design work to identify.

When compared to the proposed Project, Alternative 2 would have slightly less demand on utility systems and would require less new or modified infrastructure to meet the needs of the development. In addition, water demand associated with this alternative would be lower due to the reduction of landscaping/open lawn as a consequence of the elimination of the Phase II land bridge. As with the proposed Project, impacts would be less than significant after mitigation.

5.3.3.4.4 No Project Alternative (3)

Alternative 3 would not propose any construction, which would mean no construction-related impacts on utility service systems would occur. It is reasonably

foreseeable that existing uses' operations and/or size may increase, which may require additional infrastructure capacity and improvements to the conveyance systems for wastewater and water supply. However, no discretionary actions would be taken, limiting expansion to those actions which would be processed under the ministerial process. Impacts on utilities from the No Project Alternative would be less than under the proposed Project; however, neither the proposed Project nor the No Project Alternative would result in significant and unavoidable impacts on utilities.

5.4 Environmentally Superior Alternative

Based on the above analysis, the No Project Alternative is the environmentally superior alternative because it would create fewer adverse impacts, including those which would be significant and unavoidable. However, CEQA Guidelines Section 15126.6(e)(2) requires that in cases where the No Project Alternative is determined to be the environmentally superior alternative, another must also be identified as Environmentally Superior. Consequently, both the No Project Alternative (3) and the Reduced Development: No Avalon Development District Alternative (1) would be the environmentally superior alternatives.

Under the No Project Alternative, impacts on air quality, biological resources, noise, and utilities would be reduced in comparison to the proposed Project. Impacts on geology, groundwater and soils, and cultural resources would be greater than the proposed Project. However, discretionary actions would not be allowed under the No Project Alternative. Minor expansions and building modifications would be allowed, but substantial redevelopment or coordinated planning efforts would not. No proposed project objectives would be met (as discussed in Section 5.2.3.3.1).

Under the Reduced Development: No Avalon Development District Alternative, the Avalon Waterfront District would be developed in the same manner as the proposed Project, but no effort would be made to improve the Avalon Development District. Consequently, development in this district would not be in coordination with the rest of the Wilmington Waterfront Development Program. Impacts on air quality, geology, noise, transportation, and utilities would be slightly reduced, while impacts on cultural resources due to the indefinite neglect of the historic Bekins Building would be significant and unavoidable.

As discussed above in Section 5.2.3.1.1, Alternative 1 would meet all of the proposed project objectives except for #4, which aims to enhance the livability and the economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region by promoting sustainable economic development and technologies within the existing commercial Avalon Development District. Because Alternative 1 would not develop the Avalon Development District, sustainable economic development and technologies would not be promoted in this area.

However, as noted in Table 5-2, Alternatives 1 and 2 would result in additional significant and unavoidable impacts (Cultural Resources and Groundwater and Soils,

respectively). In addition, while the alternatives have slightly reduced impacts in more environmental resource areas, the proposed Project would have less than significant or less than significant after mitigation impacts in all but three resource areas.

5.5 Alternatives Considered but Eliminated

As discussed in Section 5.2.1 above, CEQA requires an EIR to present a range of reasonable alternatives to the proposed Project, or to the location of the project, that could feasibly attain a majority of the basic project objectives, but would avoid or substantially lessen one or more significant environmental impacts of the project. CEQA also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that would be infeasible or that would not reduce any identified significant impact.

The following project alternatives were considered in the selection process, but were rejected due to the presence of one or more of the following:

- determined infeasible due to physical, legal, or technical factors;
- inability to meet a majority of the project objectives; or
- inability to reduce one or more identified significant impact(s).

The alternatives below were considered, but eliminated from further analysis:

- Alternative Project Designs—Avalon Pier Project Design
- No In-Water Development
- No street vacation of Avalon Boulevard or realignment of Broad Avenue
- Other sites within the Port boundaries and LAHD jurisdiction

5.5.1 Alternative Project Designs Previously Considered

During the conceptual design and planning stages of the Wilmington Waterfront Development Program, several design alternatives to the proposed Project were considered. All of these alternatives were variations on the park design and theme and none of the alternatives considered a different land use at the waterfront.

5.5.1.1 Avalon Pier and Harbor Steps Projects

Both of these previous design alternatives have many similarities with the proposed Project. Development of the Avalon Development District would be largely the same

except for the closing of Marine Avenue to through traffic. The Avalon Waterfront District would have notable differences, including more development that could support commercial or industrial uses, no land bridge, and a reduction in the area dedicated to open space and recreation. More waterside development would occur as well to support the installation of a large viewing pier.

While both designs meet all of the proposed Project's objectives, neither would have resulted in a reduction of one or more significant environmental impacts. More waterside development would have been required, potentially resulting in greater marine impacts. More traffic would have been generated due to the larger focus on future industrial and commercial development. Because the Harbor Rail Line would remain exposed, people using the project facilities would have been exposed to greater noise levels from freight trains and automobiles travelling along Water Street. Therefore, both of these design alternatives were removed from consideration because neither would have reduced one or more significant proposed project–related impacts to a less-than-significant level.

5.5.1.2 Connected Bands

This alternative has more in common with the proposed project than either Avalon Pier or Harbor Steps. Both this alternative and the proposed Project would provide open space and recreation where the LADWP Marine Tank Farm is currently. Both would develop a more substantial land bridge (rather than just a narrow pedestrian bridge) over the Harbor Rail Line and the realigned Water Street. Future area set aside for commercial and industrial development in the Avalon Development District is similar as well. However, this alternative would have slightly greater waterside development.

Like the Avalon Pier and Harbor Steps design alternatives, this alternative would meet all the proposed project objectives. However, this alternative was removed from further consideration because of its similar design compared with the proposed Project, which would not have reduced one or more significant environmental impacts to less than significant.

5.5.2 No In-Water Development

The proposed Project would enhance the waterfront area by installing approximately 43,220 square feet of new over-water viewing piers, 17,880 square feet of replacement piers, and two floating docks measuring 5,870 square feet in total. The proposed Project would also upgrade the existing early 1900's bulkhead wall that is currently in a deteriorated condition. In addition, the proposed Project would remove the 30,860-square-foot Catalina Freight building, the 2,370-square-foot National Polytechnic College of Science Hyperbaric Chamber Building, and the 1,800-square-foot National Polytechnic College of Science Welding Pier to provide area for the waterside improvements.

Under this alternative, all work in the water associated with the waterfront development is eliminated from the proposed development plan. No over-water piers or floating docks would be constructed. Existing structures would remain. The existing bulkhead would not be replaced or reinforced. All proposed landside work would remain.

The result would be a project alternative that could potentially avoid any in-water and over-water construction and reduce the noise generated by pile driving. Any impacts associated with demolition at the water's edge would be eliminated. Fill material and construction associated with the bulkhead improvements would not be needed.

However, because the bulkhead is in a deteriorated condition, technical factors require that extensive reinforcement take place to ensure public safety due to structural instability, particularly in the event of a seismic occurrence. Changes to the grade level at the water's edge due to project elements such as the promenade, land bridge, observation tower, and restaurant uses require that the bulkhead wall undergo reconstruction to support the additional structure loads proposed to fulfill Objective #2. Existing seismic regulations require that the aged bulkhead wall be reinforced to ensure adverse health and safety impacts would not occur.

Because this alternative would not be technically feasible due to engineering and safety regulatory considerations, this alternative was eliminated from further consideration.

5.5.3 No Street Vacation of Avalon Boulevard or Realignment of Broad Avenue

The proposed Project would downgrade and then vacate the portion of Avalon Boulevard south of A Street and realign Broad Avenue to the waterfront. This would improve pedestrian access and safety at Avalon Boulevard while maintaining vehicular access to the waterfront.

This alternative would not vacate the south portion of Avalon Boulevard nor realign Broad Avenue. Vehicular access would still be provided by Avalon Boulevard, and Broad Avenue would still terminate at Avalon. This would cause the 1-acre entry park at the southeast corner of Harry Bridges and Avalon Boulevards to constrict. A large section of the land bridge park would be eliminated as a development option, and the contiguous open space element from Harry Bridges Boulevard to the waterfront would be eliminated. All other development elements would remain the same as the proposed Project.

This development alternative was eliminated from further consideration because it would not reduce a significant unavoidable impact or meet Objective #2 of the proposed Project, which aims to design and construct a waterfront park and promenade to enhance the connection of the Wilmington community with the waterfront.

5.5.4 Other Sites within LAHD Jurisdiction

The design and placement of the proposed Project was guided by the desire to construct a project that would serve as a regional draw and attract visitors to the waterfront in Wilmington, build a waterfront park and promenade to enhance the connection of the Wilmington community with the waterfront, create a unified Los Angeles waterfront, and enhance the livability and economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region.

The proposed project site is aligned with Avalon Boulevard, the Wilmington community's main north–south thoroughfare, which links the community to the waterfront. Avalon Boulevard connects the heart of the Wilmington commercial center with Banning's Landing Community Center, which already serves as a community focal point. In addition, due to Avalon Boulevard's width and north–south orientation, the community is provided with a nearly straight view of the waterfront land uses, which would be enhanced with the realignment of Avalon Boulevard as called for in the proposed Project. These factors have provided the proposed project site with a unique advantage over alternative sites to serve as a regional park due its existing importance to the Wilmington community, its high visibility, and potential ease of access for the Wilmington community.

Additional sites with a waterfront component that approach the proposed project site's size and accessibility are not readily available. Other sites would not satisfy Objectives #1, #2, #4, and #6, because these objectives contain conditions that alternative sites are not able to meet.

For instance, Objective #1 aims to construct a project that will serve as a regional draw and attract visitors to the waterfront in Wilmington, and, similarly, Objective #2 calls for the project to enhance the connection of the Wilmington community with the waterfront. The proposed project site is the logical extension of the Wilmington community due to its location at the end of Avalon Boulevard, and therefore serves as the de facto "Wilmington waterfront." Another site with waterfront area, even if made available through acquisition and relocation of current tenants, would not provide the direct line of sight and natural extension of the Wilmington community, and would therefore be unable to satisfy Objectives #1 and #2.

Objective #4 aims to enhance the livability and the economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region by promoting sustainable economic development and technologies within the existing commercial Avalon Development District. This objective is specific to the location of the proposed project site and would not be met if an alternate site were selected. Likewise, Objective #6 aims to extend the Port of Los Angeles Plan and Port Master Plan to encompass the proposed project area to provide LAHD with better means to improve future development and economic conditions in the area. An alternate site would not meet the proposed Project's objective because the boundary extensions are specific to the area north of Water Street and south of C Street, which would allow the Port of Los Angeles Plan and Port Master Plan to match up with the existing boundaries to the west, while permitting LAHD more land use authority over areas within the coastal zone and which are largely owned by LAHD.

6

ENVIRONMENTAL JUSTICE

6.1 Introduction

This environmental justice analysis complies with Executive Order 12898, Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, which requires federal agencies to assess the potential for their actions to have disproportionately high and adverse environmental and health impacts on minority and low-income populations, and with the Council on Environmental Quality (CEQ) *Guidance for Environmental Justice Under NEPA* (CEQ, 1997). This assessment is also consistent with California state law regarding environmental justice.

After implementation of mitigation measures, the proposed Project would result in disproportionate effects on minority and low-income populations as a result of significant impacts related to construction noise and air quality (ambient concentrations of criteria pollutants during construction). The proposed Project would also make a cumulatively considerable contribution to cumulatively significant impacts, after mitigation measures, on traffic circulation at one intersection during the operation phase. The contribution at this one intersection would represent a disproportionately high and adverse effect on minority and low-income populations.

6.1.1 Background

This Environmental Justice (EJ) chapter evaluates whether the proposed Project would result in disproportionately high and adverse human health or environmental impacts on minority and low-income populations. The following topics are discussed:

- Environmental Setting, including minority and low-income populations in the study area (data from the 2000 U.S. Census)

- Applicable EJ statutes, executive orders, and regulatory guidance
- The Public Outreach process and the provision of a Spanish translation to provide access to proposed Project information as well as increased opportunities for public participation by potentially affected minority and low-income communities
- Impacts and Mitigation Measures covering significant impacts identified in Chapter 3, "Environmental Analysis," Sections 3.1 through 3.14, and a discussion of how such impacts might disproportionately affect minority and low-income populations
- Cumulative Impacts, as applicable, when the proposed Project's impacts are added to disproportionate impacts of other actions and activities in the study area

6.2 Environmental Setting

The proposed Project is located in the Port of Los Angeles and adjacent to the City of Los Angeles community of Wilmington. For this assessment, the area of potential effect (APE) was determined in accordance with CEQ's guidance for identifying the "affected community," which requires consideration of the nature of likely proposed project impacts and identification of a corresponding unit of geographic analysis. Therefore, the environmental justice APE corresponds to the areas of effect associated with the specific environmental issues analyzed in this EIR. Areas of potential effect differ somewhat for each environmental issue.

Environmental justice guidance from CEQ (1997) defines "minority persons" as "individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black (not of Hispanic origin); or Hispanic" (CEQ 1997:25). Hispanic (or Latino) refers to an ethnicity, whereas American Indian, Alaskan Native, Asian, Pacific Islander, and Black/African-American (as well as White or European-American) refer to racial categories; thus, for Census purposes, individuals classify themselves into racial as well as ethnic categories, where ethnic categories include Hispanic/Latino and non-Hispanic/Latino. The 2000 Census allowed individuals to choose more than one race. For this analysis, consistent with guidance from CEQ (1997) as well as EPA (1998, 1999b), "minority" refers to people who are Hispanic/Latino of any race, as well as those who are non-Hispanic/Latino of a race other than White or European-American.

The same CEQ environmental justice guidance (CEQ, 1997) suggests low-income populations be identified using the national poverty thresholds from the Census Bureau; guidance from EPA (1998, 1999b) also suggests using other regional low-income definitions as appropriate. Due to the higher cost of living in southern California compared to the nation as a whole, a higher threshold is appropriate for the identification of low-income populations. For the purposes of this analysis, low-income people are those with a household income at or below 1.25 times the national Census poverty threshold. The 1.25 ratio is based on application of a methodology

developed by the National Academy of Sciences (Citro and Michael 1995) and incorporates detailed data about fair market rents, over the period 1999–2007, for Los Angeles County from the U.S. Department of Housing and Urban Development (HUD 2007). Appendix K contains a detailed description of the method used to derive the low-income definition.

To establish context for this environmental justice analysis, race and ethnicity (i.e., minority) and income characteristics of the population residing in the vicinity of the proposed Project were reviewed. Table 6-1 presents population, minority, and low-income status from the 2000 Census and the Los Angeles City Planning Department for Wilmington, San Pedro, Los Angeles County and the City of Los Angeles, and all of California. The table also presents similar data for other cities in the general vicinity of the Port.

Table 5-1 shows that within Wilmington, minorities constitute 87.1% of the population and low-income persons constitute 32.2%. Thus, the neighborhood constitutes a "minority population concentration" under CEQ guidance, which sets the threshold at 50%; Wilmington also represents a low-income population when compared to the whole of Los Angeles County.

Table 6-1. Minority and Low-Income Population Ratios by Area

Area	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
California	**33,871,648**	**53.4**	**19.2**
Los Angeles County	9,519,338	69.1	23.9
City of Los Angeles	3,694,834	70.4	29.1
San Pedro	76,028	55.3	22.5
Wilmington	75,215	87.1	32.2
Nearby Cities			
Carson	89,730	88.0	13.4
Lomita	20,046	46.4	15.5
Long Beach	461,522	66.9	29.8
Palos Verdes Estates	13,340	23.9	2.2
Rancho Palos Verdes	41,145	36.9	3.5
Rolling Hills	1,871	23.5	1.3
Rolling Hills Estates	7,676	29.4	3.3
Torrance	137,946	47.6	8.8
West Carson	21,138	70.7	13.3

Sources: Census Bureau (2000)
Data for Wilmington and San Pedro are defined based on Community Plan Areas; Los Angeles Department of City Planning (2000)

Figure 6-1 shows the percentage of minority residents in Census block groups near the Wilmington Waterfront and the Port, and Figure 6-2 shows the percentage of low-income residents in the same area. These figures show block groups within the area modeled in the air quality dispersion and health risk analysis, which represents an outer boundary over which significant and unavoidable impacts may conceivably occur; however, note that the effects analysis does not, in fact, find significant and unavoidable impacts over the entire area of analysis, as described in Section 3.2, "Air Quality and Meteorology," and later in this chapter.) Table 6-2 presents data for the 59 Census tracts shown in Figures 6-1 and 6-2. The table in sub-Appendix G.2 in Appendix K provides data for the 169 block groups shown in Figures 6-1 and 6-2.

Table 6-2. Minority and Low-Income Characteristics by Census Tract in Proposed Project Vicinity

Area	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
Los Angeles County	9,519,338	68.9	23.9
City of Los Angeles	3,694,820	70.3	29.1
Long Beach	461,522	66.9	29.8
Census Tracts			
2933.01	2,977	66.3	8.7
2933.02	4,302	65.3	15.3
2933.04	4,207	81.5	29.2
2933.05	4,660	64.4	20.5
2941.10	4,060	90.9	19.4
2941.20	2,529	98.4	23.5
2942	4,425	88.1	24.3
2943	7,059	88.9	32.6
2944.10	3,854	84.0	34.3
2944.20	3,270	88.2	38.0
2945.10	4,266	95.6	36.9
2945.20	3,609	93.8	35.2
2946.10	3,875	93.2	27.7
2946.20	3,931	97.9	35.0
2947	3,270	93.1	52.9
2948.10	4,039	97.7	42.9

Area	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
2948.20	3,555	96.7	51.5
2948.30	3,274	96.1	48.1
2949	3,262	95.6	50.3
2951.01	5,188	34.1	8.5
2961	1,434	68.0	31.0
2962.10	2,858	92.3	42.9
2962.20	3,605	91.2	62.7
2963	4,348	52.2	13.2
2964	6,294	42.8	8.9
2965	3,796	85.5	26.3
2966	5,200	79.3	36.8
2969	8,250	65.1	28.6
2970	5,482	32.3	11.0
2971.10	4,547	79.4	48.1
2971.20	3,358	77.6	39.6
2972	8,011	51.7	18.1
2973	2,886	30.5	7.4
2974	3,615	15.9	1.9
2975	3,324	29.5	8.6
2976	6,572	40.0	13.3
5436.02	4,141	70.5	10.1
5436.03	4,116	62.4	9.0
5436.04	5,162	86.4	7.0
5437.02	6,354	85.2	14.1
5437.03	3,617	84.3	11.1
5439.04	4,426	96.0	26.1
5727	1,820	93.8	21.4
5728	263	87.8	71.9
5729	3,310	97.3	42.2
5755	252	78.2	53.4

Area	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
5756	46	84.8	0.0
6099	1,678	65.9	20.2
6510.01	975	40.2	4.9
6514	1,150	28.7	5.2
6700.01	3,244	42.9	11.3
6700.02	3,773	50.0	14.5
6700.03	6,037	42.5	11.8
6701	6,484	48.0	19.6
6702.01	3,889	25.7	2.3
6705	1,871	23.5	1.3
6706	4,576	28.0	2.8
6707.01	6,777	32.9	5.1
6707.02	5,357	21.8	2.2
Total Census Tract	**232,510**	**66.2 (Average %)**	**22.2 (Average %)**
Source: Census (2000), Summary Files 1 and 3			

Figure 6-1 and Table 6-2 shows that a majority of census tracts near the proposed Project area have more than a 50% minority population, as well as a higher low-income population concentration in comparison to Los Angeles County. Thus, the neighborhood constitutes a "minority population concentration" under CEQ guidance because the guidance indicates such a concentration exists if the percent minority exceeds 50 percent, as well as low-income population concentration compared to Los Angeles County.

6.3 Applicable Regulations

6.3.1 Federal

6.3.1.1 Executive Order 12898

In 1994, in response to growing concern that minority and/or low-income populations bear a disproportionate amount of adverse health and environmental effects,

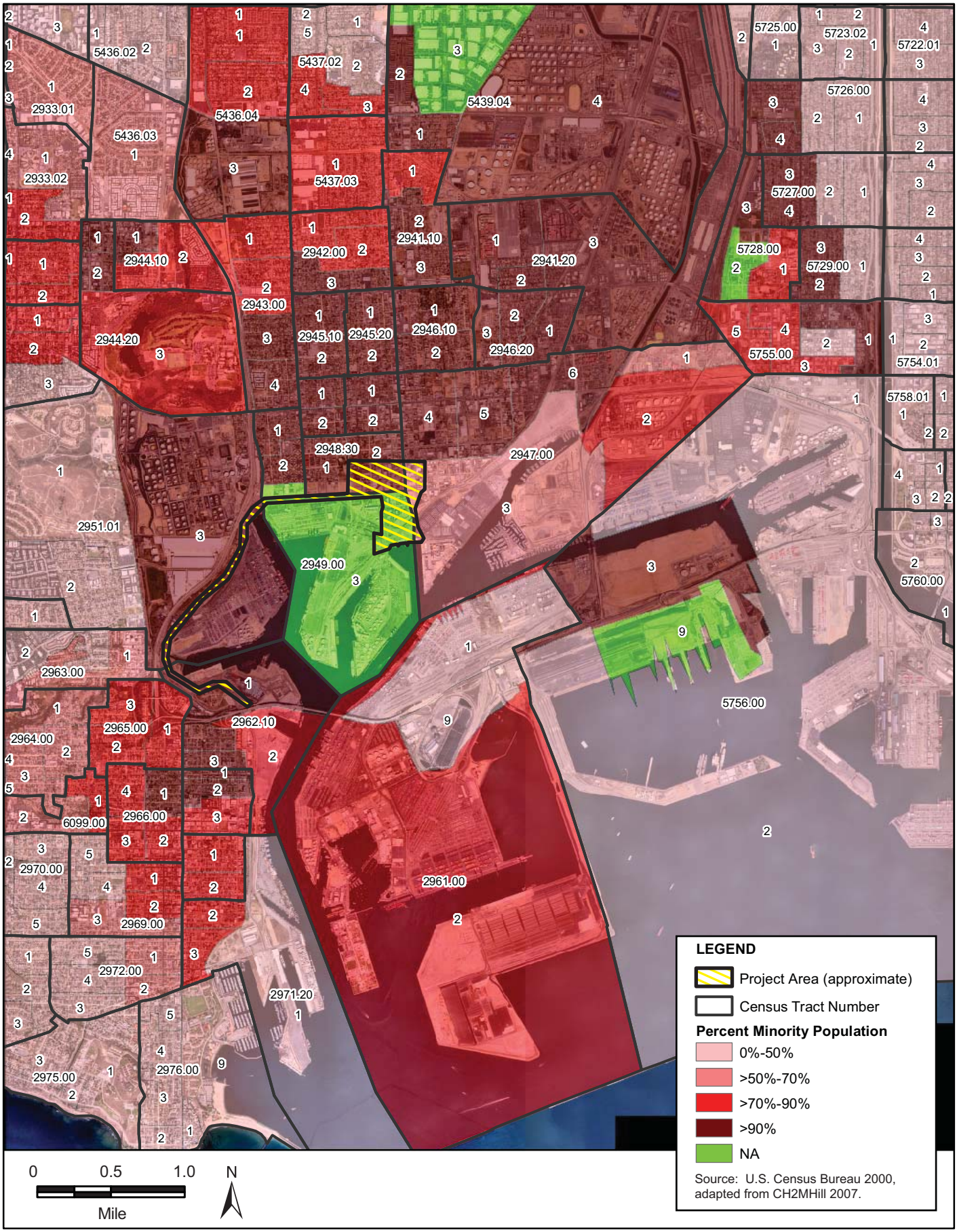

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Figure 6-1
Percent Minority Population
Wilmington Waterfront Development Project

