# 3.14

# WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY

## 3.14.1 Introduction

This section addresses the potential impacts to water quality, sediments, and oceanography resulting from the proposed Project and its alternatives. This section also addresses surface water hydrology, including stormwater runoff, and potentials for flooding impacts. The environmental setting, applicable regulations, and impacts and mitigation measures are discussed in Sections 3.14.2 through 3.14.4, respectively. As discussed in Section 3.14.4, probable construction and operational impacts from the proposed Project to water and sediment quality, hydrology, and oceanography would be less than significant, with the exception that illegal discharges from vessels could create pollution or violate water quality standards. While an in-water oil spill related to the proposed Project would represent a rare event (Section 3.12), impacts to water and sediment quality also would be significant relative to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) Baselines.

### 3.14.1.1 Relationship to 1992 Deep Draft Final EIS/EIR

The 1992 Deep Draft Final Environmental Impact Statement/Environmental Impact Report (FEIS/FEIR) evaluated at a project-specific level, and recommended mitigation to the extent feasible for, all significant impacts on water quality, sedimentation, and oceanography related to navigation and landfill improvements required to construct Pier 400. This includes those portions of the current proposed Project that are located on Pier 400. The Deep Draft FEIS/FEIR also assessed at a general or programmatic level the projected impacts of development and operation of terminal facilities planned for location on Pier 400, including a marine oil terminal and associated infrastructure. The Deep Draft FEIS/FEIR concluded that the primary water quality, sedimentation, and oceanography impacts of terminal development and operation would result from the potential for: 1) an increase in toxic spills and surface runoff into the harbor during terminal construction and operation; 2) increased turbidity and oxygen demand during construction caused by dredging

activities; and 3) the release of toxic levels of trace metals and hydrocarbon contaminants by disturbance to contaminated sediments during construction activities. The Deep Draft FEIS/FEIR concluded that water quality, sedimentation, and oceanography impacts associated with the development of terminal facilities planned on Pier 400 due to increased turbidity and the potential release of toxic levels of trace metals and hydrocarbon contaminants during sediment disturbing construction were significant and unavoidable. The Deep Draft FEIS/FEIR recommended one programmatic mitigation measure to address the significant and unavoidable impacts. This mitigation measure recommended an increase in the staffing of the California Department of Fish and Game (CDFG) Office of Oil Spill Prevention and Response (OSPR).

The approved Deep Draft FEIS/FEIR incorporated the Mitigation Measures (MMs) listed below to address the significant impacts on oceanographic resources and water quality. One of these mitigation measures is still applicable to the proposed Project, while others have already been implemented or are not applicable to the proposed Project. New project-specific mitigation measures developed as part of this Supplemental document, as well as those that are applicable from the Deep Draft FEIS/FEIR, would be enforced by inclusion in an MMRP.

## Mitigation Measures from the 1992 Deep Draft Final EIS/EIR that are Applicable to the Proposed Project

The following MM was developed in the Deep Draft FEIS/FEIR to reduce the significant impacts to oceanographic resources and water quality. This measure remains applicable to the proposed Project:

**MM 4B-7** required the Los Angeles Harbor Department (LAHD) to petition the state for increased local staffing of OSPR to reduce the level of accidental spills at ship fuel docks.

## Mitigation Measures from the 1992 Deep Draft Final EIS/EIR that are No Longer Applicable or are Not Applicable to the Proposed Project

The following MMs were developed in the Deep Draft FEIS/FEIR to reduce the significant impacts to oceanographic resources and water quality during construction of the Deep Draft program. These measures are not applicable to the proposed Project for the reasons as stated:

**MM 4B-1** stated that the construction contractor shall use a silt curtain or other means that meet LARWQCB standards if necessary to localize the dredging plume.

***Reason No Longer Applicable:*** *The proposed Project does not include dredging. This mitigation was incorporated with the Deep Draft program and has already been carried out.*

**MM 4B-2** stated that the return water flow from disposal of dredged materials behind dikes shall meet the LARWQCB requirements for settleable solids.

***Reason No Longer Applicable:*** *The proposed Project does not include use of dredged material for land fill construction. This mitigation was incorporated with the Deep Draft program and has already been carried out.*

**MM 4B-3** stated that surface and near-surface contaminated sediments shall be placed and confined in in-harbor disposal sites, at least 200 ft from the containment dike wall.

***Reason No Longer Applicable:*** *The proposed Project does not include the disposal of contaminated sediments in in-harbor landfill sites nor construction of containment dikes for such landfills. This mitigation was incorporated with the Deep Draft program and has already been carried out.*

**MM 4B-4** stated that turbidity in harbor waters associated with erosion from Pier 400 surface runoff shall be controlled.

***Reason No Longer Applicable:*** *This mitigation was incorporated with the Deep Draft program and has already been carried out. Runoff from the proposed Project will be controlled through implementation of a Stormwater Pollution Prevention Plan (SWPPP), Standard Urban Stormwater Mitigation Plan (SUSMP), and best management practices (BMP) requirements.*

**MM 4B-5** stated that a spill contingency plan shall be developed for use during the construction of Pier 400.

***Reason No Longer Applicable:*** *This mitigation was incorporated with the Deep Draft program and has already been carried out.*

**MM 4B-6** stated that a 3-D numerical tidal circulation model shall be developed and implemented prior to the final design stage.

***Reason No Longer Applicable:*** *This mitigation was incorporated with the Deep Draft program and has already been carried out.*

## 3.14.2 Environmental Setting

This section addresses the water quality, sediments, and oceanography in the vicinity of the proposed Project and its alternatives. Existing water quality conditions in the Los Angeles Harbor (Harbor) and proposed Project areas have been summarized from the 2000 baseline study for the Ports (MEC and Associates 2002) and other sources. Water quality sampling on a harbor-wide basis recurs at a frequency of several years, with the most recent surveys completed in 2000. Use of 2000 (and earlier for some parameters) data to characterize conditions in 2004, which represents the CEQA Baseline for the proposed Project, is appropriate because water and sediment quality in the Harbor have remained about the same from 2000 to 2004, except where sediment conditions have been altered by dredging operations. This is reflected by monthly water quality measurements performed by the Port of Los Angeles (Port) that indicate considerable variability (scatter), but no trends over the

past several years. Therefore, use of earlier (2000) data for characterizing the baseline (2004) water quality conditions is appropriate.

### 3.14.2.1 Regional Setting

The proposed Project area is located in the Los Angeles Drainage Basin, which drains approximately 832 square miles (2,155 square km). The Harbor has been physically modified through past dredging and filling projects as well as by construction of breakwaters and other structures. The Harbor consists of the Inner Harbor (channels, basins, and slips north of the Vincent Thomas Bridge), Outer Harbor (south of Reservation Point to the San Pedro and Middle breakwaters), and Main Channel (between the Vincent Thomas Bridge and Reservation Point). The Harbor is adjacent to Long Beach Harbor, and oceanographically they function 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.

Pier 400, where the proposed Marine Terminal facility would be located, is a recent landfill in the Outer Harbor. Potential tank farm areas for the proposed Project are on Pier 400 and on Terminal Island to the north of Pier 400. Proposed pipeline routes extend from Pier 400, Terminal Island, and Mormon Island to the Valero Refinery (see Figure 2-1).