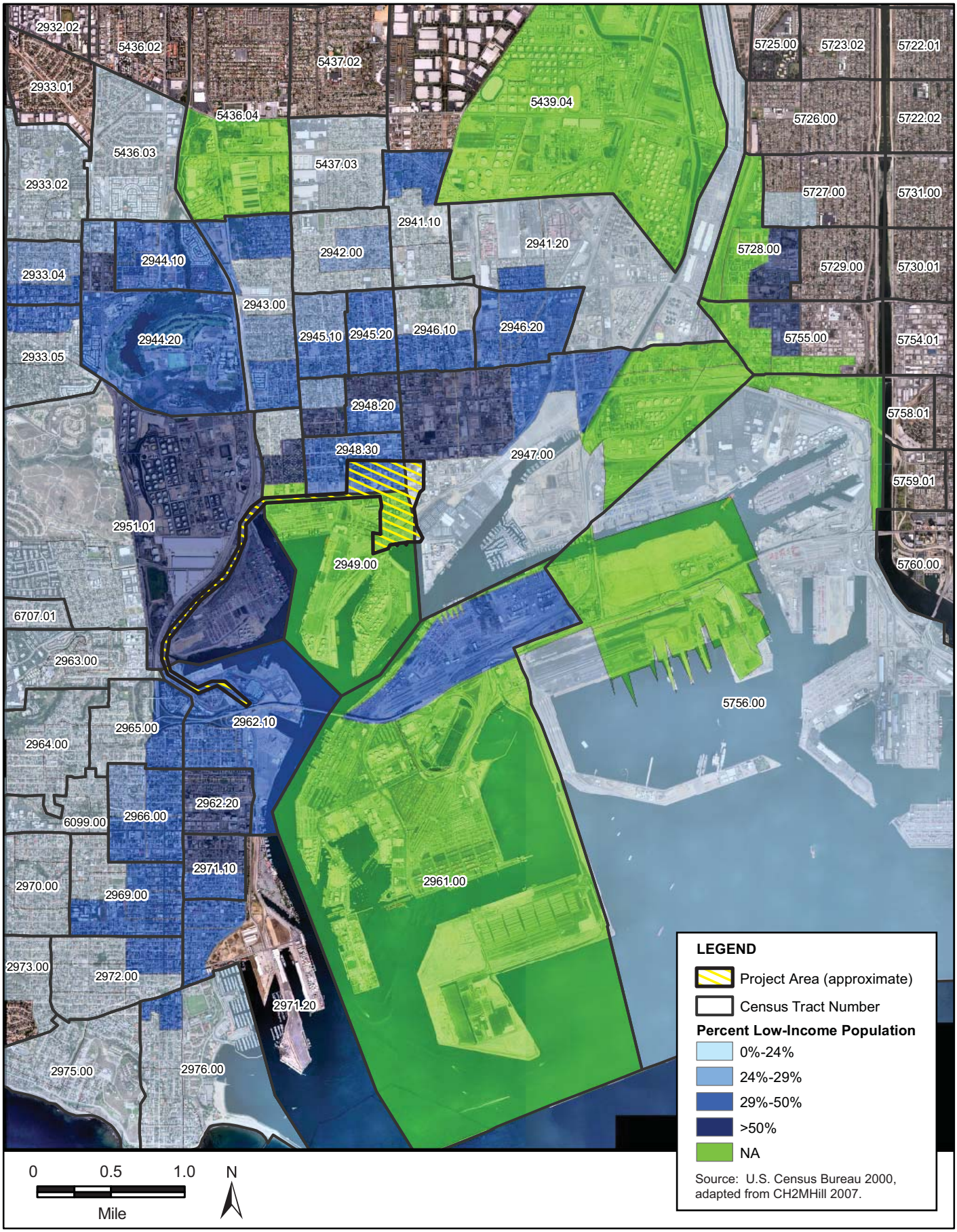

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Figure 6-2
Percent Low-Income Population
Wilmington Waterfront Development Project

President Clinton issued Executive Order 12898 on Environmental Justice, formally focusing federal agency attention on these issues. The Executive Order contains a general directive that states that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The Order authorized the creation of an Interagency Working Group (IWG) on Environmental Justice, overseen by the EPA, to implement the Executive Order's requirements. The IWG includes representatives of a number of executive agencies and offices and has developed guidance for terms contained in the Executive Order. The EPA provides the following definitions:

6.3.1.1.1 Environmental Justice

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. (EPA 2004, Section 2.2)

6.3.1.1.2 Fair Treatment

No group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. (EPA 2004, Section 2.2)

6.3.1.1.3 Meaningful Involvement

1. Potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health;
2. The public's contribution can influence the regulatory agency's decision;
3. The concerns of all participants involved will be considered in the decision making process; and
4. The decision makers seek out and facilitate the involvement of those potentially affected. (EPA 2004, Section 2.2)

6.3.1.1.4 Disproportionately High and Adverse Effect

An adverse effect or impact that: (1) is predominately borne by any segment of the population, including, for example, a minority population and/or a low-income population; or (2) will be suffered by a minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect or impact that will be suffered by a non-minority population and/or non-low-income population. (EPA 2004, Section 3.1)

6.3.2 State

6.3.2.1 PRC Sections 71110–71116

Environmental justice is defined by California state law as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

PRC Section 71113 states that the mission of CalEPA includes ensuring that it conducts any activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority and low-income populations of the state.

As part of its mission, CalEPA was required to develop a model environmental justice mission statement for its boards, departments, and offices. CalEPA was tasked to develop a Working Group on Environmental Justice to assist it in identifying any policy gaps or obstacles impeding the achievement of environmental justice. An advisory committee including representatives of numerous state agencies was established to assist the Working Group pursuant to the development of a CalEPA intra-agency strategy for addressing environmental justice. PRC Sections 71110–71116 charge the CalEPA with the following responsibilities:

- Conduct programs, policies, and activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.
- Promote enforcement of all health and environmental statutes within Cal/EPA's jurisdiction in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.
- Ensure greater public participation in the agency's development, adoption, and implementation of environmental regulations and policies.
- Improve research and data collection for programs within the agency relating to the health and environment of minority populations and low-income populations of the state.

- Coordinate efforts and share information with the USEPA.
- Identify differential patterns of consumption of natural resources among people of different socio-economic classifications for programs within the agency.
- Consult with and review any information received from the IWG pursuant to developing an agency-wide strategy for Cal/EPA.
- Develop a model environmental justice mission statement for Cal/EPA's boards, departments, and offices.
- Consult with, review, and evaluate any information received from the IWG pursuant to the development of its model environmental justice mission statement.
- Develop an agency-wide strategy to identify and address any gaps in existing programs, policies, or activities that may impede the achievement of environmental justice.

6.3.2.2 California Government Code Sections 65040–65040.12

California Government Code Sections 65040–65040.12 identify the Governor's Office of Planning and Research (OPR) as the comprehensive state agency responsible for long-range planning and development. Among its responsibilities, OPR is tasked with serving as the coordinating agency in state government for environmental justice issues. Specifically, OPR is required to consult with CalEPA, the state Resources Agency, the Working Group on Environmental Justice, and other state agencies as appropriate, and share information with the CEQ, EPA, and other federal agencies as appropriate to ensure consistency.

CalEPA released its final Intra-Agency Environmental Justice Strategy in August 2004. The document sets forth the agency's broad vision for integrating environmental justice into the programs, policies, and activities of its departments. It contains a series of goals, including the integration of environmental justice into the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

6.3.3 California State Lands Commission Environmental Justice Policy

The California State Lands Commission (CSLC) adopted an Environmental Justice Policy on October 1, 2002 (CSLC 2002), wherein the CSLC pledges to continue and enhance its processes, decisions, and programs with environmental justice as an essential consideration by, among other actions, "identifying relevant populations that might be adversely affected by commission programs or by projects submitted by outside parties for its consideration." The policy also cites the definition of

environmental justice in state law and points out that this definition is consistent with the Public Trust Doctrine principle that the management of trust lands is for the benefit of all of the people. To date, the CSLC has not issued any guidance to implement the policy, although environmental justice is addressed in CSLC environmental documents.

6.3.4 General Plan of the City of Los Angeles

The City of Los Angeles General Plan has adopted environmental justice policies as outlined in its Framework and Transportation Elements; these policies are summarized below. The Framework Element is a "strategy for long-term growth which sets a citywide context to guide the update of the community plan and citywide elements."

The Framework Element includes a policy to "assure the fair treatment of people of all races, cultures, incomes and education levels with respect to the development, implementation and enforcement of environmental laws, regulations and policies, including affirmative efforts to inform and involve environmental groups, especially environmental justice groups, in early planning stages through notification and two-way communication."

The Transportation Element includes a policy to "assure the fair and equitable treatment of people of all races, cultures, incomes and education levels with respect to the development and implementation of citywide transportation policies and programs, including affirmative efforts to inform and involve environmental groups, especially environmental justice groups, in the planning and monitoring process through notification and two-way communication."

The City of Los Angeles also has committed to a Compact for Environmental Justice, which was adopted by the City's Environmental Affairs Department as the City's foundation for a sustainable urban environment. Statements relevant to the proposed Project include the following:

- All people in Los Angeles are entitled to equal access to public open space and recreation, clean water, and uncontaminated neighborhoods.
- All planning and regulatory processes must involve residents and community representatives in decision making from start to finish.

6.3.5 South Coast Air Quality Management District

In 1997, SCAQMD adopted a set of guiding principles on environmental justice, addressing the rights of area citizens to clean air, the expectation of government safeguards for public health, and access to scientific findings concerning public health. Subsequent follow-up plans and initiatives led to the SCAQMD Board's

approval in 2003–2004 of an Environmental Justice Workplan. SCAQMD intends to update this as needed to reflect ongoing and new initiatives.

SCAQMD's environmental justice program is intended to "ensure that everyone has the right to equal protection from air pollution and fair access to the decision making process that works to improve the quality of air within their communities." Environmental justice is defined by SCAQMD as "...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

6.4 Impact Analysis

6.4.1 Methodology and Significance Thresholds

The methodology for conducting the impact analysis for environmental justice included reviewing impact conclusions for each of the resources in Chapter 3, "Environmental Analysis," and Chapter 4, "Cumulative Effects." Where chapters identified significant impacts or a cumulatively considerable contribution to a cumulatively significant impact, an evaluation was conducted to determine if these impacts would result in disproportionately high and adverse effects on minority or low-income populations.

Because CEQA deals only with the physical change in the environmental, the *L.A. CEQA Thresholds* does not identify significance thresholds for environmental justice or for disproportionately high and adverse effects on minority and low-income populations. In the absence of local thresholds for the proposed Project, federal guidance provided by CEQ has been utilized as the basis for determining whether the proposed Project would result in environmental justice effects. CEQ has oversight of the federal government's compliance with Executive Order 12898 and has published *Environmental Justice Guidance under the National Environmental Policy Act* (CEQ 1997). The CEQ guidance identifies three factors to be considered to the extent practicable when determining whether environmental effects are disproportionately high and adverse (CEQ 1997:26-27):

(a) Whether there is or would be an impact on the natural or physical environment that significantly and adversely affects a minority population, or low-income population. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment; and

(b) Whether the environmental effects are significant and are or may be having an adverse impact on minority populations, or low-income populations that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group; and

(c) Whether the environmental effects occur or would occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards.

Findings for proposed Project-related impacts and the contribution of the proposed Project to cumulative impacts were reviewed to determine which impacts were significant, or represented cumulatively considerable contributions to cumulatively significant impacts, and would therefore require environmental justice analysis.

Identified significant and unavoidable impacts—or the contribution to cumulative impacts would be cumulatively considerable and unavoidable— were analyzed to determine if it could cause substantial effects on *human populations* (i.e., the public), as opposed to primarily affecting the natural or physical environment and/or resulting in limited public exposure. However, for disclosure purposes, these significant impacts are summarized in order to facilitate public involvement and review by potentially affected minority and low-income populations in the vicinity of the proposed Project.

For significant impacts, but that after mitigation measures were implemented impacts would be considered less than significant—or, in the case of a cumulative contribution, if the contribution would be less than cumulatively considerable after mitigation—then the impact was documented for disclosure purposes, but detailed analysis to determine if the impact or contribution would occur disproportionately on low-income and/or minority populations was not done.

For impacts that were less than significant and also less than cumulatively considerable, or classified as "No Impact" (and therefore also not cumulatively considerable), further evaluation of the potential for disproportionately high and adverse effects on minority and low-income populations was not needed because impacts that would not be significant would not have the potential to result in such disproportionate effects.

In cases where the minority and low-income characteristics of populations in the impacted area could be estimated, the impact area characteristics were compared to data for the general population (i.e., Los Angeles County). If the minority population in the adversely affected area is greater than 50% or if either the minority or low-income percentage of the population in the adversely affected area is meaningfully greater than that of the general population, disproportionate effects on minority or low-income populations would occur. ("Meaningfully greater" is not defined in CEQ or EPA guidance; for this analysis, "meaningfully greater" is interpreted to mean simply "greater," which provides for a conservative analysis.) In addition, disproportionate effects would also occur in cases where impacts are predominantly borne by minority or low-income populations.

Proposed project benefits were also considered to determine whether adverse effects would still be appreciably more severe or of greater magnitude after these other elements are considered. In addition, if significant unavoidable impacts or

contributions to cumulatively significant impacts were determined to be disproportionate, the identified mitigation measures were reviewed to determine whether they would be effective in avoiding or reducing the impacts on minority and low-income populations. If necessary, additional mitigations were considered.

6.4.2 Project-Related Direct, Indirect, and Cumulative Impacts

6.4.2.1 Adverse Effects to Overall Population

The proposed Project's individual and cumulative impacts are described in detail for each resource in Chapter 3, "Environmental Analysis," and Chapter 4, "Cumulative Effects." This section provides a summary of impacts that would be adverse to the overall population and lists their mitigation measures. Section 6.4.2.3 addresses impacts that would not be disproportionately high and adverse on minority and low-income populations.

6.4.2.2 Significant and Unavoidable Impacts

6.4.2.1.1 Air Quality

Impact AQ-1

Construction of the proposed Project would result in the temporary generation of emissions of CO, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content. In unmitigated case, VOC, CO, NO_X, and SO_2 emissions are greatest during the second half of January and first half of February 2011. Also, as with the unmitigated case, PM_{10} and $PM_{2.5}$ emissions are greatest during the latter half of February 2011.

Mitigation Measures

MM AQ-1: Harbor Craft Engine Standards.

All harbor craft used during the construction phase of the proposed Project will, at a minimum, be repowered to meet the cleanest existing marine engine emission standards or EPA Tier 2. Additionally, where available, harbor craft will meet the proposed EPA Tier 3 (which are proposed to be phased-in beginning of 2009) or cleaner marine engine emission standards.

This measure will be met unless one of the following circumstances exists, and the contractor is able to provide proof of its existence:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the proposed Project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must have attempted to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the proposed Project has the controlled equipment available for lease.

MM AQ-2: Dredging Equipment Electrification.

All dredging equipment will be electric.

MM AQ-3: Fleet Modernization for Onroad Trucks

1. Trucks hauling materials such as debris or fill will be fully covered while operating off Port property
2. Idling will be restricted to a maximum of 5 minutes when not in use.
3. EPA Standards:

    a. Prior to December 31, 2011: All onroad heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2004 onroad emission standards for PM_{10} and NO_X (0.10 g/bhp-hr and 2.0 g/bhp-hr, respectively).

    In addition, all onroad heavy heavy-duty trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will be equipped with a CARB-verified Level 3 device.

    b. From January 1, 2012 on: All onroad heavy-duty diesel trucks with a GVWR of 19,500 pounds or greater used at the Port of Los Angeles will comply with EPA 2007 onroad emission standards for PM_{10} and NO_X (0.01 g/bhp-hr and 0.20 g/bhp-hr, respectively).

    A copy of each unit's certified EPA rating and each unit's CARB or SCAQMD operating permit, shall be provided at the time of mobilization of each applicable unit of equipment

The above EPA Standards measures will be met, unless one of the following circumstances exists, and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the State of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

MM AQ-4: Fleet Modernization for Construction Equipment

1. Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards.
2. Idling will be restricted to a maximum of 5 minutes when not in use.
3. Tier Specifications:
   - Prior to December 31, 2011: All offroad diesel-powered construction equipment greater than 50 horsepower (hp) will meet Tier-2 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device.
   - From January 1, 2012, to December 31, 2014: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-3 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device.
   - From January 1, 2015 on: All offroad diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, will meet Tier-4 offroad emission standards, at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-certified Level 3 diesel emissions control device.

The above Tier Specifications measures will be met, unless one of the following circumstances exists, and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the State of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

MM AQ-5: Additional Fugitive Dust Controls.

The calculation of fugitive dust (PM_{10}) from proposed project earth-moving activities assumes a 61% reduction from uncontrolled levels to simulate rigorous watering of the site and use of other measures (listed below) to ensure compliance with SCAQMD Rule 403.

The construction contractor will further reduce fugitive dust emissions to 90% from uncontrolled levels. The construction contractor will designate personnel to monitor the dust control program and to order increased watering, as necessary, to ensure a 90% control level. Their duties will include holiday and weekend periods when work may not be in progress.

The following measures, at minimum, must be part of the contractor Rule 403 dust control plan:

- Active grading sites will be watered one additional time per day beyond that required by Rule 403.
- Contractors will apply approved nontoxic chemical soil stabilizers to all inactive construction areas or replace groundcover in disturbed areas.
- Construction contractors will provide temporary wind fencing around sites being graded or cleared.
- Trucks hauling dirt, sand, or gravel will be covered or will maintain at least 2 feet of freeboard in accordance with Section 23114 of the California Vehicle Code.
- Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site.

- The grading contractor will suspend all soil disturbance activities when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas will be stabilized if construction is delayed.

MM AQ-6: Best Management Practices.

The following types of measures are required on construction equipment (including onroad trucks):

- Use diesel oxidation catalysts and catalyzed diesel particulate traps
- Maintain equipment according to manufacturers' specifications
- Restrict idling of construction equipment to a maximum of 5 minutes when not in use
- Install high-pressure fuel injectors on construction equipment vehicles

LAHD will implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD will determine the BMPs once the contractor identifies and secures a final equipment list and project scope. The LAHD will then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs will be based on Best Available Control Technology (BACT) guidelines and may also include changes to construction practices and design to reduce or eliminate environmental impacts.

MM AQ-7: General Mitigation Measure.

For any of the above mitigation measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port.

MM AQ-8: Special Precautions near Sensitive Sites.

All construction activities located within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals), will notify each of these land uses in writing at least 30 days prior to construction activity.

MM AQ-9: Construction Recycling.

Demolition and/or excess construction materials will be separated on site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of construction materials will be provided on site. Materials with recycled content will be used in project construction. Chippers on site during construction will be used to further reduce excess wood for landscaping cover.

Residual Impacts

During construction, Mitigation Measures MM AQ-1 through MM AQ-5 would lower the maximum daily construction emissions of all criteria pollutants. PM_{10} and $PM_{2.5}$ emissions would be reduced to less-than-significant levels. However, even with mitigation incorporated, NO_X emissions would remain above the threshold and thus would result in a significant and unavoidable impact.

Substantial Effect on Human Populations

Most of these pollutants have adverse human health effects like chronic respiratory disease, effects on pulmonary function, increased infant mortality, cardiovascular and respiratory disease (including asthma), and so on. These adverse health effects may occur disproportionately among minority and low-income populations in the vicinity of the proposed Project as a result of the elevated ambient concentrations in exceedance of SCAQMD thresholds. Thus, Impact AQ-1would have a disproportionately high and adverse impact on the low-income and minority population groups as per the CEQ *Environmental Justice: Guidance under the National Environmental Policy Act* (1997).

Impact AQ-2

Dispersion modeling of construction emissions was performed to assess the impact of the proposed Project on local ambient air concentrations during project construction. The modeling analysis included diesel exhaust emissions from construction equipment, onsite trucks, and tugboats assisting wharf demolition and construction, and fugitive dust emissions from earth disturbance activities. Maximum offsite ambient pollutant concentrations associated with proposed project construction would be significant for NO_2 (1-hour average), PM_{10} (24-hour average), and $PM_{2.5}$ (24-hour average).

Mitigation Measures

Implement Mitigation Measures MM AQ-1 through MM AQ-9

Residual Impacts

With mitigation, maximum offsite ambient pollutant concentrations associated with proposed project construction would remain significant for NO_2 (1-hour average), PM_{10} (24-hour average), and $PM_{2.5}$ (24-hour average). The maximum offsite CO concentrations would remain less than significant.

Substantial Effect on Human Populations

The adverse human health impacts would be similar to the ones described under Impact AQ-1. The residual air quality impacts would be temporary over the life of construction activities, but significant during construction. Therefore, Impact AQ-2 of the proposed Project would result in a disproportionately high and adverse effect on minority and low-income populations.

Impact AQ-3

The proposed Project's unmitigated peak daily operational emissions are not expected to exceed SCAQMD Significance Thresholds for any criteria pollutants in all study years. The unmitigated air quality impacts associated with the proposed Project are expected to be less than significant for all criteria pollutants during all years. However, for 2011 the combined total of construction and operational impacts is expected to be significant for NO_X and PM10, while for 2015, the combined total is expected to be significant for NO_X.

Mitigation Measures

Implement Mitigation Measures MM AQ-1 through MM AQ-9 for construction emissions.

Residual Impacts

After mitigation, emissions of PM_{10} would be reduced to a less-than-significant level. However, NO_X emissions remain significant for year 2011.

Substantial Effect on Human Populations

Because residential areas closest to the proposed project site contain predominantly minority populations and have a concentration of low-income populations, the cited elevated peak daily emissions would constitute a disproportionately high and adverse effect on minority and low-income populations. Potential human health effects would be the same as described under Impact AQ-1.

Impact AQ-7

The proposed Project is located adjacent to an existing power generating station and substantial Port-related activities that generate emissions of diesel particulate matter (DPM) and other toxic air contaminants (TAC). The proposed Project would attract sensitive individuals to a location that most likely has a higher risk than their place of residence; a health risk impact would result. While most visitors would probably receive a relatively slight health risk impact, the possibility exists that a frequent visitor could accumulate a significant long-term cancer or non-cancer impact. The possibility also exists that any visitor could receive a significant short-term (acute)

impact if the visit takes place during a high level of adjacent industrial activity coupled with poor meteorological conditions. Therefore, the proposed Project could expose visitors to significant health risk impacts associated with air pollutants from other sources.

Mitigation Measures

Because the significant impact is an indirect impact associated with emissions from emission sources outside the control of the proposed Project, no additional mitigation measures are proposed.

Residual Impacts

In the short term, the health risk impact on project visitors would remain significant. In the long term, levels of pollution from both Port facilities and all Port-related trucks traveling along Harry Bridges Boulevard will substantially diminish in accordance with the recently approved Clean Air Action Plan (LAHD et al. 2006). . The Ports of Los Angeles and Long Beach have also instituted voluntary programs to reduce DPM emissions from port operations including installation of diesel oxidation catalysts on yard equipment, funding the incremental costs of cleaner fuels, cold-ironing of ocean-going ships, and providing monetary support to the Gateway Cities truck fleet modernization program. In addition, efforts at the state and local level to implement the Diesel Risk Reduction Plan and to fulfill commitments in the SIP will also reduce emissions. Other current regulations and future rules adopted by CARB and EPA also will further reduce air emissions and associated cumulative impacts in the proposed project region (CARB 2006).

Substantial Effect on Human Populations

In short term, the indirect health impacts on park users associated with TAC and DPM like cancer risks associated with the project impacts after mitigation would be significant and unavoidable for significant cancer risk impacts. Furthermore, it is reasonably foreseeable that a large percent of park goers would be from the surrounding communities of Wilmington and San Pedro. Therefore Impact AQ-7 of the proposed Project would result in a disproportionately high and adverse effect on minority and low-income populations.

Impact AQ-9

Both construction- and operation-related GHG emissions are compared to the CEQA baseline emissions for significance determination. The proposed project GHG emissions would be above the CEQA baseline emissions, and therefore would result in a significant impact.

Mitigation Measures

MM AQ-10: 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 outdoor lighting as feasible.
- Limit the hours of operation of outdoor lighting.
- Provide education on energy efficiency.

MM AQ-11: Renewable Energy.

- Require the installation of solar and/or wind power systems, solar and tankless hot water heaters, and energy efficient heating ventilation and air conditioning by Port tenants, where feasible. Educate Port tenants about existing incentives.
- Use combined heat and power in appropriate applications.

MM AQ-12: 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. Install the infrastructure to deliver and use reclaimed water.
- Design buildings to be water-efficient. Install water-efficient fixtures and appliances.
- 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 proposed Project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate.
- Provide education to Port tenants about water conservation and available programs and incentives.

MM AQ-13: 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 in public areas.
- Provide education and publicity about reducing waste and available recycling services.

MM AQ-14: Land Use Measures.

- Incorporate public transit into project design.
- Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.
- Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling, or walking.

MM AQ-15: 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 (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides).
- Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).
- Promote “least polluting” ways to connect people and goods to their destinations.
- Incorporate bicycle lanes and routes into street systems.
- Incorporate bicycle-friendly intersections into street design.
- Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience.
- Create bicycle lanes and walking paths.

Residual Impacts

The proposed project construction-related GHG emissions impact would decrease from its previously less–than-significant level. Operation-related GHG emissions, however, would remain above the CEQA baseline emissions, and therefore would result in a significant and unavoidable impact.

Substantial Effect on Human Populations

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. Even with mitigation, the impacts of the project on GHG would be significant and unavoidable under CEQA. However, because the impacts associated with GHG are global, they would not be disproportionately high on minority and low-income populations, Impact AQ-9 would not result in disproportionately high and adverse effects on minority and low-income populations.

6.4.2.1.2 Geology:

Impact GEO-1a and b

As the proposed project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone soil, there is a substantial risk of seismic impacts such as fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Increased exposure of people and property during construction and project operation to seismic hazards from a major or great earthquake cannot be precluded, even with incorporation of modern construction engineering and safety standards. Therefore, impacts due to seismically induced ground failure would be significant and unavoidable.

Mitigation Measures

There are no mitigation measures available that would reduce impacts below significance.

Residual Impacts

Impacts would be significant and unavoidable.

Substantial Effect on Human Populations

This impact is related to existing buildings and buildings that would be constructed by the proposed Project and is a consequence of the underlying geologic conditions.

This would have a substantial effect on human populations; however, the effect would be limited to the structures erected on the proposed project site and would not result in disproportionately high and adverse effects on minority and low-income populations within the surrounding and nearby communities.

6.4.2.1.3 Noise

Impact NOI-1

Construction activities would typically last more than 10 days in any 3-month period. Based on the thresholds for significance, an impact would be considered significant if noise from these construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use. Using the acoustical center from construction between Harry Bridges Avenue and C Street bound by Broad Street to the east and Lagoon Avenue to the west would raise the noise level approximately 6 dBA above the existing noise environment. Pile driving along the proposed park area would raise the noise levels approximately 11 dBA at the closest sensitive receptor. The construction of the Waterfront Red Car extension could potentially raise noise levels at the closest sensitive receptors along Shields Drive (overlooking Pacific Avenue) by approximately 20 dBA.

Furthermore, the overlap of the Phase 1 operational stage with the Phase 2 construction stage would mean recreational users would be exposed to construction related noise. Thus, impacts on sensitive receptors resulting from construction would remain significant even after mitigation.

Mitigation Measures

MM NOI-1: The following procedures will help reduce noise impacts from construction activities:

Temporary Noise Barriers. When construction occurs within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) will be located between noise-generating construction activities and sensitive receptors where practicable.

Construction Hours. Construction will be limited to between 7:00 a.m. and 9:00 p.m. on weekdays; between 8:00 a.m. and 6:00 p.m. on Saturdays; and there will be no construction equipment noise anytime on Sundays and holidays as prescribed by the City of Los Angeles Noise Ordinance.

Construction Days. Noise-generating construction activities will not occur on weekends or holidays unless critical to a particular activity (e.g., concrete work).

Construction Equipment. All construction equipment powered by internal combustion engines will be properly muffled and maintained.

Idling Prohibitions. Unnecessary idling of internal combustion engines near noise sensitive areas will be prohibited.

Equipment Location. All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise sensitive land uses.

Quiet Equipment Selection. Quiet construction equipment will be selected whenever feasible. Where feasible, noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with.

Notification. Residents within 500 feet to the proposed project site will be notified of the construction schedule in writing.

Residual Impacts

Impacts would be significant and unavoidable.

Substantial Effect on Human Populations

This impact is related to noise generated during construction activities. This impact would have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations. No additional mitigation is feasible.

6.4.2.1.4 Significant and Unavoidable Cumulative Impacts

Some of the impacts on resource areas like air quality (impacts from project construction and operation on regional ambient air quality), biological resources (impacts on sensitive species, natural habitats, special aquatic sites, or plant communities, local biological communities, and marine habitat), cultural resources (impacts on known and unknown prehistoric or historical archaeological resources), and water quality (discharge effects to water and sediment quality) have less-than-significant impacts at the individual project level, but when combined with past, present and reasonably foreseeable future projects, the result is that the proposed project's incremental increase would contribute to a cumulatively considerable and significant impact.

However, impacts related to biological resources, and cultural resources do not have direct human impacts. Thus the cumulatively significant and unavoidable impacts on these resource areas would not result in disproportionately high and adverse effects on minority and low-income populations. The cumulatively significant and unavoidable air quality and water quality impacts due to construction and operations would have regional impacts. At the cumulative level, impacts would be spread out over the region and would not uniquely affect the local population. Thus, regional impacts would not result in disproportionately high and adverse effects on minority and low-income populations because of the greater area affected.

6.4.2.3 Less than Significant After Mitigation

6.4.2.3.1 Biological Resources

Impact BIO-2a

The proposed Project would result in the loss of 0.05 acres of aquatic marine habitat within the Inner Harbor. The loss of this habitat would be considered a significant effect upon aquatic marine resources including EFH for Pacific groundfish and coastal pelagic species that occur in the harbor. This impact would be mitigated in accordance with established interagency mitigation requirements.

Mitigation Measures

MM BIO 1. Debit Inner Harbor Mitigation Bank. The loss of 2,200 square feet (0.05 acres) of Inner Harbor marine habitat would be mitigated by debiting the required credits from the Inner Harbor Mitigation Bank, per the terms and conditions established in the MOU between LAHD, CDFG, NMFS, and USFWS (City of Los Angeles 1984).

Residual Impacts

Impacts would be less than significant.

Substantial Effect on Human Populations

This impact is related to loss of aquatic marine habitat due to the proposed Project prior to mitigation, but after mitigation, the impact would be reduced to a level less than significant. Because the impact would be less than significant and is limited to aquatic marine habitat, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

Impact BIO-5a

Construction of the proposed Project would result in permanent changes to the proposed project area that would increase shading through the addition of 30,000 square feet (0.65-acres) of overwater structures. This change in ambient light would not affect eelgrass, kelp, or other aquatic vegetation or macroalgae, as these are not present. However, the replacement of the existing bulkhead with the sheet pile option would result in the permanent loss of 2,200 square feet (0.05 acres) of marine habitat.

Mitigation Measures

Implement Mitigation Measure MM BIO-1.

Residual Impacts

Impacts would be less than significant.

Substantial Effect on Human Populations

While the proposed Project would result in the permanent loss of marine habitat, but after mitigation, the impact would be reduced to a level less than significant. Because the impact would be less than significant and is limited to marine habitat, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

6.4.2.3.2 Cultural Resources

Impact CR-1

Archival research has indicated that the proposed Avalon Development District is located within the center of the historic community of Wilmington. Therefore, construction activities like excavation and trenching, as well as other ground-disturbing actions, have the potential to temporarily unearth and permanently destroy sensitive historical archaeological resources associated with the early development of Wilmington. Impacts on archaeological resources related to proposed project construction in the Avalon Development District would be significant. Furthermore, should avoidance and incorporation of the Pacific Electric Railway into the proposed project not be determined feasible, impacts on this resource would be considered significant.

Mitigation Measures

MM CR-1: Conduct Future Cultural Resources Studies along the Waterfront Red Car Line Extension Once Determined

Archival research indicates that archaeological resources may be located within the Waterfront Red Car Line proposed project area. According to the records search, **t**wo prehistoric sites (CA-LAn-150 and CA-LAn -283) are located adjacent to the proposed Waterfront Red Car Line location and one archaeological site, CA-LAn-2135H, is located less than ⅛th of a mile from the proposed approximate alignment. In addition, archival and historic map research has indicated the potential for subsurface archaeological deposits associated with the early development of Wilmington within the Avalon Development District and the Waterfront Red Car Line.

The LAHD will ensure that, prior to final design approval for affected parcels, a qualified archaeologist will be retained to perform additional Phase I level archaeological surveys and research to determine the potential for prehistoric and historical archaeological deposits within these portions of the proposed project area in accordance with professional standards and guidelines.

MM CR-2: Incorporate the Tracks into the Design Plan

The proposed Project will incorporate the Pacific Electric Railway tracks into the project design in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Weeks and Grimmer 1995).

MM CR-3: Generate Monitoring/Treatment Plan Prior to Demolition and/or Ground Disturbing Activities

A phased approach to mitigation would reduce any potential impacts to archaeological resources to less-than-significant. Prior to any ground-disturbing activities and/or demolition, a treatment/monitoring plan would be generated. This document would address areas where potentially significant historical archaeological deposits are likely to be located within the proposed commercial portion of the project area. The research design/treatment plan would also include methods for: (1) archaeological monitoring during demolition of existing buildings (2) subsurface testing after demolition and (3) data recovery of archaeological deposits. A detailed historic context that clearly demonstrates the themes under which any identified subsurface deposits would be determined significant would be included in the document as well as anticipated artifact types, artifact analysis, report writing, repatriation of human remains and associated grave goods, and curation.

MM CR-4: Monitor in Vicinity of Government Depot Portion of the Wilmington Waterfront District

Because the Phase I historical resources study (ICF Jones & Stokes 2008) has identified a low potential for historical archaeological deposits associated with a Civil War era Government Depot within a portion of the *Wilmington Waterfront District* and because ground-disturbing activities a could impact potentially CRHR and/or NRHP-eligible historical archaeological deposits , prior to any ground-disturbing activities:

- A monitoring plan be generated that would address areas where potentially significant archaeological deposits are likely to be located within this portion of the project area and clearly demonstrates the themes under which any deposits would be determined significant.
- LAHD will require at least one pre-field meeting with environmental management staff, project engineers, construction contractors, and construction

inspectors to discuss the monitoring protocols and issues related to treatment of identified archaeological resources.

- A qualified archaeologist shall monitor all ground-disturbing activities in the vicinity of the Government Depot within the *Wilmington Waterfront District* portion of the project area. The qualified archaeological monitor will have demonstrated knowledge of, and experience with the treatment of historical archaeological resources.
- Due to potentially hazardous soil conditions associated with the DWP facility (as included in the project description), a safety plan will be generated in conjunction with the LAHD that addresses all issues associated with contamination and remediation. It is further recommended that the qualified archaeological monitor also be 40-hour Hazwoper certified.
- In the event that subsurface deposits are identified during monitoring, ground disturbing activities will halt within 100 feet of the find to allow the qualified archaeologist can assess the find(s) and determine if treatment of the resource(s) is required.

Residual Impacts

With implementation of mitigation measures MM CR-1, MM CR-2, and MM CR-3, impacts on known or suspected archaeological resources would be less than significant.

Substantial Effect on Human Populations

This impact is related to existing historical archaeological resources that would potentially be destroyed by the proposed Project prior to mitigation, but that after mitigation the likelihood of such an occurrence would be reduced to a level less than significant. Because the impact would be less than significant and is limited to archaeological resources, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

Impact CR-2

Based upon archival research and known archaeological resources in the area, it is likely unknown prehistoric and/or historical archaeological resources are contained with the ground. In most cases, implementation of mitigation measures MM CR-1 and MM CR-3 would preclude the potential for a significant impact. However, in the event these mitigation measures do not identify all archaeological resources in the area and construction activities commence, any unidentified resources would have the potential to be destroyed. Impacts on unidentified archaeological resources would be significant.

Mitigation Measures

MM CR-5: Stop Work if Previously Unidentified Resources Are Encountered during Ground Disturbing Activities

In the event that any artifact or an unusual amount of bone, shell, or nonnative stone is encountered during construction, work will be immediately stopped and relocated to another area. The contractor will stop construction within 100 feet of the exposed resource until a qualified archaeologist can be retained by the Port to evaluate the find (see 36 CFR 800.11.1 and CCR, Title 14, Section 15064.5(f)). Examples of such cultural materials might include concentrations of ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; historic trash pits containing bottles and/or ceramics; or structural remains. If the resources are found to be significant, they will be avoided or will be mitigated consistent with SHPO Guidelines. All construction equipment operators will attend a preconstruction meeting presented by a professional archaeologist retained by the Port that will review types of cultural resources and artifacts that would be considered potentially significant, to ensure operator recognition of these materials during construction.

Prior to beginning construction, the Port will meet with applicable Native American Groups, including the Gabrieliño/Tongva Tribal Council to identify areas of concern. In addition to monitoring, a treatment plan will be developed in conjunction with the Native American Groups to establish the proper way of extracting and handling all artifacts in the event of an archaeological discovery.

Residual Impacts

Implementation of mitigation measures MM CR-1 for the program-level portions of the proposed project and MM CR-5 for the project-level portions of the proposed project would reduce impacts to less than significant.

Substantial Effect on Human Populations

This impact is related to unknown prehistoric and/or historical archaeological resources that would potentially be destroyed by the proposed Project prior to mitigation, but that after mitigation the likelihood of such an occurrence would be reduced to a level less than significant. Because the impact would be less than significant and is limited to archaeological resources, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

Impact CR-3

While the possibility of encountering unidentified buried human remains is low, the possibility cannot be ruled out. Impacts related to the possible disturbance, damage, or degradation of unknown human remains would be significant.

Mitigation Measures

Implement MM CR-1, MM CR-3, and MM CR-5.

Residual Impacts

Impacts would be less than significant.

Substantial Effect on Human Populations

This impact is related to unidentified buried human remains that would potentially be destroyed by the proposed Project prior to mitigation, but that after mitigation the likelihood of such an occurrence would be reduced to a level less than significant. Because the impact would be less than significant after mitigation, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

Impact CR-4

The geologic assessment and literature review demonstrate that excavation in association with development of the proposed Project has the potential to impact significant nonrenewable fossil resources. Excavation into undisturbed geologic deposits underlying the proposed project area, which include Quaternary alluvium, non-marine terrace deposits, Pleistocene-age marine deposits of Palos Verdes Sand, Pleistocene-age offshore marine deposits of San Pedro Sand, and Timms' Point Silt, would potentially impact fossil resources.

Mitigation Measures

MM CR-6: Develop a Program to Mitigate Impacts on Nonrenewable Paleontologic Resources prior to Excavation or Construction of any Proposed Project Components.

This mitigation program will be conducted by a qualified vertebrate paleontologist and will be consistent with the provisions of CEQA, as well as the proposed guidelines of the Society of Vertebrate Paleontology. This program will include, but not be limited to:

1. Assessment of site-specific excavation plans to determine areas that will be designated for paleontological monitoring during initial ground disturbance.

2. Development of monitoring protocols for these designated areas. Areas consisting of artificial fill materials will not require monitoring. Paleontologic monitors qualified to Society of Vertebrate Paleontology standards will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if some of the potentially fossiliferous units described herein are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources.
3. Preparation of all recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts on the resources.
4. Identification and curation of all specimens into an established, accredited museum repository with permanent retrievable paleontologic storage. These procedures are also essential steps in effective paleontologic mitigation and CEQA compliance (Scott and Springer 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts on significant paleontologic resources is not considered complete until such curation into an established museum repository has been fully completed and documented.
5. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts on paleontologic resources.

Residual Impacts

Implementation of mitigation measure MM CR-5 by a qualified vertebrate paleontologist would reduce impacts to less-than-significant levels.

Substantial Effect on Human Populations

This impact is related to existing buried cultural and fossil resources that would potentially be destroyed by the proposed Project prior to mitigation, but that after mitigation the likelihood of such an occurrence would be reduced to a level less than significant. Because the impact would be less than significant and is limited to buried resources, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

6.4.2.3.3 Ground Water and Soils

Impact GW-1a

Grading and construction could potentially expose construction personnel, existing operations personnel, and Phase 1 recreational users to contaminated soil, toxic plumes, or contaminated water. Grading and construction activities may also encounter previously unidentified underground storage tanks (USTs), hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes. Additionally, demolition of structures built prior to 1980 may result in the exposure of the public and/or the environment to asbestos containing materials (ACMs) and/or lead based paint (LBP). Human health and safety impacts would be significant pursuant to exposure levels established by CalEPA's Office of Environmental Health Hazard Assessment (OEHHA).

Mitigation Measures

MM GW-1. Preparation of a Soil Management Plan or Phase II Environmental Site Assessment. LAHD will prepare a soil management plan prior to construction and will implement it during all phases of construction. Disturbed soils will be monitored for visual evidence of contamination (e.g., staining or discoloration). Soil will also be monitored for the presence of VOCs using appropriate field instruments such as organic vapor measurement with photoionization detectors or flame ionization detectors. If the monitoring procedures indicate the possible presence of contaminated soil, a contaminated soil contingency plan will be implemented and will include procedures for segregation, sampling, and chemical analysis of soil. Contaminated soil will be profiled for disposal and will be transported to an appropriate hazardous or non-hazardous waste or recycling facility licensed to accept and treat the type of waste indicated by the profiling process. The contaminated soil contingency plan will be developed and in place during all construction activities. If these processes generate any contaminated groundwater that must be disposed of outside of the dewatering/NPDES process, the groundwater will be profiled, manifested, hauled, and disposed of in the same manner.

Alternatively, preparation of a Phase II ESA will be prepared. In general, the Phase II ESA will include the following:

- A work plan that includes the number and locations of proposed soil/monitoring wells, sampling intervals, drilling and sampling methods, analytical methods, sampling rationale, site geohydrology, field screening methods, quality control/quality assurance, and reporting methods. Where appropriate, the work plan is approved by a regulatory agency such as the LAFD or the RWQCB.
- A site-specific health and safety plan signed by a Certified Industrial Hygienist.
- Necessary permits for encroachment, boring completion, and well installation.

- A traffic safety plan.
- Sampling program (fieldwork) in accordance with the work plan and health and safety plan. Fieldwork is completed under the supervision of a State of California registered geologist.
- Hazardous materials testing through a state-certified laboratory.
- Documentation including a description of filed procedures, boring logs/well construction diagrams, tabulations of analytical results, cross-sections, an evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the environmental condition of the site and the need for further assessment. Recommendations may include additional assessment or handling of the contaminants found though the contaminated soil contingency plan. If the contaminated soil contingency plan is inadequate for the contamination found, a remedial action plan will be developed. Contaminated groundwater will generally be handled through the NPDES/dewatering process.
- Disposal process including transport by a state-certified hazardous material hauler to a state-certified disposal or recycling facility licensed to accept and treat the identified type of waste.

MM GW-2: Site Remediation. Unless otherwise authorized by the lead regulatory agency for any given site, LAHD will remediate all contaminated soils within proposed project boundaries prior to or during demolition and grading activities. Remediation will occur in compliance with local, state, and federal regulations as described in Section 3.6.3 and as directed by the LACFD, DTSC, and/or RWQCB.

Soil remediation will be completed such that contamination levels are below health screening levels established by OEHHA of CalEPA and/or applicable action levels established by the lead regulatory agency with jurisdiction over the site. Soil contamination waivers may be acceptable as a result of encapsulation (i.e., paving) in upland areas and/or risk-based soil assessments, but would be subject to the discretion of the lead regulatory agency.

Existing groundwater contamination throughout the proposed project boundary will continue to be monitored and remediated, simultaneous and/or subsequent to site redevelopment, in accordance with direction provided by the RWQCB.

Unless otherwise authorized by the lead regulatory agency for any given site, areas of soil contamination that will be remediated prior to or in conjunction with proposed project demolition, grading, and construction will include, but not be limited to, the properties within and adjacent to the proposed Project as listed in the HMA and filed as Appendix F of this EIR.

MM GW-2a: Remediate Former Oil Wells in the Industrial District (Area A), Waterfront District (Area B), and within the Immediate Vicinity of the Waterfront Red Car Line/CCT (Area C). Locate the well using geophysical or other methods. Contact the Division of Oil, Gas, and Geothermal Resources

(DOGGR) to review abandonment records and inquire whether re-abandonment is necessary prior to any future construction related to the proposed project. Implement corrective measures as directed by DOGGR. Successful site remediation will require compliance with MM GW-2.

MM GW-2b: Remediate Soil along Existing and Former Rail Lines. Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum hydrocarbons, and metals. Successful site remediation will require compliance with MM GW-2.

MM GW-2c: Health Based Risk Assessment for the Marine Tank Farm. LAHD will prepare a HBRA to determine whether remediation of soil and/or groundwater is needed at the Marine Tank Farm site and, if so, determine the appropriate work plan to ensure the site would comply with applicable local, state, and federal laws. Successful site remediation will require compliance with MM GW-2.

MM GW-3: Contamination Contingency Plan for Non-Specific Facilities and Unidentified Sources of Hazardous Materials. The following will be implemented to address previously unknown contamination during demolition, grading, and construction:

a) All trench excavation and filling operations will be observed for the presence of free petroleum products, chemicals, or contaminated soil. Deeply discolored soil or suspected contaminated soil will be segregated from light colored soil. In the event unexpected suspected chemically impacted material (soil or water) is encountered during construction, the contractor will notify LAHD's Chief Harbor Engineer, the Director of Environmental Management, and Risk Management's Industrial Hygienist. LAHD will confirm the presence of the suspect material; direct the contractor to remove, stockpile, or contain the material; and characterize the suspect material identified within the boundaries of the construction area. Continued work at a contaminated site will require the approval of the Chief Harbor Engineer.

b) A photoionization detector (or other similar devices) will be present during grading and excavation of suspected chemically impacted soil.

c) Excavation of VOC-impacted soil will require obtaining and complying with a SCAQMD Rule 1166 permit.

d) The remedial option(s) selected will be dependent upon a number of criteria (including but not limited to types of chemical constituents, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and will be determined on a site-specific basis. Both off-site and onsite remedial options will be evaluated.

e) The extent of removal actions will be determined on a site-specific basis. At a minimum, the chemically impacted area(s) within the boundaries of the construction area will be remediated to the satisfaction of the lead regulatory

agency for the site. The LAHD Project Manager overseeing removal actions will inform the contractor when the removal action is complete.

f) Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials will be submitted to the Chief Harbor Engineer within 30 days of project completion.

g) In the event that contaminated soil is encountered, all onsite personnel handling or working in the vicinity of the contaminated material will be trained in accordance with Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that "general site workers" will receive a minimum of 40 hours of classroom training and a minimum of 3 days of field training. This training provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place.

h) In cases where potential chemically impacted soil is encountered, a real-time aerosol monitor will be placed on the prevailing downwind side of the impacted soil area to monitor for airborne particulate emissions during soil excavation and handling activities.

i) All excavations will be filled with structurally suitable fill material that is free from contamination.

j) Prior to dewatering activities, LAHD will obtain a NPDES permit. In areas of suspected contaminated groundwater, special conditions will apply with regard to acquisition of the NPDES permit, including testing and monitoring, as well as discharge limitations under the NPDES permits.

k) Soil along and immediately adjacent to existing and former rail lines that will be disturbed during construction will be assessed for the presence of herbicides, petroleum hydrocarbons, and metals.

l) Demolition of chemical/fuel storage facilities will include decommissioning and removal of USTs and ASTs in accordance with local and state regulatory agencies. These agencies will likely require soil and groundwater sampling. This sampling will be conducted in accordance with local and state regulatory agency requirements.

m) Prior to construction activities, LAHD, or its contractors, will conduct an evaluation of all buildings (built prior to 1980) to be demolished to evaluate the presence of asbestos-containing building materials and lead-based paint. Remediation will be implemented in accordance with the recommendations of these evaluations.

Residual Impacts

Impacts would be less than significant.