The combined Los Angeles/Long Beach Harbor oceanographic unit has two major hydrologic divisions, including marine and freshwater. The Harbor is marine and primarily influenced by the southern California coastal marine environment known as the Southern California Bight. The main freshwater influx into the Harbor is through Dominguez Channel, which drains approximately 80 square miles (207 square km) of urban and industrial areas. Other sources of freshwater to the Harbor include discharges of treated sewage from the Terminal Island Treatment Plant (TITP) into the Outer Harbor and discharges of runoff from storm drains located throughout the Harbor. The existing beneficial uses of coastal and tidal waters in the Inner 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, non-contact water recreation, commercial and sport fishing, preservation of rare and endangered species, and marine habitat (LARWQCB 1994). Beneficial uses in the Outer Harbor are navigation, water contact and non-contact recreation, commercial and sport fishing, marine habitat, and preservation of rare and endangered species. Several areas within the Harbor, and particularly in the Inner Harbor, are listed as impaired waters under Section 303(d) of the Clean Water Act (*Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments, Los Angeles Regional Board*; list approved by USEPA October 25, 2006). These include Consolidated Slip, Cabrillo Marina, Fish Harbor, Inner Cabrillo Beach Area, Los Angeles/Long Beach Outer Harbor (inside breakwater), Los Angeles/Long Beach Inner Harbor, Dominguez Channel, and Los Cerritos Channel (SWRCB 2006). The reasons for impairment are summarized in Table 3.14-1. Total Maximum Daily Loads (TMDLs) have not been developed for pollutants at any of these areas and are not planned until 2019. The LARWQCB amended the Basin Plan (Resolution No. 2004-011) to incorporate a TMDL for bacteria at the Harbor, including Inner Cabrillo Beach and the Main Ship Channel. However, this site is not listed for this stressor on the current Clean Water Act 303(d) list.

**Table 3.14-1. Section 303(d) Listed Waters in LA Harbor**

| *Listed Waters/Reaches* | *Impairments* |
|---|---|
| Los Angeles Harbor, Cabrillo Marina (77 acres; 31 ha) | DDT, PCBs |
| Los Angeles Harbor, Inner Cabrillo Beach Area (82 acres; 33 ha) | Cu, DDT*, PCBs* |
| Los Angeles/Long Beach Outer Harbor, inside breakwater (4042 acres; 1636 ha) | DDT, PCBs |
| Los Angeles Harbor, Fish Harbor (34 acres; 14 ha) | DDT, PAHs, PCBs, benzo[a]anthracene, chlordane, chrysene (C1-C4), Cu, dibenz[a,h]anthracene, Pb, Hg, phenanthrene, pyrene, sediment toxicity, Zn |
| Los Angeles/Long Beach Inner Harbor (3003 acres; 1215 ha) | Beach closures, benthic community effects, DDT, PCBs, sediment toxicity |
| Los Cerritos Channel (31 acres; 13 ha) | Ammonia, bis(2ethylhexyl)phthalate/DEHP, coliform bacteria, Cu, Pb, Zn, trash<br>Sediment: chlordane |
| Los Angeles Harbor, Consolidated Slip (36 acres; 15 ha) | Benthic community effects, sediment toxicity, dieldrin<br>Sediment: Cd, Cr, Cu, Pb, Hg, Zn<br>Sediment & tissue: chlordane, DDT*, PCBs*<br>Tissue: toxaphene |
| Domínguez Channel, from Vermont to Estuary (8.3 miles; 13.4 km) | Benthic community effects, Cr, Pb, Zn, pesticides, DDT, PAHs, ammonia, bacteria |
| *Note:* * Fish consumption advisory.<br>*Source*: SWRCB 2006. | |

The water and sediment quality parameters that could be affected directly by the proposed Project and its alternatives include dissolved oxygen, hydrogen ion concentration (pH), turbidity/transparency, nutrients, and contaminants. Other parameters commonly used to describe marine water quality include salinity and temperature. While the proposed Project and its alternatives would not directly affect salinity and temperature, they are addressed because stormwater runoff from the Project site could affect these conditions in the receiving waters of the Harbor. Oceanographic conditions that could be affected by the proposed Project include circulation (current patterns) as it may affect mixing and water exchange in the Harbor.

### 3.14.2.2 Water Quality

No natural, freshwater, surface features occur at Pier 400 or the remainder of Terminal Island. Surface freshwater at or near the proposed Project site is from stormwater runoff, which occurs episodically following rain events. Runoff from the site drains into the adjacent Harbor waters. The quality of the runoff water may reflect loadings from oils, grease, hydrocarbons, and particulate matter associated with the operation of vessel unloading facilities, industrial land uses, and runoff from roadways, which accumulate on the land surfaces during periods of dry weather. A small portion of the pipeline associated with the proposed Project would cross the

lower stretch of the freshwater-influenced Dominguez Channel, which is on the current 303(d) list for benthic community effects and various chemical and bacterial contaminants. Other areas of the Harbor that could be affected by the No Federal Action/No Project Alternative, especially Port of Long Beach Berths 76-78 and 84-87, are near but are not hydraulically connected to the lower portion of the Los Angeles River. Therefore, activities at these berths would not affect or be affected by the Los Angeles River.

Marine water quality in the Harbor is primarily affected by climate, circulation (including tidal currents), and biological activity. 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 also affect water and sediment quality within the Harbor. Results from the 2000 Baseline Study indicated that water quality characteristics within the harbor complex did not exhibit large spatial or seasonal trends, and the variability for individual water quality parameters within habitat types generally was comparable to variability among habitat types (MEC and Associates 2002).

The LARWQCB website (http://www.waterboards.ca.gov/losangeles/) lists 10 major National Pollutant Discharge Elimination System (NPDES) discharge sources, one publicly owned treatment works, six refineries, 58 minor discharges, 63 general discharges, 424 discharges covered under an industrial stormwater permit, and 115 discharges under the construction stormwater permit. 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 (CTR) (USEPA 2000). The relative contributions (i.e., loadings) to the 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.

#### 3.14.2.2.1 Salinity

The salinity of surface and bottom waters in the Harbor primarily reflects regional oceanographic patterns, although small, localized variations occur due to the effects of stormwater runoff, waste discharges, rainfall, and evaporation. Harbor salinities usually range from 30.0 to 34.2 parts per thousand (ppt), but salinities ranging from less than 10.0 ppt to greater than 39.0 ppt have been reported (USACE and LAHD 1984). The typical salinity for near-coastal marine waters is 33 ppt. Salinity measurements in surface and bottom waters of the Outer Harbor near the proposed Project site during 2000 ranged from 30.5 to 33.7 ppt (MEC and Associates 2002). The ranges in salinity measurements in surface and bottom waters near LAHD Berth 238 and Port of Long Beach Berths 86 and 76 were similar (32.8 to 33.7 ppt) (MEC and Associates 2002). These values are expected to be representative of salinity conditions in 2004 (i.e., CEQA Baseline) because the oceanographic processes that primarily affect salinity are recurrent natural changes due to physical, chemical, and biological conditions that are relatively stable over time.

#### 3.14.2.2.2 Temperature

Water temperature in the Harbor shows seasonal and spatial variations that reflect the influence of the ocean, local climate, 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 warmer but stratified temperatures with cooler waters at the bottom in the summer and fall. 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 and Associates 2002). In 2000, water temperatures in surface and bottom waters of the Outer Harbor near the proposed Project site ranged from 10.7 to 21.0 °C (51.3 to 69.8 °F) (MEC and Associates 2002). The temperatures of surface and bottom waters near LAHD Berth 238 and Port of Long Beach Berths 86 and 76 were comparable to those measured near Tank Farm Site 1, although temperatures in the inner portions of the harbor complex occasionally are slightly warmer due to limited mixing with colder water masses (MEC and Associates 2002). These values are expected to be representative of water temperatures in 2004 (i.e., CEQA Baseline) because the oceanographic processes that primarily affect water temperatures are relatively stable over time.

#### 3.14.2.2.3 Nutrients

Nutrients are necessary for primary production of organic matter by phytoplankton. Low nutrient concentrations can limit 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. Spatial and temporal variations in phosphates and nitrates change from day-to-day and are influenced by the local environment, including biological processes and stormwater runoff. Other sources of nutrients in harbor waters include wastewater discharges such as the TITP in the Outer Harbor, industrial discharges, and birds. Point source inputs, such as effluent discharges from wastewater treatment plants, are regulated through discharge permits. The enclosed nature of the Harbor creates seasonal and spatial levels of nutrient concentrations that vary from the so-called “normal” levels found in areas outside the breakwaters.