Substantial Effect on Human Populations

This impact is related to existing contamination on-site that may pose a risk to construction workers and nearby industrial operations personnel prior to mitigation, but that after mitigation these risks would be reduced to a level less than significant. Because the impact would be less than significant, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

Impact GW-2a

Grading and construction in upland areas could inadvertently **spread contaminated soil to non-contaminated areas, thus potentially exposing construction personnel, existing operations personnel, and future occupants of the site to contaminants. Human health and safety impacts would be significant pursuant to exposure levels established by OEHHA.**

Mitigation Measures

Implement Mitigation Measures MM GW-1, MM GW-2, and MM GW-3

Residual Impacts

Impacts would be less than significant.

Substantial Effect on Human Populations

This impact is related to existing contamination on-site that may pose a risk to construction workers and nearby industrial operations personnel prior to mitigation, but that after mitigation these risks would be reduced to a level less than significant. Because the impact would be less than significant, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

6.4.2.3.4 Transportation

Impact TC-1a

Proposed project construction would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures. The exact locations and extents of construction impacts will not be known until detailed construction timing and phasing plans are developed. The following impacts would result from the proposed Project.

- Reduced roadway capacity and an increase in construction-related congestion would result in temporary localized increases in traffic congestion that exceed applicable LOS standards.
- Construction activities would disrupt existing transit service in the proposed project vicinity. Impacts may include temporary route detours, reduced or no service to certain destinations, or service delays.
- Construction activities would increase parking demand in the proposed project vicinity and may result in parking demand exceeding the available supply.
- Construction activities would disrupt pedestrian and bicycle travel. Impacts include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and interfere with safe travel.
- Construction activities would increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

Mitigation Measures

MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction. In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City and County engineers) before construction. The traffic control plan will include:

- a street layout showing the location of construction activity and surrounding streets to be used as detour routes, including special signage;
- a tentative start date and construction duration period for each phase of construction;
- the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and
- written approval to implement traffic control from other agencies, as needed.

Additionally, the traffic control plan will include the following stipulations:

- provide access for emergency vehicles at all times;
- avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day;
- maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified;
- provide adequate off-street parking areas at designated staging areas for construction-related vehicles;

- maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway;
- utilize flag persons wearing OSHA–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity;
- maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured;
- post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area;
- post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the construction area;
- during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff's and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary;
- provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and
- repair or restore the road right-of-way to its original condition or better upon completion of the work.

Residual Impacts

Impacts would be less than significant.

Substantial Effect on Human Populations

This impact is related to construction traffic generated from truck and other vehicular traffic associated with construction worker commutes, transport and staging of construction equipment, transport of construction materials to the construction site, and hauling excavated and demolished materials away from the site. Because the impact would be less than significant after mitigation, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

Impact TC-2a

The projected increases in intersection V/Cs in project vicinity resulting from proposed project–generated traffic are not expected to exceed the adopted thresholds. Thus, impacts through 2015 are less than significant. However, projected increases in intersection V/Cs resulting from proposed project–generated traffic are expected to exceed the adopted threshold at one intersection of Avalon Boulevard and Anaheim Street in 2020 in the PM peak hour. This impact is identified as significant.

Mitigation Measures

MM TC-2: Reconfigure the southbound approach of Avalon Boulevard at the intersection of Avalon Boulevard and Anaheim Street. Prior to the initiation of Phase II construction, LAHD will add a right-turn lane in the southbound direction. Currently the southbound approach consists of one through/left-turn lane and one through/right-turn lane. The mitigation will result in one right-turn lane, one through lane, and one through/left-turn lane. This proposed mitigation will require the removal of two metered parking spaces along Avalon Boulevard to allow for the right-turn lane and the restriping of the northbound approach to properly align with the reconfigured southbound approach. A conceptual drawing illustrating the feasibility of this mitigation is provided in Figure 12 of the traffic report prepared for this project (Appendix I).

Residual Impacts

After mitigation, impacts would be less than significant.

Substantial Effect on Human Populations

This impact is related to deterioration intersection operation conditions prior to mitigation, but after mitigation the impact would be reduced to a level less than significant. Because the impact would be less than significant, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

6.4.2.3.5 Utilities

Impact UT-1:

Based on the estimated wastewater flows and the current flow capacity of the existing sewer lines, the existing sewer system would not be able to accommodate the total flow from the proposed Project. This would be a significant impact on the existing conveyance system.

Mitigation Measures

MM UT-1: Secondary Sewer Line Installation. Once the design and utility connections are finalized, LAHD will build a secondary sewer line of sufficient capacity to support the nearest, largest sewer line. The construction of the secondary sewer line would be carried out within public right-of-way or existing City streets. This line will comply with the City's municipal code, and will be built under permit by the City Bureau of Engineering. Effects of secondary line construction would include would include lane closures and affect access to commercial and industrial establishments and other land uses in the proposed project vicinity. The impacts would be temporary and for a short duration, and any customers affected would be forewarned with notices. Impacts would be less than significant.

Residual Impacts

Impacts would be less than significant.

Substantial Effect on Human Populations

This impact is related to the capacity of the sewer infrastructure. Prior to mitigation, inadequate sewer facilities would exist; however, after mitigation adequate sewer infrastructure would be provided to the proposed Project. Because the impact would be less than significant, this would not have a substantial effect on human populations such that the effect would result in disproportionately high and adverse effects on minority and low-income populations.

6.4.2.4 Disproportionately High and Adverse Effects on Minority and Low-Income Populations

This section provides a summary of impacts that would be significant even after mitigation that would cause disproportionately high and adverse effects on minority and low-income populations.

Construction activities of the proposed project would result in temporary generation of emissions of CO, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. The maximum offsite ambient pollutant concentrations associated with proposed project construction would be significant for NO_2 (1-hour average), PM_{10} (24-hour average), and $PM_{2.5}$ (24-hour average). Additionally, for 2011 the combined total of construction and operational impacts is expected to be significant for NO_X and PM10, while for 2015, the combined total is expected to be significant for NO_X. The proposed Project would attract sensitive individuals to a location that most likely has a higher risk of exposure to diesel particulate matter (DPM) and other toxic air contaminants (TAC) due to existing power generating station and substantial Port-related activities than their place of residence; a health risk impact would result. Therefore, the proposed Project could expose visitors and residents to significant health risk impacts like

chronic respiratory disease, effects on pulmonary function, increased infant mortality, cardiovascular and respiratory disease (including asthma), and so on. Because the residential areas closest to the proposed project site contain predominantly minority populations and have a concentration of low-income populations, these adverse health effects may occur disproportionately among minority and low-income populations in the vicinity of the proposed project.

The proposed Project would result in increased exposure of people and property during construction and operations to seismic hazards from a major or great earthquake. Although some of the park users and proposed project employees would be low-income and/or minority, in the case of a natural phenomenon such as seismic activity the impacts would be equally borne by all persons present at the proposed project site. Therefore, Impacts GEO-1a and b would not result in disproportionately high and adverse effects on minority or low-income populations.

Most of the construction noise impacts would be localized and would only affect those residential areas closest to the proposed project site. These areas contain predominantly minority populations and have a concentration of low-income populations, so Impact NOI-1 would have a disproportionately high and adverse impact on the low income and minority population groups.

Significant and unavoidable air quality and noise impacts would constitute disproportionately high and adverse effects on minority and low-income populations. All other resource impacts would either be less than significant or if significant, would be limited to the proposed Project site, would not affect the public, would be mitigated to less than significant, or would otherwise not be disproportionately high and adverse effects on minority and low-income populations.

6.4.2.5 Beneficial Impacts

Under Executive Order 12898, offsetting benefits should also be considered by decision-makers when a project would result in disproportionately high and adverse effects. The intent of the proposed Project is to improve the livability of the area by providing new open spaces, enhancing commercial/retail areas in Wilmington and along the waterfront, and improving the connectivity of the Wilmington community with the waterfront.

The proposed Project would create economic benefits in the form of jobs and revenue (see Chapter 7, “Socioeconomics and Environmental Quality”). In addition, the proposed Project would improve existing views and create opportunities for new views within the landscape by constructing new attractive features such as the elevated park and land bridge, and enhancements along the waterfront and along the industrial/commercial corridor in the southern portion of the Wilmington community, which includes the proposed Railroad Green Park (see Section 3.1, “Aesthetics and Visual Resources”). Also, if contaminated soils are encountered during construction,

site remediation would result in beneficial impacts (see Section 3.6, "Groundwater and Soils").

6.5 Public Outreach

CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on them. The purpose of this draft EIR is to inform agencies and the public of significant environmental effects associated with the proposed Project, to describe and evaluate reasonable alternatives to the proposed Project, and to propose mitigation measures that would avoid or reduce the significant effects of the proposed Project.

LAHD goes to considerable effort to provide public outreach, beyond what is minimally required by CEQA. All Notices of Preparation/Initial Studies (NOPs/ISs) and draft EIRs are presented at public meetings at locations and times convenient for the affected community.

Notification of availability of documents is extensive and utilizes a variety of media. CEQA notices are placed in five newspapers: the *Los Angeles Times*, *Daily Breeze*, *La Opinion*, *Long Beach Press Telegram*, and *Random Lengths*. Meeting notices are sent to all active community organizations and to anyone who has requested to be on the LAHD CEQA mailing list. Postcards noticing a document and any public meetings also are sent to all San Pedro and Wilmington addresses. A free copy of documents is provided to community organizations.

The LAHD also consults with affected community groups through the PCAC, a special stakeholder advisory committee of the Los Angeles Board of Harbor Commissioners. This committee, which meets monthly, includes representatives from a number of community groups. The PCAC also has subcommittees and focus groups that address a broad range of environmental issues, including studies on those impacts that might result in disproportionate impacts on relevant populations.

The NOP was issued on March 14, 2008, and mailed to all stakeholders, including elected officials, residents, businesses, Port of Los Angeles tenants, and other community based organizations. The NOP scoping period occurred between March 14, 2008, and April 14, 2008. A public scoping meeting was held on Tuesday, March 25, 2008.

The following is a timeline of the noticing and public involvement that has happened to date within the environmental review process for the proposed Project:

- **January 8, 2008**. LAHD staff and Sasaki Associates provide an update on the planning design for the proposed Project to the PCAC Wilmington Waterfront Development Subcommittee.

- **February 12, 2008**. LAHD staff provided an updated on the progress and impending release of the NOP to the PCAC Wilmington Waterfront Development Subcommittee.
- **March 14, 2008**. The CEQA NOP and IS were released and distributed to over 600 agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The State Clearinghouse assigned the following State Clearinghouse Number to the proposed Project: 2008031065. An Executive Summary of the NOP was translated into Spanish and included in the distribution. Over 70,000 postcards were distributed notifying the public of the date of the scoping meeting and the term of the comment period. Notice of the comment period and meeting was also posted in five local newspapers and 2000 flyers were distributed.
- **March 14, 2008.** The NOP was also filed with the Los Angeles City Clerk and the Los Angeles County Clerk.
- **March 25, 2008**. A public scoping meeting was held at Banning's Landing Community Center in Wilmington, CA. Thirteen people at the meeting provided written or oral comments on the proposed Project. Spanish translation services were made available at the meeting. A transcript of the meeting was posted on the LAHD's website.
- **April 8, 2008.** LAHD staff provided an update to the PCAC Wilmington Waterfront Development Subcommittee regarding the level of public outreach in distributing the NOP, comments heard at the public scoping meeting, and the next steps in preparing the draft EIR.
- **April 14, 2008**. The comment period ended. Fourteen comment letters were received during the scoping period. Copies of the letters were posted on the LAHD's website.
- **July 7, 2008**. LAHD staff provided an update to the PCAC Wilmington Waterfront Development Subcommittee regarding the progress of the draft EIR. The traffic, hazards, land use, and air quality analysis were still in process.
- **August 12, 2008.** LAHD staff provided an update on the project design and progress of the draft EIR to the PCAC Wilmington Waterfront Development Subcommittee. The air quality and traffic analysis was complete, but there were still some outstanding issues related to land use and hazards. Sustainable project design components were also discussed.
- **October 14, 2008.** LAHD staff announced to the PCAC Wilmington Waterfront Development Subcommittee plans to release the draft EIR in November. Public art for the Wilmington Waterfront Development Program was also discussed.

6.5.1 Alternative Forms of Distribution

The draft EIR for the proposed Project has been distributed directly to numerous agencies, organizations, and interested groups and persons for comment during the formal review period. The draft EIR also has been made available for review at the LAHD, Environmental Management Division, and at three Los Angeles public library branches: Central, San Pedro, and Wilmington. In addition to the printed copies, the draft EIR is available in electronic format on the LAHD website, at: http://www.portoflosangeles.org/Environmental/publicnotice.htm, and is available at no cost on CD-ROM.

6.5.2 Spanish Translation

With a large Hispanic population adjacent to the Port, meeting notifications and executive summaries of major CEQA documents will be provided in Spanish as well as English. The Executive Summary of this draft EIR is available in a Spanish translation in order to keep Spanish-speaking members of the local community informed as to the purpose of the draft EIR, project overview, project description, environmental impacts, alternatives to the proposed Project, areas of controversy, and issues to be resolved.

The LAHD also provides an interpreter at public meetings, where required, and publishes its regular community newsletter, *The Main Channel*, in both English and Spanish.

7.0

SOCIOECONOMICS AND ENVIRONMENTAL QUALITY

7.1 Introduction

This chapter describes the socioeconomic character of the local area near the Port and the larger Southern California region in terms of employment and earnings, population, housing (including residential property values), and the influence that the Port has played on neighboring communities. Complementary information regarding environmental quality is presented in Section 3.8, "Land Use." As discussed in this chapter, permanent employment generated by the proposed Project's operation would be 336 jobs by the year 2020. This increase amounts to less than 1% of the total regional employment increase.

7.2 Environmental Setting

The environmental setting includes existing or baseline conditions and describes attributes of the human and built environment (including infrastructure) in the vicinity of the Port and within the larger region of Southern California. For the purposes of this analysis and as used in this section, Southern California refers to a five-county region that includes the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura (i.e., Imperial and San Diego Counties are excluded).

7.2.1 Socioeconomics

Socioeconomics encompasses a number of topical areas including employment and income, population, and housing. Within each of these areas, sub-topics are addressed, including an examination of conditions at different geographical scales that have relevance to the potential impacts associated with implementation of the proposed Project.

7.2.1.1 Employment and Income

Existing conditions with regard to employment and income are described from a number of perspectives including:

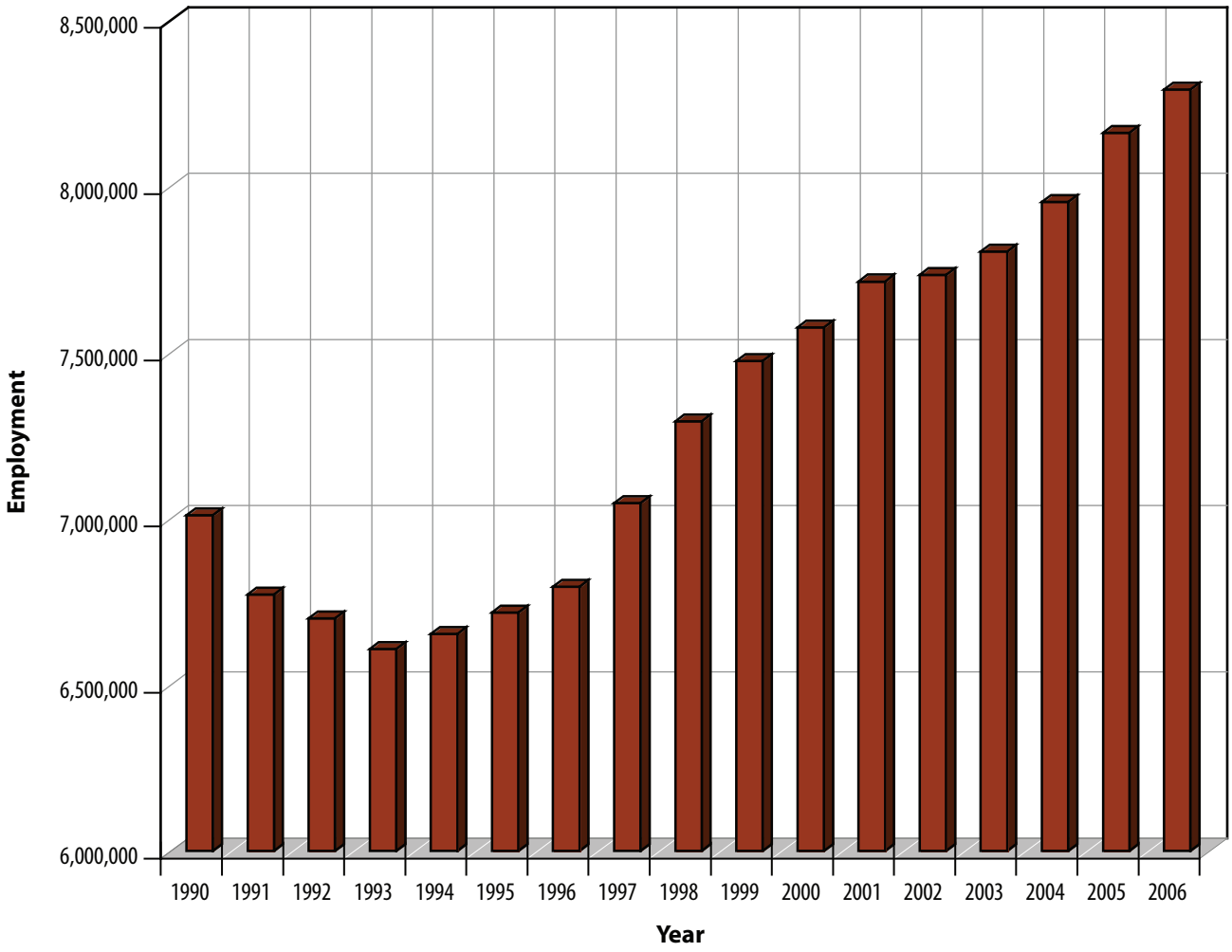
- conditions at the regional level (the five-county region within Southern California as identified above);
- the role of the Port; and
- conditions at the county and local level (small geographic areas in the vicinity of the Port, including Wilmington, San Pedro, Carson, and Harbor City.).

7.2.1.1.1 Southern California

Between 1990 and 2006 employment in Southern California increased by almost one million jobs at an average annual rate of 0.9% (see Figure 7-1). Examination of the information presented in Table 7-1 illustrates the manner in which this growth varied geographically. The greatest increase in number of employees over the 16-year period (346,500 jobs) occurred in Orange County, whereas the largest percentage increase in employment occurred in Riverside County (94.1%). Employment in Riverside County grew at an annual average rate of 5.9%. San Bernardino County experienced the next greatest percentage increase in employment (250,500 jobs) for a 60.6% increase. Los Angeles County experienced an employment decrease of 49,300 jobs, which when compared to the base of almost 4,149,500 jobs in 1990, registered a decrease of 1.2% over the 16-year period (CEDD 2007).

Based on projections prepared by SCAG, employment in Southern California will continue to expand, especially in Riverside and San Bernardino Counties (see Table 7-2). These two counties are anticipated to experience growth rates of two and three times those of Los Angeles, Orange, and Ventura Counties. Of the selected cities in Los Angeles County for which information is presented in Table 7-1, Lakewood and Signal Hill are expected to see their employment base expand more rapidly than that of the County. Unemployment levels in the counties of Southern California have mirrored closely the cyclical pattern of that of the State of California (see Figure 7-2). Unemployment rose steeply in the early 1990s. This rise was associated with the reduction in military spending (especially in the aerospace industry) at the end of the Cold War. Rates peaked in 1993 and then fell gradually throughout the remaining 1990s with the rebound of the economy buoyed by the surge in activity in the computer software industry and the residential construction boom. Following this period, unemployment rates rose for a few years before moving downwards again.

Throughout these cycles, unemployment rates in Orange County were consistently lower than those in the other counties of Southern California as well as the state (see Table 7-3).



Source: California Employment Development Department, Labor Market Information Division, 2007.

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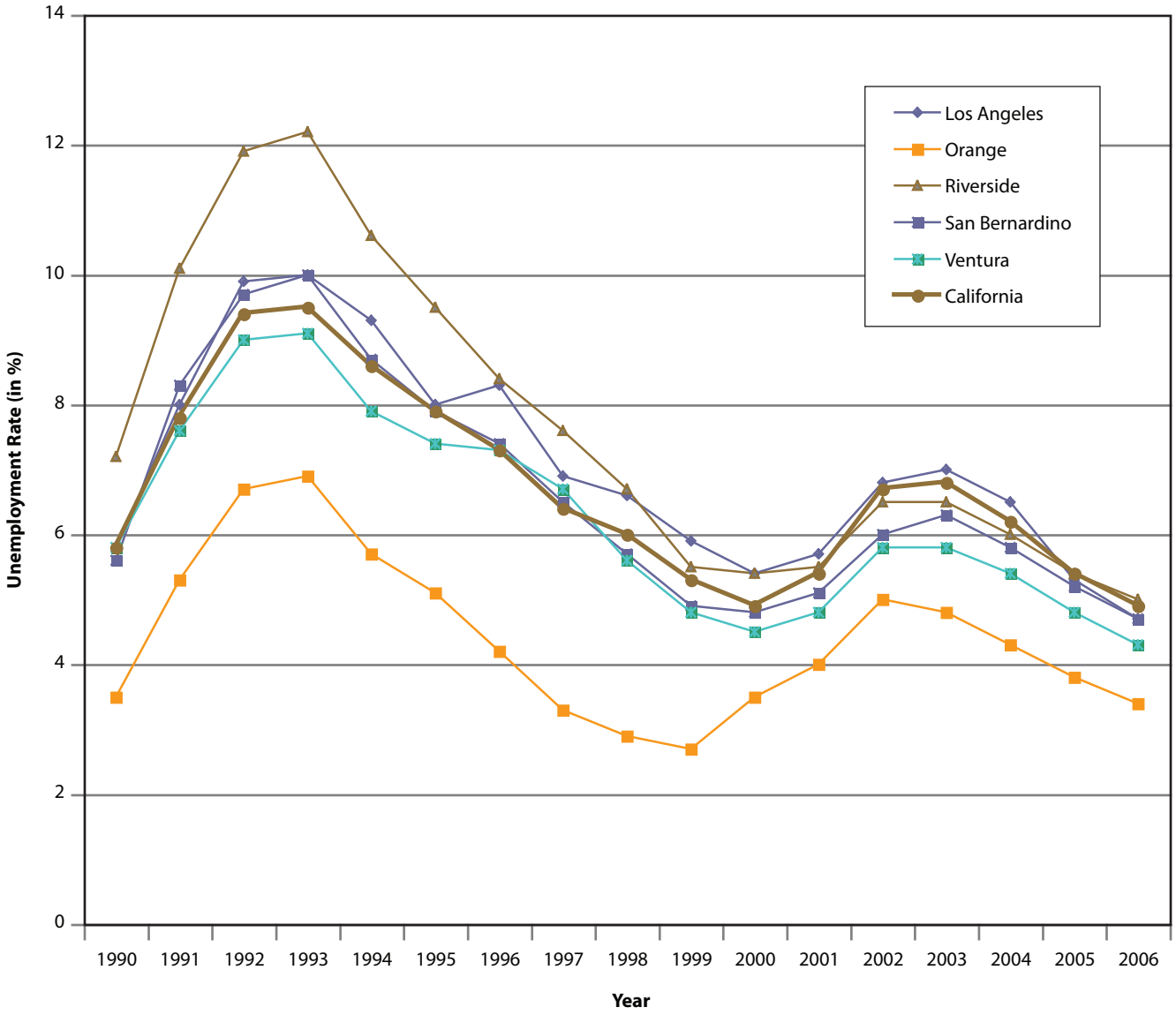
Figure 7-1
Employment in 5-County Southern California Region (1990-2006)



Source: California Employment Development Department, Labor Market Information Division, 2007.

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Figure 7-2
Unemployment Rate for State and Counties (1990-2006)

Table 7-1. Total Employment (Farm and Nonfarm) by County (1990–2006)

Year	*Los Angeles*	*Orange*	*Riverside*	*San Bernardino*	*Ventura*	*SCAG Region*
1990	4,149,500	1,179,000	321,700	413,400	247,000	6,310,600
1991	3,992,600	1,150,800	322,700	418,900	246,000	6,131,000
1992	3,813,600	1,133,200	325,800	425,700	244,100	5,942,400
1993	3,716,800	1,122,700	332,000	423,800	245,000	5,840,300
1994	3,710,400	1,133,800	341,500	431,300	251,100	5,868,100
1995	3,754,500	1,158,000	355,300	446,400	254,300	5,968,500
1996	3,795,700	1,191,000	366,300	458,500	255,300	6,066,800
1997	3,872,000	1,240,700	388,400	474,800	260,000	6,235,900
1998	3,951,200	1,305,700	412,200	491,600	270,000	6,430,700
1999	4,010,200	1,352,200	441,600	518,700	281,100	6,603,800
2000	4,079,800	1,396,500	466,500	543,600	294,300	6,780,700
2001	4,082,000	1,420,800	484,300	566,400	299,000	6,852,500
2002	4,034,600	1,411,000	508,900	575,900	301,000	6,831,400
2003	3,990,800	1,436,200	529,600	589,900	304,400	6,850,900
2004	3,999,700	1,463,400	557,400	621,300	306,900	6,948,700
2005	4,031,600	1,496,500	593,100	647,100	313,700	7,082,000
2006	4,100,200	1,525,500	624,500	663,900	320,700	7,234,800
Change 1990–2006						
Number	-49,300	346,500	302,800	250,500	73,700	924,200
Percent	-1.2	29.4	94.1	60.6	29.8	14.6
Average Annual Percent	-0.1	1.8	5.9	3.8	1.9	0.9
Source: California Employment Development Department, Labor Market Information Division (2007)						

Table 7-2. Employment Projections (2005–2020)

Area	2005	2010	2015	2020	Change (2005–2020) Numeric	Change (2005–2020) Percent	Change (2005–2020) Average Annual Percent
Southern California (5-County Region)	**7,712,876**	**8,276,240**	**8,718,452**	**9,076,942**	**1,364,066**	**17.69**	**1.18**
Counties							
Los Angeles	4,397,025	4,552,398	4,675,875	4,754,731	357,706	8.14	0.54
Orange	1,615,936	1,755,167	1,837,771	1,897, 352	281,416	17.42	1.16
Riverside	650,319	784,998	911,381	1,042,145	391,826	60.25	4.02
San Bernardino	704,239	810,233	897,489	965,778	261,539	37.14	2.48
Ventura	345,357	373,444	395,936	416,936	71,579	20.73	1.38
Cities							
Los Angeles	1,764,768	1,820,092	1,864,061	1,892,039	127,271	7.21	0.48
Carson City	51,937	52,616	53,155	53,499	1,562	3.01	0.20
Palos Verdes Estates	3,447	3,560	3,649	3,706	259	7.51	0.50
Rancho Palos Verdes	6,191	6,406	6,577	6,686	495	8.00	0.53
Redondo Beach	30,079	30,586	30,989	31,246	1,167	3.88	0.26
Rolling Hills	476	490	502	509	33	6.93	0.46
Rolling Hills Estates	3,786	3,897	3,984	4,040	254	6.71	0.45
Torrance	104,992	107,277	109,092	110,252	5,260	5.01	0.33
Lakewood	17,000	17,606	18,088	18,396	1,396	8.21	0.55
Long Beach	180,842	185,938	189,987	192,573	11,731	6.49	0.43
Signal Hill	11,822	12,085	12,294	15,211	3,389	28.67	1.91

Source: SCAG (2008)

Table 7-3. Unemployment Rate (%) by County (1990–2006)

Year	County					California
	Los Angeles	Orange	Riverside	San Bernardino	Ventura	
1990	5.8	3.5	7.2	5.6	5.8	5.8
1991	8	5.3	10.1	8.3	7.6	7.8
1992	9.9	6.7	11.9	9.7	9	9.4
1993	10	6.9	12.2	10	9.1	9.5
1994	9.3	5.7	10.6	8.7	7.9	8.6
1995	8	5.1	9.5	7.9	7.4	7.9
1996	8.3	4.2	8.4	7.4	7.3	7.3
1997	6.9	3.3	7.6	6.5	6.7	6.4
1998	6.6	2.9	6.7	5.7	5.6	6
1999	5.9	2.7	5.5	4.9	4.8	5.3
2000	5.4	3.5	5.4	4.8	4.5	4.9
2001	5.7	4	5.5	5.1	4.8	5.4
2002	6.8	5	6.5	6	5.8	6.7
2003	7	4.8	6.5	6.3	5.8	6.8
2004	6.5	4.3	6	5.8	5.4	6.2
2005	5.3	3.8	5.4	5.2	4.8	5.4
2006	4.7	3.4	5	4.7	4.3	4.9

Source: California Employment Development Department, Labor Market Information Division (2007)

As mentioned above, jobs have decreased in Los Angeles County over the period of 1990–2006 (see Table 7-4). The loss of jobs in Natural Resources and Mining, Manufacturing, and Federal Government sectors have led to this overall decline in the County. In the 1980s, the decline in manufacturing jobs numbered about 53,000 (5.7%), while in the 1990s the loss increased to over 220,000 jobs (25%). However, this decline was more than offset by a substantial increase in other sectors of the economy, especially in the services sector, which saw an increase in employment of over 934,000 jobs (80%) between 1980 and 2000.

Research conducted by SCAG (June 2004) demonstrates that the average per capita income and average payroll per job in the five counties of Southern California have declined significantly over the last 10 to 15 years when compared to other metropolitan areas in the nation. This deterioration began noticeably with the severe

economic dislocation experienced in the high-paying aerospace and defense manufacturing sector in the early 1990s during the post–Cold War recession. Although the region recovered from the employment loss in succeeding years, the quality (and salaries) of the jobs created compared poorly with those lost.

Over the period 1990–2006, many of the jobs lost were in well-paying sectors such as manufacturing (aerospace, electronic instrument, computer and peripheral, machinery, and fabricated metal) and Department of Defense and other federal agencies. Although a significant number of well-paying jobs were added to the regional economy over the same time period (arts/entertainment/recreation, wholesale trade, transportation and warehousing, construction, local government, and health care), the majority of new jobs were lower-paying in the services (office administrative, employment, and food and drinking places) and local government education sectors. The average annual wage level of the losing sectors was just over $45,000, while that of the gaining sectors was just over $33,000, a decline of almost 27%.

Since the proposed Project would involve a large construction effort over a long period of time, a discussion of trends in the construction sector in Los Angeles County is included below. Employment in the construction industry registered an increase of 11,600 jobs (almost 8%) in a 16-year period (1990–2006). This represents an increase of 0.5% annually. In 2006, the construction industry represented 4% of the total employment in Los Angeles County (see Table 7-4).

Port of Los Angeles

The Port of Los Angeles handled almost 8.7 million TEUs in fiscal year (FY) 2007, up from 7.8 million in FY 2006. The top five containerized imports in 2007 were furniture, apparel, toys and sporting goods, vehicles and vehicle parts, and electronic products. The top trading partners were China, Japan, Taiwan, Thailand, and South Korea. The top five containerized exports were wastepaper, synthetic resins, fabric (including raw cotton), animal feed, and metal scrap. Automobile shipments account for less than 2% of the value of the cargo that passes through the Port. The total value of the cargo in calendar year (CY) 2007 was $240.4 billion. The Port of Los Angeles is one of the world's largest trade gateways, and the economic contributions to the regional economy are substantial. The Port facilitates tens of billions of dollars in industry sales each year in the Southern California region. These sales translate into jobs, wages and salaries, and state and local taxes. It is estimated that the Port supports, directly and indirectly, 131,000 full- and part-time jobs in Southern California. The employment translates into $6.2 billion annually in regional wages and salaries, and $1.1 billion annually in state and local taxes. Of the regional direct, indirect, and induced benefits connected to the Port, over 70% occur in Los Angeles County. The major ways in which the Port contributes to the local and regional economy are through port industries, port users, and port customers.

Table 7-4. Total Employment for Los Angeles County, California (1990–2006)

	Employment Numbers (per Year)					*Total Change(1990–2006)*		
Industry Group	*1990*	*1995*	*2000*	*2005*	*2006*	*Number*	*Percent*	*Average Annual Percent*
Total, All Industries	**4,149,500**	**3,754,500**	**4,079,800**	**4,031,600**	**4,100,200**	**-49,300**	**-1.19**	**-0.07**
Total Farm	13,700	8,000	7,700	7,400	7,600	-6,100	-44.53	-2.78
Total Nonfarm	**4,135,700**	**3,746,600**	**4,072,100**	**4,024,200**	**4,092,500**	**-43,200**	**-1.04**	**-0.07**
Natural Resources and Mining	8,200	4,100	3,400	3,700	4,000	-4,200	-51.22	-3.20
Construction	145,100	113,300	131,700	148,700	156,700	11,600	7.99	0.50
Manufacturing	812,000	628,100	612,200	471,700	462,300	-349,700	-43.07	-2.69
Trade, Transportation, and Utilities	794,900	721,100	786,000	795,400	814,100	19,200	2.42	0.15
Information	186,200	190,900	243,700	207,600	209,700	23,500	12.62	0.79
Financial Activities	279,900	223,900	224,500	244,000	248,000	-31,900	-11.40	-0.71
Professional and Business Services	541,600	516,100	587,900	576,100	594,700	53,100	9.80	0.61
Educational and Health Services	384,700	372,200	416,800	471,300	481,300	96,600	25.11	1.57
Leisure and Hospitality	306,700	309,800	344,700	377,800	387,500	80,800	26.34	1.65
Other Services	136,700	131,300	140,000	144,300	145,700	9,000	6.58	0.41
Total Government	**539,800**	**535,700**	**581,300**	**583,700**	**588,600**	**48,800**	**9.04**	**0.57**
Federal Government	71,900	63,400	57,900	53,500	52,300	-19,600	-27.26	-1.70
State and Local Government	467,900	472,300	523,300	530,200	536,300	68,400	14.62	0.91
State Government	69,900	70,500	77,100	78,200	79,500	9,600	13.73	0.86
Local Government	398,100	401,800	446,200	452,000	456,800	58,700	14.75	0.92

Source: California Employment Development Department, Labor Market Information Division (2007)

Occupation by Place of Residence

Information regarding occupation (aggregated to industrial sectors similar to those addressed above) is contained in the 2000 decennial census. The definition of the categories varies somewhat from those presented earlier; however, these differences are small. The occupational breakdown (for the employed civilian population 16 years of age and over) is available for small geographical areas such as by zip code (Table 7-5). The zip code areas selected are those in the immediate vicinity of the Port for the communities of Wilmington, San Pedro, Harbor City, and the cities of Torrance, Carson, and Long Beach.

The proportion engaged in the transportation and warehousing sector in 2000 was 4.43% for Los Angeles County and 3.64% for the City of Los Angeles. All of the communities near the Port have much higher proportions of their residents employed in the transportation and warehousing sector of the economy than do Los Angeles County and the City of Los Angeles.

Income

The median *household* income reported in the 2000 Census in Los Angeles County was just over $42,000. Riverside and San Bernardino Counties had very similar values, while the values for Orange and Ventura Counties were $58,800 and $59,600, respectively. By comparison, the median household income for the City of Los Angeles was $36,600 (see Tables 7-6 and 7-7). Of total aggregate income, by far the largest proportion (between 69 and 77%) is contributed by wages and salary income at the county level.

Median *family* income varied between $46,500 and $65,300 across the five counties, and was $39,900 for the City of Los Angeles. For the zip codes in the vicinity of the Port, values exhibited a wider range: between $19,600 and $73,500. The median *family* income for Wilmington (zip code 90744) was $30, 800, while its median *household* income was $35,910.

Table 7-5. Occupational Breakdown (%) by Place of Residence, 2000*

Percent by Occupation	*Torrance 90501*	*Torrance 90502*	*Harbor City 90710*	*San Pedro 90731*	*San Pedro 90732*	*Wilming-ton 90744*	*Carson 90745*	*Long Beach 90802*	*Long Beach 90806*	*Long Beach 90810*	*Long Beach 90813*
Agriculture, Forestry, Fishing and Hunting, Mining:	0.19	0.23	0.05	0.58	0.36	0.63	0.37	0.31	0.58	0.68	0.42
Agriculture, Forestry, Fishing and Hunting	0.10	0.23	0.05	0.53	0.36	0.48	0.17	0.21	0.10	0.54	0.18
Mining	0.09	0.00	0.00	0.05	0.00	0.15	0.20	0.09	0.48	0.14	0.24
Construction	5.98	3.69	3.86	6.63	4.22	6.89	3.45	4.88	4.73	5.39	8.79
Manufacturing	16.69	18.43	20.31	12.77	12.95	22.24	22.16	12.55	15.29	20.70	19.10
Wholesale Trade	4.42	5.69	3.81	4.07	4.31	6.16	4.64	4.00	4.30	5.55	4.13
Retail Trade	13.00	10.50	10.75	10.32	8.56	9.83	12.23	9.96	10.60	9.66	9.96
Transportation and Warehousing, Utilities:	7.25	7.03	7.35	11.33	13.08	8.47	8.49	6.11	8.52	9.27	4.92
Transportation and Warehousing	6.88	6.15	6.88	10.80	12.71	8.06	8.14	5.68	7.71	8.74	4.63
Utilities	0.38	0.88	0.47	0.52	0.36	0.42	0.35	0.44	0.80	0.53	0.29
Information	2.17	3.89	2.08	2.52	3.00	2.18	2.58	4.17	2.98	2.14	1.70
Finance, Insurance, Real Estate, Rental and Leasing:	5.01	6.85	5.95	5.28	6.49	3.44	4.86	5.45	4.45	3.78	3.51
Finance and Insurance	3.06	4.50	3.99	3.19	4.51	1.95	3.23	3.25	2.98	2.81	1.55
Real Estate, Rental and Leasing	1.95	2.35	1.95	2.09	1.98	1.49	1.63	2.20	1.48	0.97	1.95
Professional, Scientific, Management, Administrative, and Waste Management Services	12.33	7.59	9.52	9.36	10.53	8.83	8.71	11.14	9.35	8.28	9.67
Professional, Scientific, and Technical Services	5.46	4.23	3.05	4.10	8.33	1.70	4.08	5.13	3.45	2.48	2.15

Percent by Occupation	*Torrance 90501*	*Torrance 90502*	*Harbor City 90710*	*San Pedro 90731*	*San Pedro 90732*	*Wilming-ton 90744*	*Carson 90745*	*Long Beach 90802*	*Long Beach 90806*	*Long Beach 90810*	*Long Beach 90813*
Management Of Companies and Enterprises	0.14	0.09	0.00	0.00	0.00	0.08	0.22	0.10	0.03	0.05	0.00
Administrative and Support and Waste Management Services	6.72	3.27	6.47	5.26	2.20	7.06	4.41	5.91	5.86	5.74	7.52
Educational, Health, and Social Services	16.35	18.39	18.39	18.38	21.94	12.42	18.25	20.97	20.61	19.07	12.21
Educational Services	6.15	7.53	6.74	8.70	10.89	5.37	5.40	9.05	6.78	5.51	3.94
Health Care and Social Assistance	10.20	10.87	11.65	9.68	11.05	7.05	12.85	11.92	13.82	13.57	8.28
Arts, Entertainment, Recreation, Accommodation, and Food Services	8.70	7.13	7.94	7.30	5.18	9.35	6.63	12.15	8.64	6.91	14.52
Arts, Entertainment, and Recreation	1.47	1.77	1.66	2.06	1.58	1.12	1.05	2.79	1.87	1.38	1.34
Accommodation and Food Services	7.24	5.36	6.28	5.24	3.61	8.23	5.58	9.36	6.77	5.53	13.18
Other Services (Except Public Administration)	5.13	4.27	6.11	7.31	4.93	7.90	4.78	5.61	6.09	5.83	9.06
Public Administration	2.78	6.30	3.89	4.15	4.45	1.65	2.85	2.70	3.88	2.74	2.01

*Employed civilian population 16 years and over

Source: Census (2000), Summary File (SF3)

Table 7-6. Household and Family Income in 1999 by Source and County

	Los Angeles County	*Orange County*	*Riverside County*	*San Bernardino County*	*Ventura County*	*City of Los Angeles*
1999 Income ($)						
Household Median	42,189	58,820	42,887	42,066	59,666	36,687
Family Median	46,452	64,611	48,409	46,574	65,285	39,942
Per Capita	20,683	25,826	18,689	16,856	24,600	20,671
Contribution (% in 1999) to Total Aggregate Income from:						
Wage or Salary Income	74.39	76.05	69.25	76.90	74.67	72.76
Self-Employment Income	8.28	7.76	6.89	6.03	8.20	9.60
Interest, Dividends, or Net Rental Income	7.22	7.48	8.24	4.15	6.92	8.00
Social Security	3.54	3.16	6.10	4.55	3.54	3.40
Supplemental Security Income	0.65	0.33	0.59	0.74	0.35	0.72
Public Assistance Income	0.51	0.16	0.36	0.60	0.16	0.56
Retirement Income	3.70	3.59	6.15	4.96	4.55	3.24
Other Types of Income	1.72	1.47	2.44	2.07	1.62	1.73

Source: Census (2000), Summary File (SF)3

Table 7-7. Household and Family Income in 1999 by Source and City

	Torrance 90501	*Torrance 90502*	*Harbor City 90710*	*San Pedro 90731*	*San Pedro 90732*	*Wilming -ton 90744*	*Carson 90745*	*Long Beach 90802*	*Long Beach 90806*	*Long Beach 90810*	*Long Beach 90813*
1999 Income ($)											
Household Median	42,117	48,601	42,299	35,910	63,614	30,259	50,610	25,860	31,488	36,966	20,015
Family Median	47,076	51,829	45,854	39,057	73,461	30,800	53,218	26,865	31,050	40,119	19,594
Per Capita	18,784	19,749	18,425	18,043	30,842	11,600	15,665	17,668	13,412	12,848	7,567
Contribution (%) to total aggregate income from:											
Wage or Salary Income	78.37	79.86	76.84	76.90	73.53	80.88	80.63	79.94	79.18	77.52	76.56
Self-Employment Income	7.48	5.51	6.81	6.65	5.58	4.90	3.26	5.03	4.79	2.54	3.95
Interest, Dividends, or Net Rental Income	4.32	3.08	4.43	4.41	7.92	2.76	3.07	3.53	3.92	3.48	1.75
Social Security	3.51	3.84	4.54	4.09	4.75	4.31	4.43	3.85	2.95	4.64	3.34
Supplemental Security Income	0.69	0.55	0.74	0.67	0.33	0.77	1.09	1.49	1.24	1.09	3.00
Public Assistance Income	0.50	0.34	0.42	0.81	0.07	1.20	0.44	0.98	1.98	1.03	4.65
Retirement Income	3.79	5.55	4.69	4.35	6.32	3.04	5.09	3.31	3.93	7.42	2.77
Other Types Of Income	1.33	1.28	1.53	2.12	1.50	2.14	1.99	1.87	2.00	2.26	3.99
Source: Census 2000, Summary File (SF)3											

7.2.1.2 Population

The number of residents within the five counties of Southern California increased by almost 3.8 million between 1990 and 2007 at an average annual rate of 1.53%. The most rapid rate of change took place in Riverside (4.33% annually) and San Bernardino Counties (2.53% annually). Although the largest numeric increase occurred in Los Angeles County (1.5 million persons), its rate of change was the least of the counties (0.97% annually) (see Table 7-8).

The population of the City of Los Angeles increased over the same time period but at a substantially slower pace. The number of residents increased by 532,682 at an average annual rate of 0.90%. Two cities in the South Bay section of Southern California saw population increase at rates greater than that for the City of Los Angeles: Signal Hill (2.01% annually) and Carson (0.99% annually). The community plan areas in the vicinity of the Port experienced only modest population gains of between 8 and 16% from 1990 through 2007.

Population projections prepared by SCAG forecast a compound rate of growth over the 15-year period between 2005 and 2020 of 1.2% annually for Southern California. The region is projected to add almost 3 million residents over the period. Between 2005 and 2020, the highest growth rates are projected for Riverside (an increase of 877,671; 45.44%) and San Bernardino (an increase of 611,447; 31.02%) Counties. The population of the City of Los Angeles is projected to increase by almost 250,000 residents at an annual average rate of 0.42% (see Table 7-9).

Table 7-8. Population by Region, County, Place, and Community Plan Area (1990–2007)

Area[1]	*April 1, 1990 Census*	*April 1, 1990 Census*	*April 1, 2005 DOF*[2]	*April 1, 2006 DOF*	*April 1, 2007 DOF*	*Numeric Increase (1990–2007)*	*Percent*	*Average Annual Percent*
Southern California (5-County Region)	**14,531,529**	**16,373,645**	**17,919,625**	**18,107,823**	**18,315,210**	**3,783,681**	**26.04**	**1.53**
Counties								
Los Angeles	8,863,052	9,519,338	10,191,080	10,257,994	10,331,939	1,468,887	16.57	0.97
Orange	2,410,668	2,846,289	3,050,403	3,071,924	3,098,121	687,453	28.52	1.67
Riverside	1,170,413	1,545,387	1,885,627	1,966,607	2,031,625	861,212	73.58	4.33
San Bernardino	1,418,380	1,709,434	1,948,454	1,993,983	2,028,013	609,633	42.98	2.53
Ventura	669,016	753,197	811,202	817,315	825,512	156,496	23.39	1.38
City of Los Angeles	3,485,398	3,694,820	3,943,572	3,980,422	4,018,080	532,682	15.28	0.90
Harbor Area Planning Commission	182,054	193,168	192,912	205,029	N/A	22,975	12.62	0.74
Community Plan Areas								
Harbor Gateway	36,011	39,685	39,738	41,796	N/A	5,785[1]	16.06	0.94
Port of Los Angeles	1,785	1,804	1,844	1,931	N/A	146[1]	8.18	0.48
San Pedro	74,175	76,173	76,756	80,879	N/A	6,704[1]	9.04	0.53
Wilmington-Harbor City	70,083	75,506	74,574	80,423	N/A	10,340[1]	14.75	0.87
Incorporated Cities								
Carson	83,995	89,730	97,999	98,110	98,178	14,183	16.89	0.99
Lakewood	73,553	79,345	83,391	83,397	83,641	10,088	13.72	0.81
Long Beach	429,321	461,522	489,931	490,798	492,912	63,591	14.81	0.87
Palos Verdes Estates	13,512	13,340	14,162	14,060	14,085	573	4.24	0.25

Area[1]	*April 1, 1990 Census*	*April 1, 1990 Census*	*April 1, 2005 DOF*[2]	*April 1, 2006 DOF*	*April 1, 2007 DOF*	*Numeric Increase (1990–2007)*	*Percent*	*Average Annual Percent*
Rancho Palos Verdes	41,667	41,145	43,378	43,045	43,092	1,425	3.42	0.20
Redondo Beach	60,167	63,261	67,099	67,201	67,495	7,328	12.18	0.72
Rolling Hills	1,871	1,871	1,977	1,968	1,972	101	5.40	0.32
Rolling Hills Estates	7,789	7,676	8,164	8,102	8,099	310	3.98	0.23
Signal Hill	8,371	9,333	10,912	11,105	11,229	2,858	34.14	2.01
Torrance	133,107	137,946	146,909	147,299	148,558	15,451	11.61	0.68

Notes:

The population increase for the Southern California region, the five counties, Los Angeles City, and other incorporated cities is calculated for the period 1990–2007. The population increase for the Harbor Area Planning Commission and the four Community Plan Areas is calculated for the period of 1990–2006. The latest information available on the Los Angeles City Planning website is from 2006.