Depending on location, depth, and season, nutrient concentrations in the Los Angeles/Long Beach Harbor complex may vary by several orders of magnitude. The following ranges were measured in 1978 by Harbors Environmental Projects (HEP 1980): phosphate, 0.172 to 12.39 parts-per-million (ppm); ammonia, 0.12 to 119 ppm; nitrate, 0 to 82.97 ppm; and nitrite, 0 to 5.38 ppm. Nutrient concentrations were high during periods of high stormwater runoff. Compared to these nutrient concentrations measured in the 1970s, current baseline concentrations may be relatively lower due to greater restrictions on the wastewater discharges to the Harbor. However, data from long-term monitoring efforts do not exist to verify this.

#### 3.14.2.2.4 Dissolved Oxygen

Dissolved Oxygen (DO) is a principal indicator of marine water quality. DO concentrations may vary considerably based on the influence of a number of

processes and conditions such as respiration of plants and other organisms, oxygen demand from waste (nutrient) discharges, surface water mixing through wave action, diffusion rates at the water surface, water depth, and disturbance of anaerobic bottom sediments. The Basin Plan (LARWQCB 1994) specifies that the mean annual DO concentration of waters shall be 7 mg/l or greater, with no event less that 5 mg/l, except that the mean annual DO concentration in the Outer Harbor area shall be 6 mg/l or higher.

As recently as the 1960s, DO levels in the inner and middle portions of the 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 and Associates 2002). Algal (dinoflagellate) blooms still occur occasionally within the Harbor associated with high solar radiation and high nutrient levels, such as on sunny days following storm events. These blooms may ultimately result in severely reduced DO levels, but the effects are usually localized and short-lived. Dredging activities may also result in minor, short-term, localized DO reductions due to resuspension of materials with a high oxygen demand.

Sampling in 2000 of the Outer Harbor near the proposed Project site showed DO concentrations in surface, middle, and bottom waters from 3.9 to 7.5 mg/l, with concentrations below 5 mg/l only in the middle and lower water column in May (MEC and Associates 2002). DO concentrations measured near LAHD Berth 238 and Port of Long Beach Berths 86 and 76 ranged from about 4.3 to 7.5 mg/l, with the lowest concentrations occurring in near-bottom waters in May. Although present DO concentrations in the Harbor have increased relative to levels in the 1960s (MEC and Associates 2002), the concentrations measured in 2000 are expected to be representative of levels in 2004 (i.e., CEQA Baseline).

#### 3.14.2.2.5 pH

pH is the abbreviation for hydrogen ion concentration. The pH of marine waters typically remains fairly constant (from 8.0 to 8.3) due to the buffering capacity of seawater (Sverdrup et al. 1942). It is affected by plant and animal metabolism, mixing with water from external sources with different pH values and, on a small scale, by 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 pH range of 6.5 to 8.5 with a change in tolerance level of no more than 0.2 units due to discharges (i.e., Project impacts). During the 2000 Baseline study, pH levels ranged from 7.6 to 8.0 throughout the harbor complex (MEC and Associates 2002), including areas near the proposed Project site and near LAHD Berth 238 and Port of Long Beach Berths 86 and 76. These values are expected to be representative of pH conditions in 2004 (i.e., CEQA Baseline) because the processes that primarily affect pH are relatively stable over time.

#### 3.14.2.2.6 Transparency/Turbidity

Transparency is a measure of the ability of water to transmit light, or water clarity. Transparency is measured by the distance a black and white disk (i.e., a secchi disk)

can be seen through the water and by a transmissometer that measures percent light transmission through water. Turbidity is the amount (mass) of suspended solids in the water column and can be measured as a concentration (e.g., mg/l) or in nephelometric turbidity units (NTUs) using a turbidimeter that measures the intensity of light scattered by the water sample. Increased turbidity usually results in decreased water clarity or transparency. Turbidity generally increases as a result of one or a combination of the following conditions: fine sediment from terrestrial runoff or resuspension of fine bottom sediments; planktonic bloom; and dredging activities. In addition, propeller wash from ships moving in and out of the Harbor is a source of mixing in the water column, including disturbance of superficial bottom sediments, which likely affects transparency, especially in narrower channels in the Inner Harbor.

Historically, water clarity in the Harbor has varied tremendously, with secchi disk readings ranging from 0.0 to 40 ft (0 to 12 m). Water clarity generally increased from 1967 to 1986-1987 (USACE and LAHD 1992), although individual readings still vary greatly (MEC and Associates 2002). Suspended solids concentrations in surface waters of the Outer Harbor range from less than 1.0 to 22.4 mg/l (USACE and LAHD 1992). (Environmental studies of the Harbor have not reported turbidity in NTUs.) Transmissivity values measured in 2000 in the Outer Harbor near the proposed Project site ranged from 34 to 67 percent, and transmissivity values measured near LAHD Berth 238 and Port of Long Beach Berths 86 and 76 ranged from 42 to 69 percent, 30 to 74 percent, and 58 to 76 percent, respectively (MEC and Associates 2002). Although present water clarity levels in the Harbor have increased relative to levels in the 1960s, the values measured in 2000 are expected to be representative of levels in 2004 (i.e., CEQA Baseline).

#### 3.14.2.2.7 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/boat hull anti-fouling paints, petroleum or waste spills, atmospheric deposition, and resuspension of bottom sediments containing legacy (i.e., historically deposited) contaminants such as dichlorodiphenyltrichloroethane (DDT) and polychlorinated biphenyls (PCBs). Most of the metal, pesticide, and hydrocarbon 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, 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. Nevertheless, some localized areas of contaminated sediments still remain, and resuspension of these sediments by dredging or propeller wash from vessels can represent a source of contaminants to Harbor waters.

Concentrations of trace-level contaminants in Harbor waters are not monitored routinely. Therefore, information to characterize the spatial and temporal patterns in baseline concentrations of individual chemical contaminants in Harbor waters is not

available (AMEC 2007). Nevertheless, concentrations of metals, polycyclic aromatic hydrocarbons (PAHs), and legacy contaminants such as DDTs and PCBs are expected to vary spatially and over time in response to the magnitude of the numerous source inputs. In particular, concentrations of metals and PAHs in Harbor waters are expected to be considerably higher following a storm event due to the higher mass loadings associated with storm water runoff. Following a large storm event, contaminant concentrations decrease as loadings decline, storm water mixes with harbor waters, and contaminants associated with particles settle out of the water column to the bottom sediments. The Port has developed numerical models that predict the effects of storm flows from selected watersheds, such as the Dominguez Channel watershed, on inputs and fate of chemical contaminants to the Harbor (LAHD 2007).

The Port's Monthly Monitoring Program has measured water quality monthly at specific locations within the Port since 1969. From May 2005 until March 2006 the Port conducted the quarterly Enhanced Water Quality Monitoring program that sampled a location (Station LA03) near Pier 400 (AMEC 2007). None of the quarterly water samples collected at this location contained detectable concentrations of PAHs, PCBs, pesticides, or tributyltin (TBT). Concentrations of dissolved and total metals, including copper, were present at concentrations below water quality standards. By comparison, water samples from seven locations, primarily within inner portions of the Harbor typified by limited water circulation, contained concentrations of TBT that exceeded the water quality criterion, and one location contained copper concentrations that exceeded the water quality criterion, during one of the four quarterly surveys.

Recent studies have linked the atmospheric deposition of pollutants such as particulates, metals, and PAHs to pollutant loads in water bodies in the Chesapeake Bay and Great Lakes. In response to such research, California air and water regulators have also begun to examine the role of atmospheric deposition in California waters. One way to regulate potential deposition is through the TMDL program (established and regulated as part of the CWA), which sets daily load allocations on a pollutant-by-pollutant basis, and by doing so focuses on preventing pollutants at their source from entering the water bodies. TMDLs are under development in California, and therefore this model could be used to develop a similar program for pollutants deposited via air transport. Impaired water body listings in the Los Angeles/ Long Beach harbor complex include constituents that may be affected by aerial deposition. Presentations at a public workshop on 9 February 2006 indicated that the primary sources of some pollutants, such as zinc, in aerial deposition are paved and unpaved road dust, tire wear, and construction dust (Stolzenbach 2006; Sabin et al. 2007). Heavy metals tend to adsorb on particulates greater than 10 microns in diameter that settle in the watershed and then are washed into water bodies in storm runoff (Bishop 2006). By comparison, direct aerial deposition of metals onto the water surface is a minor source of pollutants in the water. Regionally, major transportation corridors, including those utilized for Ports' goods movement purposes, contribute atmospheric deposition of PAHs in the watershed. The PAH contribution comes from on-road trucks and off-road construction equipment, and is supplemented by diesel fuel combustion products from cargo-handling equipment, Harbor craft, and other marine vessels.