Source: California Department of Finance (2007); Los Angeles City Planning Department (2007)

Table 7-9. Population Projections for Region, County, and Place (2005–2020)

					Change (2005–2020)		
	2005	*2010*	*2015*	*2020*	*Numeric*	*Percent*	*Average Annual Percent*
Southern California (5-County Region)	17,982,655	19,216,079	20,218,791	21,192,904	3,210,249	17.85	1.19
Counties							
Los Angeles	10,206,001	10,615,730	10,971,602	11,329,829	1,123,828	11.01	0.73
Orange	3,059,952	3,314,948	3,451,755	3,533,935	473,983	15.49	1.03
Riverside	1,931,332	2,242,745	2,509,330	2,809,003	877,671	45.44	3.03
San Bernardino	1,971,318	2,182,049	2,385,748	2,582,765	611,447	31.02	2.07
Ventura	814,052	860,607	900,356	937,372	123,320	15.15	1.01
Cities							
Los Angeles	3,955,392	4,057,484	4,128,125	4,204,329	248,937	6.29	0.42
Carson	97,864	101,507	104,233	107,089	9,225	9.43	0.63
Palos Verdes Estates	14,083	14,175	14,188	14,223	140	0.99	0.07
Rancho Palos Verdes	43,130	43,192	43,246	43,251	121	0.28	0.02
Redondo Beach	67,018	68,095	69,928	71,016	3,998	5.97	0.40
Rolling Hills	1,970	1,985	1,988	1,994	24	1.22	0.08
Rolling Hills Estates	8,109	8,336	9,150	9,215	1,106	13.64	0.91
Torrance	146,820	150,393	152,825	155,464	8,644	5.89	0.39
Lakewood	83,231	84,060	84,354	84,420	1,189	1.43	0.10
Long Beach	489,427	503,251	517,226	531,854	42,427	8.67	0.58
Signal Hill	10,986	11,405	11,772	12,155	1,169	10.64	0.71

Source: SCAG (2008)

7.2.1.3 Housing

7.2.1.3.1 Housing Construction

Housing construction typically exhibits a cyclical pattern in response to local, regional, and national economic conditions. In the case of Southern California, residential construction experienced periods of expansion between 1967 and 1972, 1975 and 1977, 1982 and 1986, and 1995 to the present, with periods of decline in between. The decline in activity from 1986 through 1993 was in response to the

economic dislocation associated with reductions in military defense spending and base closures. From a level of over 133,000 units authorized for construction in 1988, the number fell to just over 28,000 in 1993. By 2004, the number of units authorized for construction had reached almost 90,000 and again started to decline, with about 71,000 units permitted for construction in 2006. The decline in the number of construction permits is a direct result of the recent slump in the housing market, which continues to affect the construction of new units (the number of housing permits decreased further in 2007; see Figure 7-3).

Over the 39-year period from 1967 to 2006, almost 3 million housing units were permitted for construction in Southern California. Of these units, the majority were constructed in Los Angeles County (39% of the regional total), followed by Orange County (with 21.7% of the total) and Riverside County (with 18.8% of the total).

The contribution made to the new housing constructed in Southern California by each of the individual counties has changed noticeably over time, as can be seen from the information presented in Figure 7-4. At the start of the reporting period, Los Angeles County contributed over 50% of all new residential construction in Southern California. However, this share declined to about 30% in the 1990s and climbed up a little by the end of the reporting period. In contrast, the Riverside County share increased from about 5% to almost 25%. Likewise, the San Bernardino County contribution rose from around 7% to about 17%.

Housing Characteristics

In Los Angeles County the proportion of owner-occupied housing units in 2000 was almost 48% (52% was renter-occupied). For the City of Los Angeles, the corresponding shares were 39 and 61%, respectively. Within the zip codes in the vicinity of the Port, the percentage of owner-occupied housing units varies from high values for western San Pedro and Carson to low values for Wilmington and areas of Long Beach (see Table 7-10).

The San Pedro area has a mixed housing characteristic. The proportion of renters is high (61%). There are relatively few apartment buildings containing 10 or more units. The median year built of housing in Wilmington and San Pedro is 1961 and 1960, respectively. Home owners are well-established, having resided in the same house since 1985 in Wilmington and 1988 in the case of San Pedro. The housing quality is somewhat lower in Wilmington based on a comparison of the proportion of housing units lacking adequate plumbing and kitchen facilities (see Table 7-10).

Table 7-10. Housing Characteristics in 2000

	Los Angeles County	*City of Los Angeles*	*ZIP Code Area*										
			Torrance 90501	*Torrance 90502*	*Harbor City 90710*	*San Pedro 90731*	*San Pedro 90732*	*Wilming-ton 90744*	*Carson 90745*	*Long Beach 90802*	*Long Beach 90806*	*Long Beach 90810*	*Long Beach 90813*
Housing Units Overview													
Total Housing Units	3,270,909	1,337,668	14,367	5,801	8,603	22,522	9,501	14,600	15,145	20,442	15,528	9,518	17,745
Total Occupied Housing Units	3,133,774	1,275,358	13,810	5,593	8,351	21,370	8,746	13,954	14,671	18,838	14,575	9,140	16,436
Percent Owner-Occupied	47.86	38.56	42.76	69.41	55.53	31.86	73.16	38.79	74.02	19.52	36.83	56.73	12.36
Percent Renter-Occupied	52.14	61.44	57.24	30.59	44.47	68.14	26.84	61.21	25.98	80.48	63.17	43.27	87.64
Vacancy Rate (%)	4.38	4.89	4.03	3.72	3.02	5.39	8.63	4.63	3.23	8.51	6.54	4.14	7.96
Median Number of Rooms per Unit	4.2	3.7	4.0	4.4	4.2	3.9	5.1	3.3	4.7	2.8	3.6	4.1	2.8
Housing Percentage By Number of Units													
Single Detached Units	48.72	39.23	47.52	52.58	43.15	34.95	52.80	43.25	63.61	4.33	36.86	64.69	16.53
Single Attached Units	7.39	6.56	8.25	14.46	6.88	8.85	16.82	9.01	12.12	2.21	9.12	6.79	6.16
2 Units	2.74	3.20	2.74	0.53	1.69	5.70	0.43	3.35	1.33	2.74	5.84	2.51	6.62
3 or 4 Units	6.05	6.45	8.52	2.69	5.31	20.88	5.17	8.95	2.03	7.86	12.91	5.65	16.69
5 to 9 Units	8.23	9.44	10.72	7.17	7.22	11.39	8.22	10.72	2.26	12.68	17.48	5.64	17.34
10 to 19 Units	8.05	10.36	7.73	1.45	11.51	7.65	2.94	8.16	1.67	26.21	8.48	3.43	22.27
20 to 49 Units	8.85	12.83	7.99	4.90	5.14	5.40	5.64	7.26	2.95	20.48	5.40	3.53	8.43
50 or More Units	8.25	11.25	3.79	8.77	6.46	4.76	5.44	6.42	4.23	22.86	3.62	4.50	5.71
Mobile Home	1.63	0.61	2.74	7.45	12.41	0.16	2.54	1.99	9.75	0.07	0.24	3.18	0.26
Boat, RV, Van, etc.	0.10	0.06	0.00	0.00	0.23	0.25	0.00	0.89	0.04	0.54	0.05	0.08	0.00

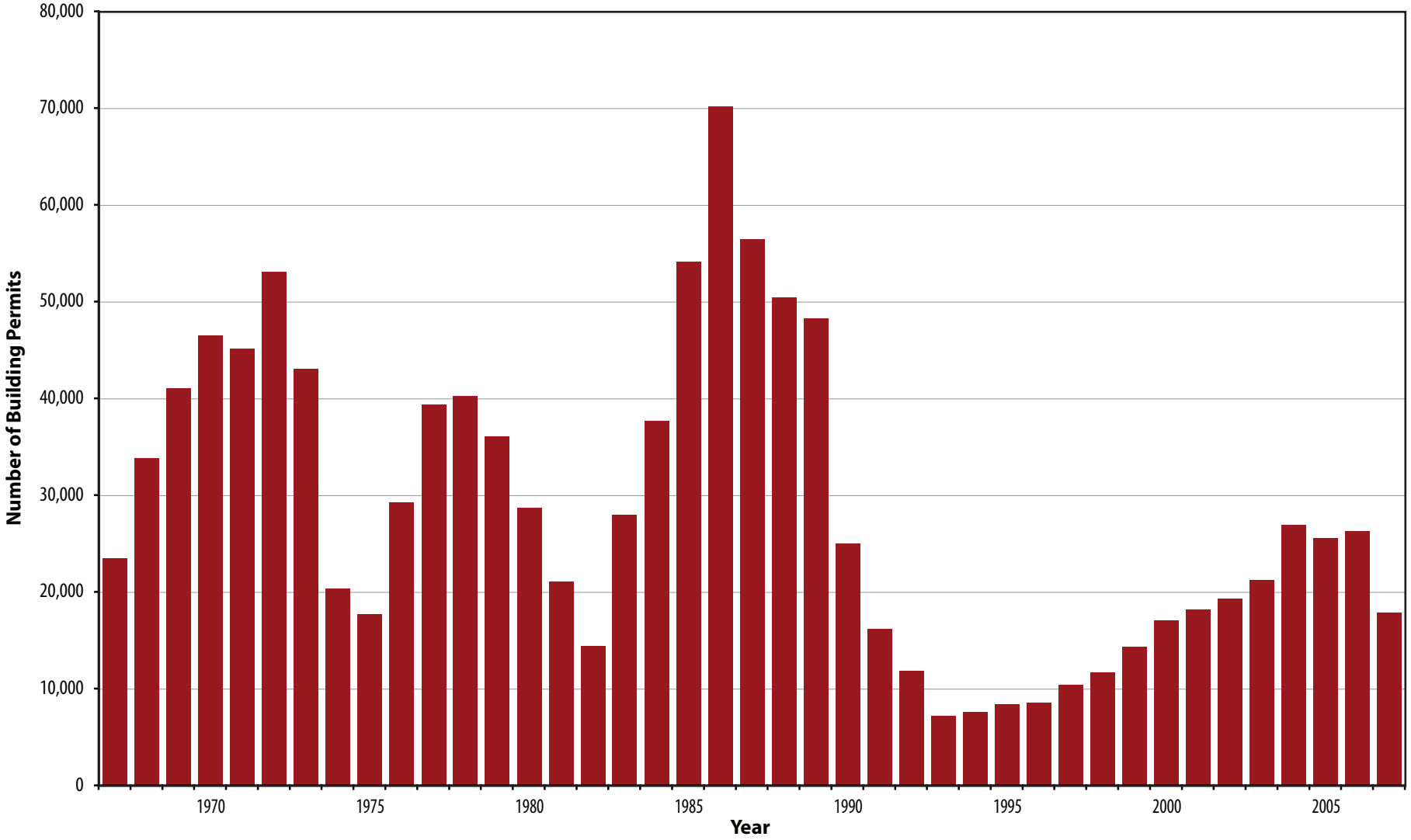
	Los Angeles County	City of Los Angeles	ZIP Code Area										
			Torrance 90501	Torrance 90502	Harbor City 90710	San Pedro 90731	San Pedro 90732	Wilming-ton 90744	Carson 90745	Long Beach 90802	Long Beach 90806	Long Beach 90810	Long Beach 90813
Housing Percentage By Year Built													
1999 to March 2000	0.69	0.54	0.81	0.14	2.71	0.46	0.16	0.76	1.28	0.17	0.41	0.43	0.60
1995 to 1998	2.01	1.90	2.18	2.93	5.95	1.30	2.95	1.67	1.80	0.92	1.42	0.89	2.09
1990 to 1994	4.15	3.72	5.46	4.21	2.58	4.40	3.20	3.41	3.88	6.12	1.89	1.18	4.87
1980 to 1989	12.33	11.09	9.68	17.95	12.48	12.21	19.76	12.49	11.86	11.45	11.30	4.41	14.16
1970 to 1979	15.58	15.02	12.92	23.36	29.44	15.16	24.71	15.49	16.08	12.49	11.50	14.30	15.50
1960 to 1969	17.83	17.53	22.15	19.70	24.31	17.18	14.74	18.43	30.21	16.91	12.93	15.58	19.12
1950 to 1959	22.27	20.49	23.26	24.41	12.00	16.05	19.06	21.99	24.56	14.81	18.23	24.30	14.36
1940 to 1949	12.25	12.99	12.06	3.90	6.89	13.04	6.69	11.80	7.09	10.10	21.32	28.48	10.53
1939 or Earlier	12.90	16.71	11.48	3.41	3.64	20.20	8.74	13.96	3.24	27.03	21.01	10.42	18.77
Housing Units Details													
Median Year Built	1961	1960	1961	1969	1971	1960	1970	1961	1965	1959	1954	1955	1963
Median Year Householder Moved into Unit: Total	1995	1996	1996	1994	1995	1996	1993	1996	1992	1998	1996	1993	1997
Owner Occupied	1989	1988	1990	1990	1990	1988	1988	1985	1988	1996	1993	1986	1993
Renter Occupied	1997	1997	1997	1997	1997	1997	1997	1997	1997	1998	1997	1997	1998
Percent Lacking Complete Plumbing Facilities	1.11	1.45	1.11	0.55	1.28	0.90	0.23	1.90	0.65	1.58	1.59	1.22	1.89
Percent Lacking Complete Kitchen Facilities	1.75	2.41	1.77	0.88	1.00	1.92	0.95	2.60	0.72	2.87	1.78	1.65	2.62

Source: Census Bureau (2000), Summary Files (SF)1 and 3; Census 2005c

Residential Property Values

Over the period 1990–2003, the median home price (for existing homes) in Los Angeles County increased from $251,000 to $375,700, which is a rise of just over 49% at an average annual rate of 3.1%. Median prices in the other four counties of Southern California also rose: 4.1% in Orange County, 3.9% annually in Ventura County; 3.8% in Riverside County; and 3.4% in San Bernardino County. This rate of increase, however, did not take place uniformly over the time period. Economies, regional as well as national, experience cycles of growth: positive, neutral, and negative. Over the 5-year period 1990–1995, each of the Southern California counties experienced negative change in home values. The greatest decline took place in Los Angeles County, where median home values fell by 12.5% (2.6% annually). Between 1995 and 2000, prices increased at rates exceeding 7% annually (with the exception of Los Angeles County). Between 2000 and 2003, annual growth rates exceeded 10% annually in all counties. The trends in prices of new homes mirrored closely those for existing homes (see Table 7-11).

Median home prices at the community level also increased at high rates, as can be seen from the information presented in Table 7-12. For 1997–2002, average annual growth rates in excess of 10% were experienced in a number of communities in the South Bay area of Los Angeles County: Wilmington, San Pedro, Carson, Hawthorne, Hermosa Beach, Lawndale, and Lomita. Home prices increased in all communities regardless of the level of the price at the beginning of the period. However, not surprisingly, those communities with the highest growth rates were communities with the lowest home prices. Median home prices in Wilmington increased from $103,500 in 1997 to $196,000 in 2002 (at an average annual rate of 13.6%) and those in San Pedro rose from $164,000 to $320,000 over the same time period (at an average annual rate of 14.3%). Median single-family residence sale prices rose, on average, 8 to 9% annually between 1993 and 2004 for homes located in the ZIP code areas in the immediate vicinity of the Port. The first five years of this period showed modest and negative growth. The latter five years, however, exhibited rapid growth with home prices more than doubling and registering average annual rates in excess of 20%.



Note: The 2007 data has housing permits approved through October 2007.
Source: Construction Industry Research Board, 2007.

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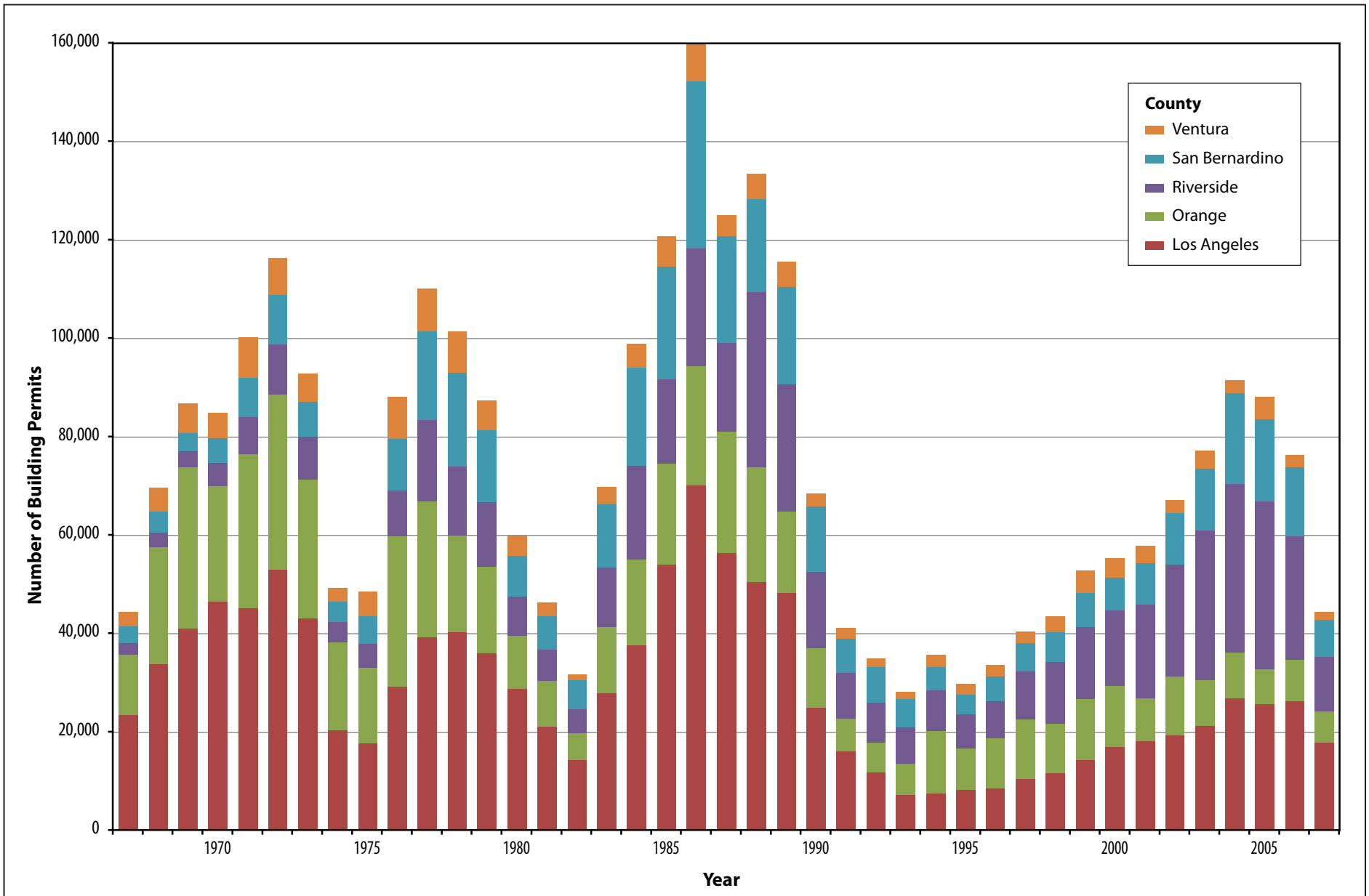
Figure 7-3
Housing Units Permitted in Los Angeles County (1967-2007)



Note: The 2007 data has housing permits approved up to October 2007.
Source: Construction Industry Research Board, 2007.

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Figure 7-4
Housing Units Permitted in 5-County Southern California Region (1967-2007)

1 **Table 7-11.** Existing Home Price by County (1990–2003)

Year	*Los Angeles*	*Orange*	*Riverside*	*San Bernardino*	*Ventura*
EXISTING HOMES					
1990	251,000	252,241	146,014	126,261	243,035
1991	252,915	251,004	149,181	131,920	238,657
1992	247,377	246,730	152,182	132,197	235,427
1993	237,198	241,622	143,890	129,880	230,744
1994	232,165	240,706	141,936	127,123	226,505
1995	219,735	234,187	135,489	120,660	225,846
1996	217,747	231,683	135,663	119,954	223,801
1997	230,908	243,081	143,106	121,364	227,862
1998	247,593	260,191	152,852	127,503	245,510
1999	252,392	271,714	154,500	134,251	259,257
2000	270,912	297,768	167,380	144,499	280,754
2001	285,477	319,801	182,371	153,963	299,626
2002	328,015	370,125	205,814	169,847	344,970
2003	374,666	426,427	237,225	195,315	400,027
Change (1990–1995)					
Percent	-12.46	-7.16	-7.21	-4.44	-7.07
Average Annual %	-2.63	-1.41	-1.22	-0.85	-1.36
Change (1995–2000)					
Percent	23.29	84.06	74.86	62.82	78.74
Average Annual %	4.28	9.11	8.31	7.21	8.65
Change (2000–2003)					
Percent	38.30	43.21	41.73	35.17	42.48
Average Annual %	11.41	12.72	12.33	10.57	12.53
Total Change (1990–2003)					
Percent	49.27	69.06	62.47	54.69	64.60
Average Annual %	3.13	4.12	3.80	3.41	3.91
NEW HOMES					
1990	223,726	268,113	170,100	169,856	284,268
1991	224,719	265,913	166,649	175,110	266,937

Year	*Los Angeles*	*Orange*	*Riverside*	*San Bernardino*	*Ventura*
1992	207,111	259,212	158,320	162,921	256,765
1993	201,948	246,540	151,335	150,632	255,759
1994	211,785	258,449	152,804	149,325	245,503
1995	221,207	250,416	151,890	153,443	249,088
1996	245,466	254,471	159,987	153,378	247,597
1997	252,662	272,376	166,339	167,513	265,581
1998	259,870	315,761	186,782	175,823	294,692
1999	294,461	354,342	215,743	194,836	346,736
2000	306,924	404,611	248,156	211,863	360,888
2001	332,257	436,923	250,003	222,583	380,329
2002	362,541	474,852	268,878	240,382	423,091
2003	417,695	450,365	295,048	268,440	489,020
Change (1990–1995)					
Percent	-1.13	-6.60	-10.71	-9.66	-12.38
Average Annual %	-0.23	-0.87	-1.02	-1.69	-2.28
Change (1995–2000)					
Percent	38.75	76.98	84.42	75.02	97.51
Average Annual %	6.77	8.50	9.14	8.32	10.21
Change (2000–2003)					
Percent	36.09	11.31	18.90	26.70	35.50
Average Annual %	10.82	3.64	5.94	8.21	10.66
Total Change (1990–2003)					
Percent	86.70	67.98	73.46	58.04	72.03
Average Annual %	4.92	4.07	4.33	3.58	4.26
Source: LAEDC (2005)					

1

2

Table 7-12. Home Prices by Community (2001–2006)

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*Average Annual % Change (2001–2006)*
Carson	225,000	250,000	318,500	410,000	465,000	530,000	135.56
El Segundo	N.A.	N.A.	535,000	781,250	N.A.	N.A.	N.A.
Gardena	196,500	250,000	310,000	370,000	515,000	499,000	153.94
Hawthorne	226,000	260,000	322,000	410,000	520,000	522,000	130.97
Hermosa Beach	544,000	570,000	750,000	976,500	N.A.	N.A.	N.A.
Inglewood	182,500	233,500	243,750	380,000	470,000	505,000	176.71
Lawndale	193,000	237,000	313,500	379,500	532,500	520,000	169.43
Lomita	300,000	359,000	N.A.	N.A.	N.A.	N.A.	N.A.
Manhattan Beach	680,000	797,000	1,100,000	1,250,000	1,425,000	1,275,000	87.50
Marina Del Ray	562,500	457,000	N.A.	N.A.	N.A.	N.A.	N.A.
Palos Verdes Estates	631,500	685,000	1,065,000	1,117,500	N.A.	N.A.	N.A.
Playa Del Rey	279,000	345,000	352,000	475,000	N.A.	N.A.	N.A.
Rancho Palos Verdes	610,000	615,500	742,500	900,000	1,056,364	947,500	55.33
Redondo Beach	420,000	475,000	580,000	717,000	780,000	735,000	75.00
San Pedro	262,500	320,000	379,500	454,000	539,000	525,000	100.00
Torrance	327,750	380,000	439,250	527,000	610,000	592,500	80.78
Wilmington	N.A.	N.A.	275,000	355,000	N.A.	N.A.	N.A.

N.A. = Not Available

Source: California Association of Realtors website 2007

7.2.2 Environmental Quality and the Role of LAHD

7.2.2.1 Introduction

"Environmental quality" refers to an aggregative set of factors that contribute to the overall condition of the natural, physical, and human environment. In the context of an urban setting, some key contributing factors include visual quality and aesthetics, land use compatibility and encroachment, socioeconomic conditions, real property

values and attributes, air and water quality, hazardous materials and waste sites, and the adequacy of public facilities and services. Socioeconomic conditions and real property values are addressed in this chapter. The remaining factors are addressed in corresponding resource-specific sections of the document. For the purposes of this discussion, environmental quality is addressed from two perspectives:

- Regulatory context where a "blighted area" refers to an area officially designated for redevelopment by a public agency.
- Non-regulatory context representing the overall perception or impression of an area as being physically degraded and deteriorated, showing visible signs of disinvestment, deferred maintenance by both public and private entities, and other adverse physical characteristics or economic or social conditions that are visible to or experienced by the public (i.e., an area considered by or experienced by members of the community as having degraded environmental quality, regardless of any official designation).

This section is related to the analysis in Section 3.8, "Land Use and Planning" (specifically Section 3.8.2.1.3, "Redevelopment Areas in the Project Vicinity"). However, the discussion below provides more detailed information about the following topics:

- City of Los Angeles Community Redevelopment Agency (CRA/LA) industrial redevelopment area in Wilmington
- Other City of Los Angeles programs and plans designed to regulate or improve community land uses and/or revitalize neighborhoods in the vicinity of the proposed Project and ordinances related to open storage
- Community perception (i.e., non-regulatory issues) of environmental quality and blight and related local conditions
- Historic changes in Port operations that may, in combination with other factors, affect offsite conditions and land uses
- Measures taken by the Port to address community concerns regarding environmental quality
- Impacts of the Wilmington Waterfront Redevelopment Project and, as appropriate, mitigations for consideration

7.2.2.2 Methodology

This analysis draws upon information gained from a number of sources, including (a) discussions with LAHD environmental and planning and research staff; (b) site visits to the Wilmington community and other communities in the vicinity of the Port; (c) a review of selected Port-related and other documents containing information relevant to the topic of environmental quality and blight; (d) a review of City of Los Angeles plans and program information containing relevant data for the area; and (e)

discussions with the City of Los Angeles City Planning and Los Angeles Redevelopment Agency staff. Based on the location of the proposed Project, the study area for this evaluation focuses on the community of Wilmington. In certain cases, information for the nearby community of San Pedro is included to provide additional context.

7.2.2.3 Applicable Land Use Plans, Policies, Projects, and Regulations

Laws, programs, plans, and ordinances relevant to the evaluation of environmental quality and blight for the study area are described below. These include California redevelopment law, the Neighborhood Block Grant program, City of Los Angeles community plans, and existing and proposed plans of the Port of Los Angeles.

7.2.2.3.1 California Redevelopment Law

California's Community Redevelopment Law (Health and Safety Code, Section 33000 et seq.) codifies the authority for certain entities to identify areas that are "blighted" according to the statutory definition of blight, to designate these areas for redevelopment, to prepare redevelopment plans, and to carry out activities subject to these plans in order to support development or redevelopment of these areas. The statutory definition of blight has changed over time, and in 1993 was changed to require evidence of both physical and economic blight conditions in a predominantly urban area: "The combination of conditions…must be so prevalent and so substantial that it causes a reduction of, or lack of proper utilization of the area to such an extent that it constitutes a serious physical and economic burden to the community which cannot reasonably be expected to be reversed or alleviated by private enterprise or governmental action, or both without redevelopment" (Health and Safety Code, Section 33000 et seq.). The statute describes the types of physical and economic conditions that cause blight (Section 33031):

(a) Physical conditions that cause blight include:

(1) Buildings in which it is unsafe or unhealthy for persons to live or work. These conditions can be caused by serious building code violations, dilapidation and deterioration, defective design or physical construction, faulty or inadequate utilities, or other similar factors.

(2) Factors that prevent or substantially hinder the economically viable use or capacity of buildings or lots. This condition can be caused by a substandard design, inadequate size given present standards and market conditions, lack of parking, or other similar factors.

(3) Adjacent or nearby uses that are incompatible with each other and which prevent the economic development of those parcels or other portions of the project area.

(4) The existence of subdivided lots of irregular form and shape and inadequate size for proper usefulness and development that are in multiple ownership.

(b) Economic conditions that cause blight include:

(1) Depreciated or stagnant property values or impaired investments, including, but not necessarily limited to, those properties containing hazardous wastes that require the use of agency authority as specified in Article 12.5 (commencing with Section 33459).

(2) Abnormally high business vacancies, abnormally low lease rates, abandoned buildings, or excessive vacant lots within an area developed for urban use and served by utilities.

(3) A lack of necessary commercial facilities that are normally found in neighborhoods, including grocery stores, drug stores, and banks and other lending institutions.

(4) Residential overcrowding or an excess of bars, liquor stores or other businesses that cater exclusively to adults that have led to problems of public safety and welfare.

(5) A high crime rate that constitutes a serious threat to the public safety and welfare.

7.2.2.3.2 Los Angeles Harbor Industrial Center Redevelopment Project

The CRA has established a redevelopment area called the Los Angeles Harbor Industrial Center Redevelopment Project within the general vicinity of the proposed Project.

The Los Angeles Harbor Industrial Center Redevelopment Project is a 232-acre area roughly bordered by Anaheim Street on the north, Broad Street on the west, and Harry Bridges Boulevard/Alameda Street on the south and east. The project was established in 1974 and was last amended in 1994. The area it encompasses was characterized by physical and economic blight due to a variety of factors: oil extraction activities; unimproved streets and alleys; junk strewn over vacant land; and an incompatible and unhealthy mix of industrial buildings, residential dwellings, oil extraction equipment, rusting oil storage tanks, automobiles, junk-yards, and boat construction and storage yards. Hindering development were the small, residential-sized parcels held in scattered ownership coupled with a complicated overlay of multiple petroleum rights; environmental deficiencies, such as soil toxins; railroad rights-of-way; and obsolete utility and public improvement systems (CRA/LA 2005).

7.2.2.3.3 Port of Los Angeles Master Plan

The Port of Los Angeles Master Plan (revised June 2002) provides for the short- and long-term development, expansion, and alteration of the Port. The PMP has been certified by the California Coastal Commission and is intended to be consistent with the Port of Los Angeles Plan (discussed below), an Element of the City's General Plan. The PMP divides the Port into a series of master planning areas, for which it identifies short-term plans and preferred long-range uses. The proposed Project is located in Planning Area 5 (see Figure 3.8-1). This plan is described more fully in Section 3.8, "Land Use and Planning."

7.2.2.3.4 Port of Los Angeles Plan (City of Los Angeles General Plan)

The Port Plan (adopted in 1982 with subsequent amendments) is intended to serve as the official 20-year guide to the continued development and operation of the Port. It is intended to be consistent with the PMP, as described above.

The Plan designates the northern and western portions of the Port, including the West Basin, as Commercial/Industrial land uses, which are further classified as General/Bulk Cargo and Commercial/Industrial Uses/Non-Hazardous uses. General Cargo includes container, break-bulk, neo-bulk, and passenger facilities. Commercial uses include restaurants and tourist attractions, offices, retail facilities, and related uses. Industrial uses include light manufacturing/industrial activities, ocean-resource industries, and related uses.

7.2.2.3.5 Wilmington-Harbor City Community Plan

Portions of the proposed project area lie within the Wilmington-Harbor City CP. All land currently north of Water Street within the proposed project area is within the jurisdiction of the Wilmington-Harbor City CP area. The Wilmington-Harbor City CP is part of the General Plan of the City of Los Angeles, and consists of both objectives, goals, and policies, and a land use map. The Wilmington-Harbor City CP map outlines the arrangement and intensities of land uses, the street system, and the location and characteristics of public service facilities. The Wilmington-Harbor City CP area is generally bounded by Sepulveda Boulevard, Normandie Avenue, Lomita Boulevard, the Los Angeles City Boundary, the Los Angeles Harbor, Harry Bridges Boulevard, John S. Gibson Boulevard, Taper Avenue, and Western Avenue.

7.2.2.3.6 Neighborhood Block Grant Area: East Wilmington

In 2000–2001, the City of Los Angeles selected 14 Neighborhood Block Grant (NBG) areas that would be eligible for future receipt of Community Development Block Grant resources. Funds are used for neighborhood revitalization and improvement purposes. The Mayor's Office has formed a Neighborhood Team with

Project Managers from the seven Planning Commission Areas, including the harbor. The Neighborhood Team works with Neighborhood Councils and other stakeholders to select, prioritize, and allocate funds for capital improvement projects. The East Wilmington NBG area is bordered by the Pacific Coast Highway on the north, Anaheim Street on the south, Alameda Street on the east, and Eubank Avenue on the west. Examples of public improvement projects include sidewalk repair and pocket park/recreational facility improvements.

7.2.2.4 LAHD's Role

7.2.2.4.1 Port History

The Port of Los Angeles was created in 1907 with the establishment of the Los Angeles Harbor Commission (see Section 3.4, "Cultural Resources," for additional detail). Port growth was relatively slow until after World War I. Growing exports of local oil and lumber, shipbuilding, fishing and cannery activities resulted in the construction of numerous warehouses and sheds between 1917 and 1930. In 1917, an extensive railroad was established for transporting goods from the harbor throughout the U.S. Port growth continued during the Depression with new cargo and passenger terminal construction, in some cases replacing outdated wooden cargo structures. Passenger terminals were constructed at the Port during the Port's modernization related to containerized storage, between 1948 and 1953.

As economic commerce and technology have changed, the function of the Port has shifted from its earlier focus on fishing, shipbuilding, and cargo uses to one where the predominant use is container shipping. These changes have also affected offsite land uses, transportation, and employment. For example, different types of storage and transport are required to meet the particular needs of the new uses. As the volume of cargo moving through the Port has increased, the capacities of the highway and rail system have become strained and improvements have been required (e.g., the Alameda Corridor). Much of the container cargo currently shipped into the Port consists of finished goods from Asia that are transported to other parts of California and beyond. These types of goods do not require assembly (in the region) and may be transported to warehouses or distribution centers beyond the Port area. In contrast, imported oil (non-containerized) may be refined in nearby refineries before being transported elsewhere; local refineries have also supported oil production in the vicinity of the Port and other parts of California. Ancillary uses have also changed, including shipping suppliers, goods recyclers, and various light industrial uses. As a result, uses may have become outmoded or less economically viable, in some cases resulting in the need for economic revitalization and redevelopment.

7.2.2.4.2 Port Environmental Programs and Initiatives

The Port is taking a number of measures designed to reduce the adverse impacts of Port operations and improve environmental quality in nearby communities. This section provides a brief overview of the Environmental Management Policy of the Port, as well as the consistency between that policy and the San Pedro Waterfront Master Plan and Wilmington Waterfront Development Program.

On August 27, 2003, the Board of Harbor Commissioners approved development of an Environmental Management Policy for the Port. The purpose of the Policy is to provide an introspective, organized approach to environmental management, further incorporate environmental considerations into day-to-day Port operations, and achieve continual environmental improvement. Numerous initiatives and programs under the Environmental Management Policy relate to impacts of Port operations on environmental quality in nearby communities. They include:

- programs to improve the efficiency of cargo handling, reduce cargo storage time, and increase the use of electric cranes and electric and alternative fuel vehicles;
- on-dock rail systems;
- the grade-separated Alameda Corridor, reducing truck traffic during daytime peak periods; and
- the sharing of technologies with other ports to continue improving pollution-control technologies.

One recently approved plan under the policy, the San Pedro Bay Clean Air Action Plan (CAAP), specifically aims to reduce public health risk from Port operations in nearby communities. CAAP was approved November 20, 2006, and includes the following components:

- a truck replacement program to phase out all "dirty" diesel trucks from the ports within 5 years, utilizing a new generation of clean or retrofitted vehicles driven by people earning at least the prevailing wage;
- aggressive milestones with measurable goals for air quality improvements;
- recommendations to eliminate emissions of ultra-fine particulates;
- a technology advancement program to reduce greenhouse gases; and
- a public participation process that involves environmental organizations and business communities.

7.2.2.4.3 Wilmington Waterfront Development Program

The Wilmington Waterfront Development Program (LAHD and PCAC 2004) is the result of efforts by PCAC, the PCAC Wilmington Waterfront Development Subcommittee, and the LAHD. The program identifies a number of goals and

implementation strategies for the Wilmington Waterfront area and anticipates two independent projects: (1) preservation of the Harry Bridges Buffer Area, which will provide a physical space between the Wilmington community and the Port; and (2) the Avalon Development District, which is intended to provide waterfront access and commercial development opportunities for Wilmington. The Wilmington Development Program is the result of a series of planning efforts, beginning with the Wilmington/Port Area Planning Study in 1987 and including the conceptual Wilmington Waterfront Development Plan prepared in 2003. In October 2005, Port staff presented an update on the Wilmington Waterfront Development Program to the Board of Harbor Commissioners with a status update for implementing the Harry Bridges Buffer Area and Avalon Development District projects. Through this process, it was evident that the two projects were at different stages of planning and development and did not rely on each other for implementation. Planning for improvement of the Harry Bridges Buffer Area, which is owned by the Port, has been conducted as part of the Berth 136–147 project evaluated in an earlier EIS/EIR. The Avalon Development District project, however, was found to be poorly defined, and key development issues including land ownership questions and zoning restrictions were not yet established. This project would proceed with a master planning study, and then continue through its own environmental document and into design and construction.

7.2.2.4.4 Wilmington Waterfront Master Plan and Development Program (Avalon Development District Project)

The Wilmington Waterfront Master Plan and Development Program is the result of a comprehensive planning process among community representatives, Port of Los Angeles staff, and stakeholders. The Master Plan establishes the conceptual design for public improvements along Avalon Boulevard. The Wilmington Waterfront Master Plan establishes the location and character of public open spaces, plazas, parks, and other public amenities; the location and character of commercial and industrial development; and the circulation pattern and parking approach to support public access. The Wilmington Waterfront Master Plan builds upon existing plans for the Avalon Development District area, in particular the Wilmington Waterfront Development Final Plan (2004), and acknowledges the land use restrictions of the State Tidelands Trust Doctrine. The Master Plan serves as a framework for amending existing plans, policies, and guidelines of the Port of Los Angeles and of the City of Los Angeles, including the Wilmington-Harbor City Community Plan.

7.2.2.4.5 San Pedro Waterfront Master Plan

The San Pedro Waterfront Master Plan area includes 400 acres of Port property along an 8-mile stretch of waterfront from the Vincent Thomas Bridge to the Federal Breakwater in San Pedro. Designed to bring the community closer to the waterfront and triple the amount of existing open space, it is divided into six districts that focus on individual uses and traits: the Piers, Downtown Waterfront, San Pedro Slip/Ports

O'Call, Marina/Resort, Beaches, and Warehouse Districts. Extensive waterfront development will continue in phases over the next decade. When complete, there will be 8.5 miles of public and revitalized waterfront, parks, plazas, beaches, harbors, and cultural and recreational attractions. All will be linked by a continuous promenade from bridge to breakwater. Improvements will include open space, landscaping, and improved access (a promenade), retail and commercial uses, civic uses, transportation, and parking.

7.3 Project Effects Related to Socioeconomics and Environmental Quality

7.3.1 Impact Methodology

CEQA is only concerned with the disclosure and mitigation of significant physical environmental effects related to the construction and operation of a proposed project. However, LAHD is committed to disclosing the greater impacts a project may have on the community, including effects related to socioeconomics and environmental quality. Consequently, an impact discussion on socioeconomics is provided below.

The initial step in estimating socioeconomic effects associated with implementation of a project is to characterize aspects of the construction and operational phases of that project.

Distinctions are made between the terms "hinterland" and "economic impact area." The hinterland of a port is the spatial extent of the market reach (that is, the geographical area from which cargo shipped through a port originates and the cargo's destination area). The geographical extent of the hinterland usually is related directly to the size and number of facilities at a port. The economic impact area is a geographical area selected for purposes of impact analysis and includes the area within which the great majority of project-related impacts are anticipated. The economic impact area is typically smaller than the hinterland.

The primary catalyst for changes to socioeconomic resources is a change in economic activity (that is, industrial output [value of goods and services], employment, and income). Changes in employment in an area have the potential to affect population, housing, and environmental quality. This is especially the case when the additional job opportunities created through implementation of a project (during the construction and operation phases) cannot be satisfied by the local workforce. Such a situation can trigger a movement of workers to the area to fill the supply of new jobs. Such an influx may be temporary, as in the case of short-lived construction activity, or permanent, as in the case where workers move to an area to fill long-term jobs. The movement of workers (and sometimes their accompanying family members) into

an area depends mainly on the number of job opportunities made available by the project and the number and skill mix of workers available in the local labor force.

7.3.1.1 Region of Influence

The Port of Los Angeles is a national asset. Many of the direct and secondary economic impacts associated with its operation, however, are concentrated in a region of influence (ROI) comprising five of the counties in Southern California. The large majority of people working at the Port reside in Los Angeles and Orange Counties. The ROI is defined as the following five counties: Los Angeles, Orange, Riverside, San Bernardino, and Ventura (San Diego and Imperial counties are excluded from the region).

7.3.1.2 Economic Measures of Project Effects

In describing the economic effects that implementation of a project could have on the regional economy, a number of measures can be used such as net changes in regional employment, output, wages, tax revenue, and value added. Attention is focused here on employment, income, and tax revenues.

7.3.2 Proposed Project Effects

The proposed Project would be carried out in two phases. The improvements comprising the first phase are projected to occur mainly between 2009 and 2015, while those comprising the second phase would take place between 2015 and 2020. The construction activities of the proposed Project would result in direct proposed project expenditures of approximately $140 million over an 11-year period, during which time purchases of construction labor, materials, supplies, services, and equipment would be made by the applicant and the LAHD.

These expenditures, in turn, would produce a ripple effect that includes “indirect” activity associated with purchases by firms that supply goods and services to the construction industry, as well as “induced” activity resulting from expenditures by workers employed by the various firms involved in the economic activity (e.g., benefits to the retail sector from increased purchases by households). For simplicity these indirect and induced effects are referred to collectively as “indirect effects.”

7.3.2.1 Effects on Employment

The proposed Project would generate 1,186 direct construction jobs (based on the 8.5 construction jobs/million dollars of construction cost. This estimate is from the U.S. Bureau of Economic Analysis. Construction of the proposed Project is expected to

take place over the next 11 years, through 2020. The number of construction workers employed and working on site would vary over the course of the construction period. The direct construction jobs would also further result in 2,846 indirect jobs (based on 2.4 jobs for every construction job, given by U.S. Bureau of Economic Analysis). These secondary increases in employment are related to purchases from materials supply firms and their suppliers and household expenditures by workers, referred to, when combined, as "indirect employment."

Impacts to regional employment associated with construction activity can be assessed by comparing existing regional employment and the effects of the proposed Project. The County has a large pool of construction labor (156,700 people employed in construction industry in 2006; see Table 7-4) from which to draw. Much of the indirect workforce would also likely come from within the Los Angeles Basin. The proposed Project, therefore, is not anticipated to result in either in-migration or relocation of construction employees to satisfy the need for increased temporary, construction-related employment.

Implementation of the proposed Project would result in 336 direct jobs in its final buildout phase in 2020 (see Section 3.10, "Population and Housing," for a detailed discussion on employment generation from the proposed Project). As with the short-term construction employees discussed above, no significant influx of employees into the local communities would occur.

7.3.2.2 Effects on Local Business, Income, and Tax Revenues

The proposed Project would lead to displacement of two businesses, namely Marine Technical Services at 121, 131, and 133 North Avalon Boulevard and a property at 115 North Avalon Boulevard (Catalina Freight, in the waterfront area, is being relocated independently and is not part of the proposed Project.) Marine Technical Services has already been acquired and is under the process of being relocated within the proposed project area in the block between Fries Avenue, Marine Avenue, C Street, and Harry Bridges Boulevard. Both of these businesses would be acquired, possibly through eminent domain, and since they would be relocated in proposed project area itself, there would be no loss of revenue. Thus, the impact would not be significant on local businesses.

The proposed Project would lead to increased tax revenues for the Port and the City of Los Angeles by expanding the tax base of the area through the introduction of the Mercado, new restaurants, and new industrial development. The proposed Project is expected to generate annual revenue of $1.2 million from ground leases (Economic and Planning System, Inc, 2006:21). The construction of new public open spaces that consist of plazas, parks, and landscape and hardscape areas, would make the Wilmington community more attractive to visitors. Hence, there would be an overall beneficial impact on local business revenue.

7.3.2.3 Effects on Population

The proposed Project does not include the development of new housing or infrastructure that would directly induce population growth. However, the proposed commercial and industrial establishments could indirectly lead to an increase in area population. Additionally, improvements such as the Mercado, restaurants, industrial development, and more open space areas may result in the San Pedro area being more attractive to prospective residents. However, no major shifts in population are expected as a direct result of the proposed Project.

Construction of the proposed Project is expected to take place over the next 11 years, through 2020, and would generate 1,186 construction jobs (based on the 8.5 construction jobs/million dollars of construction cost, U.S. Bureau of Economic Analysis). The number of construction workers employed and working on site would vary over the course of the construction period. Because construction workers commute to a job site that often changes many times throughout the course of the year, they are not likely to relocate their households to any significant degree as a consequence of opportunities for construction work. In addition, many workers are highly specialized and move among job sites as dictated by the need for their skills. Also, because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process.

The proposed Project would also generate 336 direct jobs when it is fully built out. These increases in jobs, though beneficial, are nonetheless miniscule compared to the workforce of 8 million, and the population of 17 million, in the five-county area (Tables 7-1 and 7-4). The proposed Project would therefore not be associated with substantial population growth and would not result in population displacement. Thus, as per Chapter-8, “Growth-Inducing Impacts,” negligible impacts on population are anticipated.

7.3.2.4 Effects on Housing

The proposed Project would not displace any housing and does not propose construction of housing. Because of the large workforce in the region, the need for 1,186 construction workers during the construction period and the job increases identified above, as well as changes in long-term (2009–2020) direct and indirect employment from operation of the proposed Project, would not result in significant population in-migration and relocation; therefore, the proposed Project would result in negligible changes in demand for additional housing.

7.3.2.5 Effects on Property Value Trends

A reduction in property value is not expected due to the proposed Project given the addition of public amenities like the waterfront promenade and increased open space acreage, aesthetic improvements, and transportation improvements. While proximity of the Port may historically have led to lower residential property values in communities nearest the Port compared to more affluent communities in southern Los Angeles County, such as Redondo Beach and Rancho Palos Verdes, residential property values in communities near the Port have grown in recent years and do not exhibit depreciated or stagnant numbers. However, the recent housing market slump has led to decreased property values throughout California, a trend mirrored in the study area and the nearby communities. It is not anticipated that the proposed Project would change residential property trends in the areas immediately adjacent to the Port. Median home prices increased at high rates in a number of communities in the South Bay area of Los Angeles County from 1997 to 2006. Home prices increased in all communities regardless of price levels at the beginning of the period. Those communities with the highest growth rates were often communities with the lowest home prices.

The proposed Project would increase the number of direct, indirect, and induced jobs and income in the region, and result in other economic benefits. While the economic impacts are beneficial, the increase in jobs attributable to the proposed Project would be relatively small compared to current and projected future employment in the larger economic region. Thus, the proposed Project would also not likely contribute substantially to demand for housing, but would provide a public benefit potentially resulting in a positive effect on property values.

7.3.2.6 Urban Blight

Concern exists regarding the possible nexus between "blighted" conditions in communities adjacent to the Port and activities at the Port, and this topic is addressed in Section 3.1, "Aesthetics." The term "blight" is used in a general sense to describe industrial conditions; however, the term has a very specific legal definition under redevelopment law and mainly refers to substantial physical deterioration of an area caused by physical or economic forces.