The USEPA and LARWQCB are currently developing TMDLs to address harbor impairments, and they have explicitly stated that they will address aerial deposition as a component in their TMDL process. However, a number of issues related to atmospheric deposition still remain, primarily in regards to research and legality. Deposition mechanisms are not understood for all potential pollutants, and research on actual concentrations of such pollutants is still not complete. Additionally, there is controversy in regards to legal authority of the California Water Boards in regulating sources that are traditionally regulated by the Air Boards. Air pollutants can also travel long distances and identifying true sources can be complicated. The California Air Resource Board (CARB) and 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.

Aerial deposition of particles from sources related to the goods movement industry occurs in both local waterways and regional land areas. Since the watershed contains several major transportation corridors, it is not feasible to separate localized project contributions from regional contributions to surface and marine water quality impacts. Emission sources from the proposed Project and other alternatives would produce diesel particulate matter (DPM) that contains trace amounts of toxic chemicals.

Air quality mitigation measures, as described in Section 3.2, will substantially reduce the atmospheric deposition-related pollutant burden. In addition, regional benefits will occur over time with implementation of the San Pedro Ports Clean Air Action Plan (CAAP), the CARB diesel risk reduction measures, the CARB memorandum of understanding with the railroads to implement low sulfur fuels and new engines in locomotives, and regional transportation improvement plans implemented as part of the projects funded by Proposition 1-B. The Port, through its CAAP will actively reduce air pollutant loads related to Port operations. While Port-related operations are not the only source of pollutants deposited in waterways, reducing Port-related emissions will have the effect of reducing potential air deposition by a measurable amount. The CAAP is focused primarily on PM, $NO_x$, and $SO_x$ reduction, but also aims to reduce emissions of all criteria pollutants, thereby reducing total pollutants available for deposition. Additionally, the Port will comply with any future regulation to control water pollution from air depositional sources.

Passenger vehicles represent the largest contribution of copper to the atmosphere and subsequently to surfaces in watershed areas. Copper from brake wear is primarily found in the fine particle fraction from 1 to 5 microns in (µm) diameter. This particle fraction is likely to be dispersed over a much broader area than coarse fractions > 10 µm.

Antifouling coatings used on vessel hulls are another source of metals, especially copper and zinc, to Harbor waters. Antifouling paints are designed to slowly release biocides that prevent settling and growth of fouling organisms on ship hulls, which otherwise would reduce vessel speeds and increase fuel consumption. Elevated concentrations of dissolved copper are a particular concern in enclosed marinas with high densities of recreational vessels and limited water circulation (Schiff et al. 2006). As noted above, water sampling near Pier 400 conducted in 2005-2006 as part of the Port's Enhanced Water Quality Monitoring measured copper concentrations below 1 microgram per liter (µg/L), which is below the standard of 3.1 µg/L.

Antifouling paints containing TBT as a biocide were also used historically, but they were banned in 1988 for use on ships less than 25 m in length and non-aluminum hulls by the Organotin Anti-fouling Paint Control Act (OAPCA). Because of the restrictions on the use of TBT-based coatings, and because many ships greater than 25 m in length do not have aluminum hulls, most of the ships docking at the Port's terminal facilities likely contain copper-based hull coatings. Out of the 116 water samples collected at 29 locations throughout the Harbor complex during 2005-2006 as part of the Port's Enhanced Water Quality Monitoring program, only 8 samples (7%) contained measurable concentrations of TBT; whereas TBT was undetectable in all other samples. The locations where TBT was detected were mostly adjacent to marinas and/or boatyards. TBT was not detected in any of the water samples collected near Pier 400 (AMEC 2007).

### 3.14.2.3 Marine Sediments

Sediments in the vicinity of Pier 400 vary considerably in grain size composition (MEC and Associates 2002). Sediments on the southeast side of Pier 400 have 29 percent sand and 71 percent silt and clay while sediments in the ship channel to the west of Pier 400 have 7 percent sand and 93 percent silt and clay. The channel between Pier 400 and Pier 300 has 16 percent sand and 84 percent silt and clay. Shallow mitigation areas to the east, southwest, and north of Pier 400 have sediments that ranged from 37 to 80 percent sand and 63 to 20 percent silt and clay with less than one percent gravel (MEC and Associates 2002). Proposed Project pipelines would be installed from Pier 400 to Terminal Island and cross the Dominguez Channel on existing bridges. No sediment data were collected at these specific locations (adjacent to Pier 400 Causeway and Dominguez Channel) during the 2000 Baseline surveys. Data from Consolidated Slip indicate that sediments in that area contained 9 percent sand and 91 percent silt and clay. Sediments in the Pier 300 Shallow Water Habitat on the west side of the pipeline route between Pier 400 and Terminal Island (on the causeway) ranged from 0.1 to 0.4 percent gravel, 50 to 79 percent sand, and 21 to 50 percent silt and clay. Bottom sediments near Berths LA-238, LB-86, and LB-76 contained silt plus clay proportions of 25 percent, 94 percent, and 69 percent, respectively. These differences between locations in sediment texture did not appear to be related to habitat type or dates of last dredging activities (MEC and Associates 2002).

Data in the Contaminated Sediment Task Force (CSTF) database that were compiled from multiple dredged sediment testing projects throughout the Los Angeles/Long Beach harbor complex demonstrate that concentrations of individual organic and inorganic contaminants can vary by up to several orders of magnitude (USACE 2004). At present, no numerical sediment quality objectives exist; however, sediment quality objectives are being developed by the State Water Resources Control Board (SWRCB). Therefore, sediment quality typically is characterized by comparing measured bulk concentrations to published guidelines (Long et al. 1995; USEPA/USACE 1991; USEPA 2000) such as:

- Effect Range Low (ERL) = concentrations in bulk sediments below which adverse biological effects are not expected

- Effect Range Medium (ERM) = concentrations in bulk sediments above which adverse biological effects are expected.

The Section 303(d) list of water quality impaired segments in Table 3.14-1 includes the Outer Harbor (SWRCB 2006). Approximately 4,042 acres (1,636 ha) have DDT and PCBs in the sediments that have accumulated from nonpoint sources. Other impaired waters are located at Cabrillo Beach, Cabrillo Marina, Fish Harbor, and in the Inner Harbor over 3,500 feet (about 1,070 m) from the site of the proposed Project Marine Terminal. The Port conducted sediment sampling in 2006 (Weston Solutions 2007) at locations throughout the San Pedro Bay Ports, including two locations near Pier 400 (LAO-8 and LAO-9). Based on these results, bottom sediments near the proposed Project site consist of 4 to 7 percent sands, 61 to 66 percent silts, and 30 to 32 percent clays. The sediments contain elevated concentrations (i.e., above the corresponding ERL but below the ERM levels) of arsenic, copper, mercury, and nickel, while concentrations of the DDT residue, DDE, exceed the ERM value (Weston Solutions 2007).

## 3.14.2.4 Oceanography

The Harbor is a southern extension of the relatively flat coastal plain, bounded on the west by the Palos Verdes Hills. The Palos Verdes Hills 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.

### 3.14.2.4.1 Tides

Tides are sea level variations that result from astronomical and meteorological conditions. Tidal variations along the coast of Southern California are caused 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. 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 the Harbor, generating a diurnal inequality, or mixed semidiurnal tide. This causes a difference in height between successive high and low waters ("water(s)" 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).

A greater-than-average range between HHW and LLW occurs when the moon, sun, and earth are aligned with each other to create a large gravitational effect. This spring tide corresponds to the new and full moons. Neap tides, which occur during the first and third quarters of the moon, have a narrower range between HHW and LLW. In this situation, the moon, sun, and earth are perpendicular to each other, thereby reducing the gravitational effect on the water levels.

The mean tidal range for the Outer Harbor, calculated by averaging the difference between all high and low waters, is 3.76 ft (1.15 m); and the mean diurnal range,

calculated by averaging the difference between all the HHW and LLW, is approximately 5.6 ft (1.7 m) (USACE and LAHD 1992). The extreme tidal range (between maximum high and maximum low waters) is about 10.5 ft (3.2 m). The highest and lowest tides reported are 7.96 ft (2.43 m) above mean lower low water (MLLW) and -2.56 ft (-0.78 m) below MLLW, respectively (USACE and LAHD 1992). MLLW is the mean of all lower low waters, equal to 2.8 ft (0.85 m) below mean sea level (MSL). It is the datum from which southern California tides are measured.

Available Harbor tide data from 1923 to 1984 indicate that the highest water elevations usually occur during November through March. This is the same period in which the more severe offshore storms usually occur along the California coast. These higher water elevations typically range from +7 to +7.5 ft (+2.1 to +2.3 m) MLLW.

#### 3.14.2.4.2 Waves

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. The 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 extratropical storms (Hawaiian storms) enter from a southerly direction. The Channel Islands and Santa Catalina Island provide some sheltering 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 extratropical storms. Waves and seas entering the 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 periods. Wave period is a measurement of the time between two consecutive peaks as they pass a stationary location. Typical swells rarely exceed 4 ft (1.2 m) in height in deep water. However, with periods as long as 18 to 21 seconds, they can break at over twice their deep-water wave height. Northern hemisphere swells occur primarily from November through April. Deep water significant wave heights have ranged up to 20 ft (6.1 m), but are typically less than 12 ft (3.7 m). Northern hemisphere wave periods generally range from 12 to 18 seconds. Local wind-generated seas 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 seas are usually less than 6 ft (1.8 m) in height, with wave periods of less than 10 seconds.

#### 3.14.2.4.3 Circulation

Circulation patterns are established and maintained by tidal currents, although wind, thermal structure, and local topography can influence these patterns. Flood tides in the Harbor flow into the Harbor and up the channels, while ebb tides flow down the channels and out of the Harbor. In the Outer Harbor, near Angels Gate and Queens

Gate, maximum surface tidal velocities reach approximately 0.8 fps (24.8 cm/sec), while minimum tidal velocities of 0.088 fps (2.68 cm/sec) occur in the Inner Harbor (Wang et al. 1995).

Circulation in the Harbor has been altered by the construction of Pier 400 in the Outer Harbor. This has reduced the maximum velocity of water entering and leaving through Angels Gate from 1.1 fps (32.2 cm/sec) to 0.8 fps (24.8 cm/sec) on flood tides and 0.5 fps (15.1 cm/sec) to 0.3 fps (8.1 cm/sec) on ebb tides (MEC and Associates 2002).

#### 3.14.2.4.4 Flooding

Pier 400, including the Marine Terminal site and Tank Farm Site 1 for the proposed Project, has not been mapped for flood risk by the Federal Emergency Management Agency (FEMA). (FEMA has identified and mapped flood hazards to support the National Flood Insurance Program. The 100-year flood zone is defined as the land that would be inundated by a flood having a one percent chance of occurring in a given year.) However, waters of the Harbor near land, plus some of the landfill margins in other areas of the Harbor, are mapped within the 100-year flood zone. Adjacent areas on the landfills are generally within the 500-year flood zone. The proposed Project area was formerly open water, which has been modified by filling, resulting in an elevation of 16 ft (4.8 m) above MSL where Tank Farm Site 1 would be located. The containment dike for Pier 400 is higher than Tank Farm Site 1, while the proposed Marine Terminal (berth and administrative building locations) would be at the top of the dike. The developed areas on Pier 400 are predominantly paved, so minimal surface water infiltration would occur during flooding, whereas Tank Farm Site 1 is currently unpaved. Harbor waters surround Pier 400, but no freshwater drainages flow on or near Pier 400. Tank Farm Site 2 on Terminal Island is outside the mapped 500-year flood zone (0.2 percent chance of flooding in a given year).

The only sources of flooding at the proposed Project facility sites within the 100-year and 500-year flood zones would be storm surge, tsunami, or seiche. The latter two sources are discussed in Section 3.5, Geology. Rainfall events that result in runoff volumes exceeding the capacity of the storm drains could also cause temporary, localized ponding until the runoff drains away.

## 3.14.3 Applicable Regulations

### 3.14.3.1 Clean Water Act (CWA)

The CWA provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. The act sets up a system of water quality standards, discharge limitations, and permit requirements. Activities that have the potential to discharge dredge or fill materials into waters of the U.S. are regulated under Section 404 of the CWA, as administered by the U.S. Army Corps of Engineers (USACE). A Section 401 Water Quality Certification or waiver from the governing LARWQCB is also necessary for issuance of Section 404 permits. Discharges of pollutants must be authorized through either individual or general

NPDES permits (Section 402). These permits can include Waste Discharge Requirements (WDRs) and SWPPPs. 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. The SWRCB and its regional water quality control boards (RWQCB) implement sections of the CWA through the Water Quality Control Plan, Standard Urban Stormwater Mitigation Plans, and permits for discharges.

### 3.14.3.2 Porter-Cologne Act of 1972

The Porter-Cologne Water Quality Control Act (California Water Code § 13000 et seq.), which is the principal law governing water quality regulation in California, establishes a comprehensive program to protect water quality and the beneficial uses of State waters. The Act established the SWRCB and nine RWQCBs, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The Porter-Cologne Water Quality Control Act also implements many provisions of the federal CWA, such as the NPDES permitting program. CWA § 401 gives the SWRCB the authority to review any proposed federally permitted or federally licensed activity which may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards. If the SWRCB imposes a condition on its certification, those conditions must be included in the federal permit or license.

### 3.14.3.3 Water Quality Control Plan, Los Angeles Region (Basin Plan, Adopted 1994)

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 within a specific area."

The Basin Plan specifies water quality objectives for a number of constituents/ characteristics that could be affected by the proposed Project or alternatives. 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; and
- 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 Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR) because the proposed Project and its alternatives do not include any discharges or activities that would affect the water quality objectives for these parameters.

### 3.14.3.4 State Water Resources Control Board, Stormwater Permits

The SWRCB has developed a statewide General Construction Activity Stormwater Permit and a General Industrial Activity Stormwater Permit for projects that do not require an individual permit for these activities. The General Construction Activities Stormwater Permit applies to all stormwater discharges associated with construction activity, except for those on tribal lands, those in the Lake Tahoe Hydrologic Unit, and those performed by Caltrans. Under this permit, all construction activities that disturb 1.0 acre (0.4 ha) or more must:

- Prepare and implement a SWPPP that specifies BMPs to prevent all construction pollutants from contacting stormwater. The intent of the SWPPP and BMPs is to keep all products of erosion from moving offsite into receiving waters;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and waters of the U.S; and
- Perform sampling and analytical monitoring to determine the effectiveness of BMPs in (a) preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired for sediment or silt and (b) reducing or preventing pollutants (even if not visually detectable) in stormwater discharges from causing or contributing to exceedances of water quality objectives.

The General Industrial Activities Stormwater Permit (Water Quality Order 02-01-DWQ) requires 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 verify the effectiveness of the SWPPP.

### 3.14.3.5 State Water Resources Control Board, Standard Urban Stormwater Mitigation Plans

The City of Los Angeles is covered under the Permit for Municipal Stormwater and Urban Runoff Discharges within Los Angeles County (LARWQCB Order No. 01-182). This permit incorporates the requirements of the *Standard Urban Stormwater Mitigation Plan for Los Angeles County and Cities of Los Angeles County* (www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/susmp/susmp_details.html). The SUSMP includes implementation of treatment control BMPs for projects falling within certain development and redevelopment categories, such as 100,000 square foot commercial developments. The SUSMP "contains a list of the minimum required BMPs that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittee and applied generally or on a case by case basis. The Permittees are required to adopt the requirements set herein in their own SUSMP. Developers must incorporate appropriate SUSMP requirements into their project plans. Each Permittee will approve the project plan as part of the development plan approval process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements."