Adverse physical conditions include structures with serious code violations, buildings that are dilapidated and deteriorated, inadequate lot sizes or configurations for existing market conditions, or incompatible adjacent land uses that prevent the economic development of those or other parcels. Adverse economic conditions include depreciated or stagnant property values, abnormally high business vacancies or excessive vacant lots, a lack of necessary commercial facilities that are normally found in neighborhoods (for example, grocery stores or banks), residential overcrowding, an excess of businesses that cater to adults, and crime rates that constitute a serious threat to public safety and welfare.

In the City of Los Angeles, the Community Redevelopment Agency Board and City Council are jointly responsible for making the determination that an area has a blighted condition. Once a determination of blight is made, and a redevelopment plan is approved by the City Council, redevelopment under the Community Redevelopment Law can occur. A redevelopment area has been designated close to the Port in Wilmington (the Los Angeles Harbor Industrial Center Redevelopment Project area). Additionally, the Port of Los Angeles has implemented a number of actions designed to enhance community quality of life and provide public access to visually stimulating and historically relevant developments within and adjacent to the Port.

One potential precursor of blight is depreciated or stagnant property values. Property value trends in communities adjacent to the proposed project site were discussed above. Residential property values in communities adjacent to the Port have increased in recent years and do not exhibit depreciated or stagnant values. The proposed Project would not adversely influence residential property values in the areas immediately adjacent to the Port. In addition, changes in property value are dependent on numerous factors unrelated to the Port including monetary interest rates, ease of access to employment centers, availability of quality education, and historic and existing zoning practices. Also, the proposed Project would increase the number of direct, indirect, and induced jobs and income in the region and would result in other economic benefits. As a consequence, the proposed Project would not result in blight impacts.

Proposed project facilities would be designed and built to comply with existing municipal codes and standards. The proposed Project would not cause building code violations, dilapidation and deterioration, defective design or physical construction, faulty or inadequate utilities, or other similar factors. The proposed Project would provide public amenities like open spaces, more parking, and better coastal access for the public, in addition to commercial and light industrial uses. The proposed Project would use required design standards, and facilities would be sized given present standards, market conditions, and expected growth.

8.0

GROWTH-INDUCING IMPACTS

8.1 Introduction

The State of California CEQA Guidelines require an EIR to discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. This includes ways in which the proposed project would remove obstacles to population growth or trigger the construction of new community services facilities that could cause significant effects (State CEQA Guidelines, Section 15126.2).

To address this issue, potential growth-inducing effects are examined through the following considerations:

- removal of obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the proposed project area or through changes in existing regulations pertaining to land development;
- expansion requirements for one or more public services to maintain desired levels of service as a result of the proposed Project;
- facilitation of economic effects that could result in other activities that would significantly affect the environment; and/or
- setting a precedent that could encourage and facilitate other activities that could significantly affect the environment.

Per the *L.A. CEQA Thresholds Guide*, "The potential to induce substantial growth may be indicated by the introduction of a project in an undeveloped area or the extension of major infrastructure. Major infrastructure systems include: major roads, highways, or bridges; major utility or service lines; major drainage improvements; or grading which would make accessible a previously inaccessible area" (Los Angeles 2006). In addition, a project would directly induce growth if it would directly foster population growth or the construction of new housing in the surrounding

environment (e.g., if it would remove an obstacle to growth by expanding existing infrastructure).

It should be noted that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this proposed Project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this Draft EIR. The analysis below focuses on whether the proposed Project would directly or indirectly stimulate growth in the surrounding area.

8.2 Growth-Inducing Impact Analysis

As stated in Chapter 2, "Project Description," the overall objectives of the proposed Project are to:

- construct a project that will serve as a regional draw and attract visitors to the waterfront in Wilmington;
- design and construct a waterfront park and promenade to enhance the connection of the Wilmington community with the waterfront while integrating design elements related to the Port's and Wilmington's past, present, and future;
- construct an independent project that integrates design elements consistent with other area community development plans to create a unified Los Angeles waterfront through the integration of publicly oriented improvements;
- enhance the livability and economic viability of the Los Angeles Harbor area, Wilmington community, and surrounding region by promoting sustainable economic development and technologies within the existing commercial Avalon Development District;
- integrate environmental measures into design, construction, and operation to create an environmentally responsible project; and
- extend the Port of Los Angeles Plan and Port Master Plan to encompass the proposed project area to provide LAHD with better means to improve future development and economic conditions in the area.

Given the overall purpose and objectives, the proposed Project is designed not only to improve the Port itself, but also to improve environmental and economic conditions for the entire surrounding region and to create a waterfront that is more accessible and user-friendly for both residents of the area and visitors from the greater region.

8.2.1 Removal of Obstacles to Growth

The proposed Project does not include the development of new housing or population-generating uses or infrastructure which would directly induce population growth. Furthermore, the proposed Project is located in an urban area that has experience significant development over the past century. Undisturbed areas (i.e. greenfield development) are not available for residential development and any residential development that would occur as a result of the proposed Project's implementation would be infill development located in the relatively distant residential areas to the northwest and beyond. Therefore, the proposed Project would not directly trigger new residential development in the proposed project area.

While the proposed Project does not include the development of new housing or infrastructure that would directly induce population growth through new residential uses, it would include infrastructure and transportation improvements such as the enhancement of streetscaping, extension of the Waterfront Red Car Line and multi-use California Coastal Trail, and improvements to the Avalon Development District and Avalon Waterfront District that enhance pedestrian mobility and waterfront access, which would remove obstacles to growth. Additionally, the amendments and zone changes of the proposed Project would allow for the visitor-serving development as proposed by the Project would also open up the surrounding area to an increase in visitor-serving development. The proposed Project's removal of obstacles and enhancement of the transportation system within the proposed project site would contribute to an indirect growth-inducing effect.

8.2.2 Facilitation of Economic Effects or Setting Precedent Resulting in Environmental Impacts

The proposed increase in light industrial, commercial, recreational development, and construction activities associated with the overall proposed Project would provide new local employment opportunities. As discussed in Section 3.10, "Population and Housing," and Chapter 7, "Socioeconomics and Environmental Quality," the proposed Project would result in direct and indirect increases in employment attributable to this new development under proposed project conditions. Additionally, the light industrial and commercial development is anticipated to generate approximately 336 permanent jobs by the year 2020. Construction of the proposed Project would entail a large effort over a 10-year period and is expected to generate 1,186 direct construction jobs and approximately 2,846 indirect construction jobs.

The proposed Project's contribution to regional employment accounts for 0.5% of regional employment. Given the highly integrated nature of the southern California economy and the prevalence of cross-county and inter-community commuting by workers between their places of work and places of residence, it is unlikely that a substantial number of workers would change their place of residence in response to

the new Port-related employment opportunities. Such potential residential relocation is especially unlikely given that about half the new jobs created are secondary and, by their nature, distributed throughout the five-county region. Thus, in the absence of changes in the place of residence by persons likely to fill the job opportunities, distributional effects to population and, thus, an increase in housing assets, are not likely to occur.

The streetscape improvements for industrial land uses and the proposed commercial land uses within the Avalon Development District as well as the land use plan amendments and zone changes allowing the construction of recreational and visitor serving development within the Avalon Waterfront District of the proposed Project could encourage developers to invest in the Wilmington–Harbor City area with new projects, highlighting the proposal for the enhanced Wilmington Waterfront as a future amenity. Such additional development within the surrounding area would potentially result in some additional environmental impacts such as traffic congestion, air quality impacts, increased noise levels, and aesthetics/visual changes and would be subject to environmental analysis pursuant to CEQA.

8.2.3 Expansion of Public Services or Utilities

As discussed in Sections 3.12, "Utilities," and 3.13 "Public Services," implementation of the proposed Project would generate increased demand for water, natural gas, and electricity. However, the proposed Project would not require upgrades or new construction of major water, natural gas, or power infrastructure, with the exception of extending a recycled water line from Harry Bridges Boulevard to serve the landscaping of the proposed Project with recycled water. Therefore, existing infrastructure and supplies related to water, natural gas, and electricity are adequate to serve the proposed Project.

The proposed Project would result in minimal increases in wastewater output. However, as discussed in Sections 3.12, "Utilities," and 3.13, "Public Services," inadequate capacity exists in the existing sewer trunk lines as it is at its maximum capacity in the proposed project area. Therefore, it cannot accommodate anticipated increases in wastewater output associated with proposed project operations. As part of the proposed Project, the sewer trunk line would have to be upgraded. Wastewater flows generated from implementation of the proposed Project would be conveyed to, and treated by, the Terminal Island Treatment Plant. The treatment plant currently operates at 55% capacity. Therefore, no increased capacity of wastewater treatment infrastructure would be required to serve the proposed Project.

8.3 Summary of Growth-Inducing Impacts

As discussed above, the proposed Project would foster economic growth but would not directly induce population growth or the construction of new housing in the

Port's region of influence (Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties). The proposed Project would include new industrial and commercial development as well as supporting infrastructure and recreational uses that would improve economic conditions and public accessibility. However, this would not stimulate a significant growth in population, although economic benefits would occur in the surrounding community which would have a small positive correlation to population growth. Finally, a General Plan Amendment and Port Master Plan Amendment are proposed, which would modify land use designations to allow for recreational uses; however, these amendments would not encourage new population growth in any substantial way nor would it result in the construction of a substantial amount of new housing.

9.0

SIGNIFICANT IRREVERSIBLE IMPACTS

9.1 Introduction

Pursuant to Section 15126.2(c) of the CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by the proposed Project should it be implemented. Section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

9.2 Analysis of Irreversible Changes

The proposed Project would require the use of nonrenewable resources, such as the waterfront area and fossil fuels, and nonrenewable construction materials. Operation of individual facilities under the proposed Project would result in an irreversible commitment of nonrenewable resources, including fossil fuels and natural gas. Use of these resources, however, would not substantially deplete existing supplies.

Fossil fuels and energy would be consumed during construction and operation activities. Fossil fuels in the form of diesel oil and gasoline would be used for construction equipment and vehicles. During operations, diesel oil and gasoline would be used by transient boats and vehicles. Electrical energy and natural gas would also be consumed during construction and operation. These energy resources would be irretrievable and their loss irreversible.

Nonrecoverable materials and energy would be used during construction and operational activities, but the amounts needed would be accommodated by existing supplies. Although the increase in the amount of materials and energy used would be limited, they would nevertheless be unavailable for other uses.

Construction activities that result in physical changes to the environment have the most potential to result in irreversible changes. However, none of the proposed project elements would result in irreversible environmental damage. For example, the proposed Project would not have a significant impact on sensitive biological species or communities, demolish significant cultural resources, or result in water quality impacts that could not be mitigated to less-than-significant levels. The excavation associated with the new bulkhead is in an area already developed for Port use, and the land use would not significantly change. The proposed Project would also not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

Impacts associated with operation of the proposed Project would occur as described in Chapter 3, "Environmental Analysis." However, such impacts would cease to exist or change in some fashion should the proposed Project, or portions thereof, cease to operate, change operations, or otherwise be redeveloped and reused. For example, impacts related to aesthetics would change should the area be demolished and/or redeveloped in the future; impacts on geology are related to existing hazards that would be reduced or eliminated should the area not be occupied in the future; impacts related to hazards and hazardous materials would generally be improved by the proposed Project, but could be further reduced should hazardous facilities be decommissioned, removed, cleaned, and redeveloped with less polluting uses; impacts related to noise would be reduced or eliminated should light industrial and commercial activities be reduced or eliminated; and similarly, traffic impacts would be eliminated or reduced with operational changes or physical improvements that may occur in the future.

Thus, the proposed Project would result in significant irreversible changes due to the use of energy resources and fossil fuels during construction and operation. However, construction and operation of the proposed Project would not result in significant irreversible impacts on other environmental resources, as described above.

10.0

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12.0

ACRONYMS

µg/l	micrograms per liter
µg/m^3	micrograms per cubic meter
µm	microns
AAPA	American Association of Port Authorities
AAQS	ambient air quality standard
AB	Assembly Bill
AC	asphalt concrete
ACGs	allisions, collisions, and groundings
ACMs	asbestos containing materials
ACTA	Alameda Corridor Transportation Authority
ADT	average daily traffic
AFL	American Federation of Labor
afy	acre-feet per year
AHMs	Acutely Hazardous Materials
AMP	alternative maritime power
AMSEC	Area Maritime Security Evacuation Committee
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
ASL	above sea level
ASTs	above-ground storage tanks
ATSAC	Automated Traffic Surveillance and Control
ATSC	Adaptive Traffic Control System
AVR	average vehicle ridership
BACTs	Best Available Control Technologies
Basin Plan	Water Quality Control Plan: Los Angeles Region Basin Plan
bbl	barrel

BFI	Browning Ferris Industries
BMP	best management practices
BOD	biological oxygen demand
Buffer Area	Harry Bridges Buffer Area
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAP	Ports Clean Air Action Plan
CAAQS	California Ambient Air Quality Standards
Cal-ARP	California Accidental Release Prevention Program
CalEPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAS	Climate Adaptation Strategy
CBC	California Building Code
CBP	Customs and Border Protection
CCA	California Coastal Act
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCC	criterion continuous concentrations
CCPS	Center for Chemical Process Safety
CCR	California Code of Regulations
CCT	California Coastal Trail
Cd	cadmium
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CDP	Coastal Development Permit
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CEQA Guidelines	Guidelines for Implementation of the California Environmental Quality Act of 1970
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations

CGS	California Geological Survey
CH_4	methane
CHC	Cultural Heritage Commission
CHL	California Historic Landmarks
CHRIS	California Historical Resources Information System
CIMWB	California Integrated Management Waste Board
CIRS	California Incident Reporting System
CiSWMPP	City of Los Angeles Solid Waste Management Policy Plan
City	City of Los Angeles
CLE	Contingency Level Earthquake
CMA	Critical Movement Analysis
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
Coastal Act	California Coastal Act of 1976
Committee	Harbor Safety Committee
COTP	Captain of the Port
CP	Community Plan
CPA	Community Plan Area
CPUC	California Public Utilities Commission
Cr	chromium oxide
CRA	Community Redevelopment Agency
CRA/LA	Community Redevelopment Agency of the City of Los Angeles
CRHR	California Register of Historical Resources
CSI	Container Security Initiative
CSFM	California State Fire Marshall
CSLC	California State Lands Commission
CTR	California Toxics Rule
CU	copper
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWC	California Water Code
dB	decibel
dBA	A-Weighted Sound Level

d/D	depth/Diameter
DDT	dichloro-diphenyl-trichloroethane
DEHP	di(2-ethylhexyl)phthalate
DFG	Department of Fish and Game
DO	dissolved oxygen
DOC	diesel oxidation catalysts
DoD	Department of Defense
DOGGR	Division of Oil, Gas, and Geothermal Resources
DOT	Department of Transportation
DPM	diesel particulate matter
DS	Dip Slip
DTSC	Department of Toxic Substances Control
DWP	Department of Water and Power
DWT	deadweight tonnage
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJ	Environmental Justice
EMS	environmental management system
EMT	emergency medical technician
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-To-Know Act
EPD	Emergency Preparedness Department
EPP	Environmentally Preferable Purchasing
ERL	Effect Range Low
ERM	Effect Range Medium
ERPG	Emergency Response Planning Guidelines
ESA	Endangered Species Act
ESD	Emergency Shutdown
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FMP	Fishery Management Plan
fps	feet per second
FRA	Federal Railroad Administration

FSP	Facility Security Plan
FTA	Federal Transit Authority
g	acceleration due to gravity
g/bhp-hr	gram/brake horsepower-hour
g/hp-hr	gram per horsepower-hour
Gas Company	Southern California Gas Company
GCASP	general construction activities storm water permit
GHGs	greenhouse gases
GIASP	general industrial activities storm water permit
GMC	Growth Management Chapter
GPA	General Plan Amendment
gpd	gallons per day
gpm	gallons per minute
gsf	gross square feet
GVWR	gross vehicle weight rating
GWP	global warming potential
HBRA	Health Based Risk Assessment
HCMs	Historic-Cultural Monuments
HDPE	high density polyethylene
HFCP	Hazard Footprint Program
HFCs	hydrofluorocarbons
Hg	mercury
HGS	Harbor Generating Station
HHMD	Health Hazardous Materials Division
HHW	higher high water
HID	high-intensity-discharge
HLW	higher low water
HMA	Hazardous Materials Assessment
HMI	Hazardous Materials Inventory
HMTA	Hazardous Materials Transportation Act
HMW	high-molecular-weight
hp	horsepower
HPOZ	Historic Preservation Overlay Zone
HRA	health risk assessment
HRI	Historic Resources Inventory
HSP	Harbor Safety Plan

HSWA	Hazardous and Solid Waste Act
HTS	Hyperion Treatment System
Hz	Hertz
I-110	Harbor Freeway
ICS	Incident Command System
ICTF	Intermodal Container Transfer Facility
IDA	International Dark-Sky Association
IES	Illuminating Engineering Society
IESNA	Illuminating Engineering Society of North America
ILA	International Longshoremen's Association
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Plan
IS	Initial Study
ISPS	International Ship and Port Facility Security
IWG	Interagency Working Group
kHZ	kilohertz
KOPs	Key Observation Points
KSF	1,000 square feet
kts	knots
kVA	Kilovolt-Amps
kW	kilowatt
LA&SP	Los Angeles and San Pedro Railroad
LACDPW	Los Angeles County Department of Public Works
LACFD	Los Angeles County Fire Department
LADOT	Los Angeles Department of Transportation
LADWP	City of Los Angeles Department of Water and Power
LAF	Sound level with "A" Frequency weighting and Fast Time weighting
LAFD	City of Los Angeles Fire Department
LAHD	Los Angeles Harbor Department
LALB	Los Angeles and Long Beach Harbors Complex
LAMC	Los Angeles Municipal Code
LAMTA	Los Angeles Metropolitan Transit Association
LAPD	Los Angeles Police Department
LARWQCB	Los Angeles RWQCB
LAXT	Los Angeles Export Terminal

LBP	lead based paint
LCPs	Local Coastal Programs/Local Coastal Plans
L_{dn}	Day/Night Noise Level
LEED	Leadership in Energy and Environmental Design
LEPC	Local Emergency Planning Committee
L_{eq}	Equivalent Noise Level
LFL	lower flammability limit
LHW	lower high water
LLW	lower low water
LOS	level of service
LRT	Light Rail Transit
M	magnitude
MATES	Multiple Air Toxics Exposure Study
mby	million barrels per year
MCE	maximum credible earthquake
MCLs	Maximum Contaminant Levels
Metro	Los Angeles County Metropolitan Transportation Authority
mg/l	milligrams per liter
mgd	million gallons per day
MHHW	Mean higher high water
MLLW	mean lower low water
MMcf	million cubic feet
mmHG	millimeter of mercury
MMT	million metric tons
MOTEMS	Marine Oil Terminal Engineering and Maintenance Standards
MOU	Memorandum of Understanding
MPE	maximum probable earthquake
MPRSA	Marine Protection, Research and Sanctuaries Act
MRI	Midwest Research Institute
MRZ	Mineral Resource Zone
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSDS	Material Safety Data Sheet
MSL	mean sea level
MTF	Market Trading Forum
MTSA	Maritime Transportation Security Act
MW	megawatts

MWD	Metropolitan Water District of Southern California
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NC	New Construction
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NIMS	National Incident Management System
nm	nautical miles
NMFS	National Marine Fisheries Service
NMHC	nonmethane hydrocarbon
NNI	No Net Increase
NO_2	nitrogen dioxide
NOAA	National Oceanographic and Atmospheric Association
NOP	Notice of Preparation
NOS	National Ocean Service
NO_X	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
NRHP	National Register of Historic Places
NTSB	National Transportation Safety Board
O_3	ozone
OCR	Optical Character Recognition
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OLE	Operational Level Earthquake
OPA 90	Oil Pollution Act of 1990
OPR	Office of Planning and Research
OPS	Office of Pipeline Safety
OSCP	Oil Spill Contingency Plan
OSHA	Occupational Safety and Health and Administration
OSPR	Office of Spill Prevention and Response
PA 3	Planning Area 3, the West Turning Basin
PA 4	Planning Area 4, the West Basin
PA 5	Planning Area 5, The Wilmington District

PAH	polycyclic aromatic hydrocarbon
Pb	lead
PCAC	Port Community Advisory Committee
PCBs	polychlorinated biphenyls
PCE	Passenger Car Equivalent
PCP	pentachlorophenol
PE	Pacific Electric
PERP	Portable Equipment Registration Program
PFCs	perfluorocarbons
PHI	Points of Historical Interests
PHL	Pacific Harbor Line
PIANC	Port International Navigation Association
PM	particulate matter
$PM_{2.5}$	particulate matter smaller than or equal to 2.5 microns in diameter
PM_{10}	particulate matter smaller than or equal to 10 microns in diameter
PMP	Port Master Plan
Port	Port of Los Angeles
Port Plan	Port of Los Angeles Plan
PORTS	Physical Oceanographic Real Time System
ppm	parts per million
ppmv	parts per million by volume
ppt	parts per thousand
PRC	Public Resources Code
PRGs	Preliminary Remediation Goals
Program	Wilmington Waterfront Development Program
proposed Project	Wilmington Waterfront Development Project
psi	pounds per square inch
PUC	Public Utilities Commission
[Q]M2	Qualified Light Industrial
[Q]M3	Qualified Heavy Industrial
RCP	Regional Comprehensive Plan
RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act
RFP	Request for Proposals
RHA	Rivers and Harbors Act
RMP	Risk Management Plan

RMPP	Risk Management Prevention Program
RMS	root mean square
RNA	regulated navigation area
ROW	Right-of-Way
RRP	Release Response Plan
RSPA	Research and Special Programs Administration
RTP	Regional Transportation Plan
RTTM	Real Time Transient Model
RWQCB	Regional Water Quality Control Board, Los Angeles Region
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAB	South Coast Air Basin
SCADA	Supervisory Control and Data Acquisition System
SCAG	Southern California Association of Government
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCG	Southern California Gas Company
SCIG	Southern California International Gateway
SCR	Selective Catalytic Reduction
SEMS	Standardized Emergency Management System
SEPU	Special Events Permit Unit
SERC	State Emergency Response Commission
SERRF	Southeast Resource Recovery Facility
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SLC	State Lands Commission
SLF	Sanitary Landfill
SMARA	Surface Mining and Reclamation Act of 1975
SO_X	sulfur oxides
SPBP CAAP	San Pedro Bay Ports Clean Air Action Plan
SPCC	Spill Prevention, Control, and Countermeasure
SPRR	Southern Pacific Railway
SRRE	Source Reduction and Recycling Element
SS	Strike Slip
SSO	Ship Security Officer

STLC	Soluble Threshold Limit Concentrations
SUSMP	Standard Urban Stormwater Mitigation Plan
SVOCs	semi-volatile organic compounds
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TATTN	Tongva Ancestral Territorial Tribal Nation
TEUs	twenty-foot equivalent units
TITP	Terminal Island Treatment Plant
TMDLs	Total Maximum Daily Load
TNM®	Traffic Noise Model
TOD	transit oriented development
Trapac	Trans Pacific
TSA	Transportation Security Administration
TSS	traffic separation scheme
TWIC	Transportation Worker Identification Credential
UBC	Uniform Building Code
UFPs	ultrafine particles
UP	Union Pacific
UPA	Unified Program Agency
USACE	U.S. Army Corps of Engineers
USC	U.S. Government Code
USCG	U.S. Coast Guard
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
UWMP	Urban Water Management Plan
V/C	vehicle to capacity
VAR	Volts Ampere Reactive
VDEC	Verified Diesel Emissions Controls
VHF-FM	very high frequency-frequency modulation
VOCs	volatile organic compounds
vpd	vehicles per day
VSRP	Vessel Speed Reduction Program
VTS	Vessel Traffic Service
WDRs	Waste Discharge Requirements

WPD	Watershed Protection Division
WRAP	Western Regional Air Partnership
WRI	World Resources Institute
WSA	water supply assessment
ZIMAS	Zoning Information and Map Access System
Zn	zinc