### 3.14.3.6 California Toxics Rule (CTR) of 2000 (40 CFR Part 131)

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 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 USEPA in its CWA Section 304(a) guidance.

### 3.14.3.7 Spill Prevention, Control, and Countermeasure

Oil Spill Prevention, Control, and Countermeasure (SPCC) regulations require the Port to have in-place measures that help ensure oil spills do not occur. However, if they do, there are protocols and response equipment in place to contain the spill and neutralize the potential harmful impacts. A SPCC Plan and an Oil Spill Contingency Plan (OSCP) would be prepared that would be reviewed and approved by the Regional Water Quality Control Board or the California Department of Fish and Game Office of Spill Prevention and Response, in consultation with other responsible agencies. The SPCC Plan and OSCP would detail and implement spill prevention and control measures.

## 3.14.4 Impacts and Mitigations

### 3.14.4.1 Methodology

Potential water and sediment quality impacts of the proposed Project and its alternatives are assessed through a comparison of literature data (including all

applicable water quality criteria) and results from past projects in the Port, to estimated discharges from the proposed Project and its alternatives using scientific expertise of the preparers. For oceanographic resources and flooding, potential impacts are assessed using results from previous modeling studies for the Harbor, the Project Description, and preparer expertise. Potential impacts to groundwater quality are addressed in Section 3.7, Groundwater and Soils. Impacts are considered significant if any of the criteria listed below would occur as a result of the proposed Project or alternatives.

#### 3.14.4.1.1 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 SEIS/SEIR, the CEQA Baseline for determining the significance of potential impacts under CEQA is June 2004. CEQA Baseline conditions are described in Section 2.6.2.

The CEQA Baseline represents the setting at a fixed point in time, with no project growth over time, and differs from the "No Federal Action/No Project" Alternative (discussed in Section 2.5.2.1) in that the No Federal Action/No Project Alternative addresses what is likely to happen at the site over time, starting from the baseline conditions. The No Federal Action/No Project Alternative allows for growth at the proposed Project site that would occur without any required additional approvals.

#### 3.14.4.1.2 NEPA Baseline

For purposes of this Draft SEIS/SEIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the No Federal Action scenario (i.e., the NEPA Baseline and No Federal Action Alternative are equivalent for this project). Unlike the CEQA Baseline, which is defined by conditions at a point in time, the NEPA Baseline/No Federal Action is not bound by statute to a "flat" or "no growth" scenario; therefore, the USACE may project increases in operations over the life of a project to properly analyze the NEPA Baseline/No Federal Action condition.

The NEPA Baseline condition for determining significance of impacts is defined by examining the full range of construction and operational activities that are likely to occur without a permit from the USACE. As documented in Section 2.6.1, the USACE, the LAHD, and the applicant have concluded that no part of the proposed Project would be built absent a USACE permit. Thus, for the case of this project, the NEPA Baseline is identical to the No Federal Action/No Project Alternative (see Section 2.6.1). Elements of the NEPA Baseline include:

- Paving, lighting, fencing, and construction of an access road at Tank Farm Site 1 to allow temporary storage of chassis-mounted containers on the site by APM;

- Paving, fencing, and lighting at Tank Farm Site 2 to accommodate temporary wheeled container storage by APL or Evergreen; and
- Additional crude oil deliveries at existing crude oil terminals in the San Pedro Bay Ports.

Significance of the proposed Project or alternative is defined by comparing the proposed Project or alternative to the NEPA Baseline (i.e., the increment). The NEPA Baseline conditions are described in Section 2.6.1 and 2.5.2.1.

### 3.14.4.2 Thresholds of Significance

The following criteria are from the *L.A. CEQA Thresholds Guid*e (City of Los Angeles 2006) and are the basis for determining the significance of impacts associated with water and sediment quality, hydrology, and oceanography resulting from project development.

The effects of the proposed Project and its alternatives on water and sediment quality, hydrology, and oceanography would be significant if they would result in any of the following:

**WQ-1:** Discharges which 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 permits or Water Quality Control Plan for the receiving water body.

"**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."

"**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.

"**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.

**WQ-2:** 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-3:** Substantially reduce or increase the amount of surface water in a water body.

**WQ-4:** Permanent adverse changes to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

**WQ-5:** Accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.

### 3.14.4.3 Project Impacts and Mitigation

The assessment of impacts for the proposed Project and each of the alternatives includes the assumptions, based on regulatory controls, that the project would include the following:

- A Section 404 (of the CWA) permit from the USACE for wharf construction activities in waters of the Harbor;
- A Section 401 (of the CWA) Water Quality Certification from the LARWQCB for wharf construction that contains conditions including standard WDRs;
- An individual NPDES permit for storm water discharges or coverage under the General Construction Activity Storm Water Permit will be obtained by the tenant for the proposed Project. This permit will include preparation of a project-specific SWPPP with BMPs to prevent runoff of pollutants to Harbor waters as described in Section 3.14.3. The SWPPP would contain the following measures:
  - Equipment shall be inspected regularly (daily) during construction, and any leaks found shall be repaired immediately;
  - Refueling of vehicles and equipment shall be in a designated, contained area;
  - Drip pans shall be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained;
  - Drip pans that are in use shall be covered during rainfall to prevent washout of pollutants;
  - Construction and maintenance of appropriate containment structures to prevent offsite transport of pollutants from spills and construction debris; and
  - Monitoring to verify that the BMPs are implemented and kept in good working order.
- Other standard operating procedures and BMPs for Port construction projects would be followed, such as: basic site materials and methods (02050); earthworks (02300); excavating, stockpiling, and disposing of chemically impacted soils (02111); temporary sediment basin (ESC 56); material delivery and storage (CA010); material use (CA011); spill prevention and control (CA012); solid waste management (CA020); contaminated soil management (CA022); concrete waste management (CA023); sanitary-septic waste management (CA024); and employee-subcontractor training (CA040);

- A Debris Management Plan and SPCC Plan would be prepared and implemented prior to the start of construction activities associated with the proposed Project;
- The tenant will obtain and implement the appropriate stormwater discharge permits for operation of the sites; and
- The tenant will comply with Port Marine Oil Terminal lease conditions that include provisions for the inspection, control, and cleanup of leaks from aboveground tank and pipeline sources (see Appendix E).

Other assumptions are included in the impact analysis below where applicable.

#### 3.14.4.3.1 Proposed Project

The following sections first describe the nature and extent of possible project-related impacts to water and sediment quality, hydrology, and oceanography, followed by the CEQA and NEPA impact determinations, mitigation measures, and residual impacts for each of the thresholds of significance listed in Section 3.14.4.2.

##### 3.14.4.3.1.1 Construction Impacts

**Impact WQ-1.1: Construction of proposed Project facilities would not result in discharges which would create pollution, contamination, or nuisance as defined in section 13050 of the CWC, or cause regulatory standards to be violated in harbor waters.**

Construction of the proposed Project facilities would not require dredge or fill operations or direct waste discharges to Harbor waters other than episodic discharges of stormwater and hydrostatic test waters under a NPDES permit. In-water construction activities for the proposed Project would require installation of pier pilings at Berth 408 (150 or 258 depending on the composition of the mooring dolphin piles), with placement of new rock around the base on the pilings, using a barge-mounted crane and pile driver. Wharf construction would occur over a period of about 16 months (Figure 2-11). Although it would not result in any waste discharges, piling installation and rock placement would suspend bottom sediments into the water column, causing localized and temporary turbidity in near-bottom waters. Permits for in-water construction activities for the proposed Project (e.g., Section 401 and Section 404) could require placement of a silt curtain around the pile driving operation. If a silt curtain is deployed, horizontal dispersion of suspended sediments would be limited to the area enclosed by the silt curtain. If a silt curtain is not used, a portion of the suspended particles could be transported horizontally by tidal currents and eventually deposited in adjacent areas of the Harbor. Regardless, resuspended sediments would settle rapidly (within hours) and turbidity levels would decrease to ambient conditions once activities were completed. The amount of sediment disturbed by pile installation and rock placement, and the potential for subsequent sediment accumulation in other areas of the Harbor, would be negligible. DO levels in near-bottom waters could be reduced in the immediate vicinity of the pile installation activities due to the introduction of suspended sediments and associated oxygen demand on the surrounding waters. Reductions in DO

concentrations, however, would be short-term and localized and not expected to persist or cause detrimental effects to biological resources. Therefore, reductions in DO levels associated with Project construction activities would not create nuisance or cause regulatory standards to be violated in Harbor waters. Pier pilings would be pre-stressed concrete or steel and would not contain chemical preservatives (e.g., creosote) or other soluble materials that could leach into Harbor waters. Therefore, Berth 408 pilings would not represent a source of contaminants to Harbor waters during the construction or operation phases of the proposed Project. In-water construction activities associated with installation of pier pilings and rock placement around the pilings would not promote erosion of the shoreline or bottom sediment because the pilings would be installed using pile driving, which would cause minimal disturbances to bottom sediments.

A support vessel, pile-driving barge, barges for materials, and tugs, as well as equipment on the barges (pile-driver, cranes, generators) that would be used to assist with construction of the wharf, would contain fuel tanks, lube oils, and hydraulic fluids that have the potential to leak or spill into the Harbor. Leaks or spills from equipment working in or over the water during construction of proposed Berth 408 would have a very low probability of occurring based on experience from similar work in the past. Implementation of normal construction standards, including NPDES BMPs, and all other above mentioned regulations and practices, would minimize the potential for an accidental release of fuels during construction activities. Also, support vessel construction activity would not involve the handling of hazardous materials, and refueling of the vessel would be done according to the Port's policies. Maximum potential spill volumes would also be considered negligible (see Section 3.12.4.3.1.1).

Accidents or spills from in-water construction equipment could result in direct releases of petroleum materials or other contaminants to Harbor waters. The magnitude of impacts to water quality would depend on the spill volume, characteristics of the spilled materials, and effectiveness of containment and cleanup measures. Construction contractors are responsible and liable for any accidental spills (e.g., hydraulic fluid leaks and fuel spills) during operations, including spills from the barge, tugs, etc. Equipment is generally available onsite to respond to such accidental spills, and the general spill response practice is to deploy floating booms (by chase boats) made of material that would contain and absorb the spill. Depending on the size of the spill, vacuums/pumps may be required to assist in the cleanup.

Spill prevention and cleanup procedures for the proposed Project would be addressed in a SPCC plan that would be prepared in accordance with Port guidelines and implemented by the construction contractor prior to the notice to proceed with construction operations. The plan would define actions to minimize potentials for spills and provide efficient responses to spill events to minimize the magnitude of the spill and extent of impacts. Upland construction activities associated with the proposed Project could result in temporary impacts on surface water quality through runoff of eroded soils, asphalt leachate, concrete washwater, and other construction materials. No upland surface water bodies exist within the proposed Project boundaries. Thus, project-related impacts to surface water quality would be limited to storm water 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. Runoff would occur during storm events, although

some runoff could occur from water use as part of construction activities, such as dust control.

Portions of the proposed Project area have been used historically for industrial purposes, including petroleum production and storage, and surface soils disturbed by pipeline installation could be contaminated with petroleum hydrocarbons, volatile organic hydrocarbons, PAHs, and metals (Tetra Tech 2007). The magnitude and distribution of soil contaminants are discussed in Section 3.7 (Groundwater and Soils). As discussed in Section 3.14.4.3, BMPs for handling and management of contaminated soils, such as Excavating, Stockpiling, and Disposing of Chemically Impacted Soils (02111) and Contaminated Soil Management (CA022), would be implemented to prevent erosion or offsite transport of stockpiled soils. Therefore, pipeline installation using trenching would not represent a risk for loss of any contaminated soils directly to the Harbor.

Horizontal directional drilling (HDD) would be used for installing some upland portions of the pipeline segments. HDD would not be used to install pipelines beneath any of the surface waters, such as Dominguez Channel or the Pier 400 Causeway; instead, at these locations the pipeline would be routed to existing bridge structures. However, some portions of the proposed pipeline route are immediately adjacent to waterways (Morman Island and the upper end of Consolidated Slip), and pipeline installation operations using HDD would represent a potential risk from loss of drilling wastes to the Harbor.

HDD would require use of drilling muds to lubricate the drill bit, stabilize the drill hole, and circulate the cuttings. The boring operation would generate drilling mud and cuttings wastes, which would be collected, contained, and transported to an approved off-site disposal area. The drilling equipment is a closed system, which minimizes potentials for spills or leaks of drilling fluids and wastes to the environment. However, it is possible for drilling fluids to escape (i.e., "frac-out") from the bore hole through small fractures in the formation. If the fractures extend from bore holes to the adjacent waterway, it would be possible for drilling fluids to leak from the bore hole into the Harbor. Conditions leading to a potential frac-out would be minimized or avoided by careful monitoring of returns of the drilling fluid to the entry point or changes in the pressure of the drilling fluid. If a loss of fluid volume or pressure is detected, drilling may be stopped or slowed to allow close observation for any evidence of a surface release in the Harbor. If a release is discovered, the driller would take measures to reduce the quantity of fluid released by lowering drilling fluid pressures and/or thickening the drilling fluid. However, both would depend on geologic conditions. **MM GW-5** (Frac-Out Prevention; Section 3.7, Groundwater) would require geotechnical investigations in the areas of HDD boreholes to assess the potential for frac-outs and preparation of a Frac-Out Contingency Plan, which is expected to reduce the residual impacts from a frac-out to less than significant.

The water-based drilling fluid that would be used during the HDD operation would contain an inert, natural clay, bentonite (sodium montmorillinite). Bentonite is a major ingredient of most water-based drilling muds used for offshore oil and gas development drilling operations (Neff 1987). It is considered inert and non-toxic, and has been approved for use by USEPA. Bentonite may contain elevated concentrations (i.e., relative to natural marine sediments) of barium and other metals that are present as trace impurities in the clay. However, these metals are in the form

of insoluble salts and, therefore, do not readily dissolve in seawater and are not biologically available. The acute toxicity of bentonite is very low (96-hour $LC_{50}$ greater than 7,000 mg/L; Neff 1987). However, at high concentrations bentonite can cause some impacts on organisms by physical abrasion or clogging.

Drilling fluids released to the Harbor via frac-out would be dispersed by tidal currents. The clay component of the drilling fluids eventually would settle to the bottom. The effect on the chemical and grain size properties of the bottom sediments, or potential harm to marine organisms, is expected to be negligible. Even though the likelihood of a drilling fluid release is low, monitoring during HDD operations would be conducted to avoid or minimize potential impacts.

The WDRs for storm water 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 tenant would prepare a pollutant control plan that specifies logistics and schedule for construction activities that will minimize the potential for erosion and standard practices that include monitoring and maintenance of control measures. Control measures would be installed at the construction sites prior to ground disturbance and staging areas, and these measures would be maintained throughout the Project construction phase. Implementation of all conditions of proposed Project permits would minimize project-related runoff into the Harbor and potential impacts to water quality.

Standard stormwater BMPs, such as erosion controls, soil barriers, sedimentation basins, site contouring, and others would be used during construction activities to minimize runoff of soils and associated contaminants. 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 during seasons with the least potential for erosion (e.g., non-storm seasons), 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 (USEPA 1993).

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 straw bale 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 the 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 runoff 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). 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. USEPA (1993) reported that measures such as sedimentation basins, sediment traps, straw bale barriers, and filter fabric fences were

about 60 to 70 percent effective at removing soils from runoff. Although the specific BMPs that would be used at the proposed Project site have not yet been designed, it is reasonable to estimate that erosion and runoff control BMPs would be 60 percent effective or more at removing soils from runoff that occurred during construction. Additionally, the amount of soils subject to erosion would be limited because the site is flat and runoff patterns can be easily controlled by grading and temporary berms and the duration and intensity of rainfall events in southern California typically are limited. Therefore, the amount of soil loading to the Harbor from runoff during the construction phase of the proposed Project would be minimal.

In addition to soils, 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. 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. Also, the phase of the storm event and period of time since the previous storm event would affect storm water quality because contaminant loadings typically are relatively higher during the initial phases (first flush) of a storm.

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 in the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and Control Procedures [CA012]). Other spills of fuels and lubricants from construction equipment on land would have a very low potential to occur and enter storm drains, including the rainy season, due to implementation of BMPs in the project-specific SWPPP and assuming the following are included in the SWPPP:

- Equipment shall be inspected regularly (daily) during construction, and any leaks found shall be repaired immediately;
- Refueling of vehicles and equipment shall be in a designated, contained area;
- Drip pans shall be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained;
- Drip pans that are in use shall be covered during rainfall to prevent washout of pollutants; and
- Monitoring to verify that the BMPs are implemented and kept in good working order.

In addition to stormwater discharges, the other construction-related discharge associated with the proposed Project would be from hydrostatic waters. Once the proposed Project pipelines are installed, they will be hydrostatically tested. The test waters would be collected, treated to remove contaminants, and then discharged under a Project NPDES permit. Discharges of treated test waters would not exceed water quality standards or objectives.

### CEQA Impact Determination

Construction activities associated with the proposed Project would not result in discharges that create pollution, contamination, or nuisance, or cause regulatory

standards to be violated. Some minor changes to water quality would occur as a result of installing pilings, but these changes would not affect beneficial uses. Therefore, construction activities would have less than significant impacts on water quality under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

## NEPA Impact Determination

Construction of the proposed Project would have less than significant impacts on water quality under NEPA because in-water and upland activities would not result in discharges that create pollution, contamination, or nuisance, or cause regulatory standards to be violated in harbor waters. The areas of Tank Farm Site 1 and Tank Farm Site 2 would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to water quality impacts from the proposed Project. This represents a minor difference in the impact determinations relative to those under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### Impact WQ-2.1: Construction of Project facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources.

Construction of the buildings, access road, and other facilities would add impervious surfaces (i.e., pavement) at the Marine Terminal and Tank Farm Site 1 on Pier 400. Construction of the tanks, containment dikes, and facilities at Tank Farm Site 2 on Terminal Island similarly would add impervious surfaces at those sites that are not already paved. Existing storm drains would collect and route runoff from the construction sites at the Marine Terminal and Tank Farm Site 1. New storm drains also would be installed inside the containment dikes constructed around the storage tanks as part of the proposed Project. The design capacity of the existing and constructed storm drains would be adequate to handle runoff from a 50-year storm event. Construction activities on land would not increase the potential for flooding, impede runoff flows, or endanger people, property, or biological resources because the staging and storage areas would be protected with stormwater controls in accordance with the Project's construction stormwater permit and SWPPP.

## CEQA Impact Determination

Construction operations for the proposed Project would not cause or increase the potential for flooding that could harm people or sensitive biological resources or damage property. Therefore, impacts from construction operations on flood flows would be less than significant under CEQA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

## NEPA Impact Determination

Impacts from construction of the proposed Project on flood flows would be less than significant under NEPA because operations would not cause or increase the potential for flooding that could harm people or sensitive biological resources or damage property. The areas of Tank Farm Site 1 and Tank Farm Site 2 would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to flooding-related impacts to water quality from the proposed Project. This represents a minor difference in the impact determinations relative to those under CEQA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

### Impact WQ-3.1: Construction of the Marine Terminal berth would not cause a substantial loss of surface water in the Harbor.

Berth construction would involve installation of piles in the water to support the breasting dolphins, mooring dolphins, and unloading platform. A small amount (up to 2.4 acres or 0.99 ha) of surface water equal to the combined cross-sectional area of the support pilings in the water would be lost. This loss of surface waters would be negligible in relation to the total surface area of the Los Angeles/Long Beach harbor complex, and it would be replaced by hard substrate habitat as described in **Impact BIO-2.1** (Section 3.3, Biological Resources). No surface waters are present where onshore facilities (e.g., tank farms and buildings) would be constructed. Installation of new pipeline sections at the Pier 400 causeway and Dominguez Channel would not cause a loss of surface water at these locations because the pipes would be routed to existing bridge structures and not placed in the water.

### CEQA Impact Determination

Construction operations for the proposed Project would not result in a substantial loss of surface water in the Harbor. Therefore, impacts related to loss of surface water in the Harbor would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Construction of the proposed Project would not result in a substantial loss of surface water in the Harbor. Therefore, impacts from loss of surface water in the Harbor would be less than significant under NEPA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**Impact WQ-4.1: Construction of proposed Project facilities would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow.**

Berth construction for the proposed Project would install up to 258 pilings in the water on the southwest side (Face C) of Pier 400. Installation of these pilings would have a negligible effect on water movement in the Harbor. Once installed, the pilings would reduce flows beneath the berth, but would not impede the movement of surface waters within the Harbor because water would be able to move between the pilings. Movement of water between the pilings also would prevent stagnation beneath the berth. Similarly, berth construction would not affect tidal currents or waves or result in substantial changes in flow patterns or speed beyond the footprint of the wharf. Thus, construction activities would not substantially alter surface water movement or result in shoreline erosion or sedimentation in the Harbor.

As mentioned, there are no freshwater features on or near the proposed Project site, and the only surface water flows are related to stormwater runoff. Construction of the Marine Terminal and tank farms would require grading, berm construction, and installation of drainage systems to collect stormwater, equipment wash water, leaks and spills, and firewater. While grading and construction would alter the existing upland drainage patterns, construction activities would not substantially impede water movement on the Marine Terminal and tank farm sites. Installation of new pipeline sections at the Pier 400 causeway and Dominguez Channel would not affect

water movement at these locations because the pipes would be routed to existing bridge structures and not placed in the water.

## CEQA Impact Determination

Construction of the proposed Project facilities would not cause permanent changes in the movement of surface waters or produce substantial changes in current or water flow within the Harbor. Installation of pier pilings would reduce current velocities within the footprint of the berth, but the distance between the pilings and the continual tidal action would not limit water exchange or cause stagnation. Therefore, impacts related to changes in surface water movement would be less than significant under CEQA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

## NEPA Impact Determination

Construction of facilities for the proposed Project would not produce substantial changes in water flow, other than reduced velocities within the footprint of the berth. Therefore, impacts would be less than significant under NEPA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

**Impact WQ-5.1: Construction activities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.**

Construction of the Marine Terminal and Tank Farm Site 1 on Pier 400, Tank Farm Site 2 on Terminal Island, and pipeline installation would require grading and trenching that would disturb the ground surface, even in areas that are currently paved. Ground surface disturbance also would result from installation of stone columns under the tanks, storm drain and other underground utilities, and for excavation of building/equipment foundations. Since construction activities would include work in one or more rainy seasons, soils exposed by grading and trenching would be subject to erosion by stormwater runoff and/or possibly wind.

Construction sites would be managed by complying with the Project's NPDES general storm water permit, which requires preparation and implementation of a Project-specific SWPPP. Standard construction BMPs would include both procedural and structural controls. Procedural controls include minimizing the amount and duration of soils exposed during grading and trenching, washing dirt off of construction equipment, and refueling only in designated areas. Structural BMPs can include silt fences/straw bale barriers or sedimentation basins that would be installed and maintained during construction to minimize sediment runoff. Maintenance of these control measures would include daily checks during the rainy season of systems designed to prevent sediment-laden water from entering storm drains and weekly checks during the remainder of the year with immediate repair of any systems that do not meet specifications. The construction contractor would be responsible for ensuring compliance with permit conditions.

With implementation of procedural and structural BMPs, erosion of site soils to the Harbor is expected to be minimal. The small amount of soil that could reach Harbor waters via storm drains or direct runoff would be rapidly dispersed in the immediate vicinity of the drain discharge. Small amounts of sediment added to the Harbor via runoff would not cause localized erosion or sedimentation because sediment particles would be sufficiently dispersed prior to settling to the bottom. Effects of runoff on DO concentrations and other water quality parameters from soil runoff into the Harbor would be minor and limited to the vicinity of the drain discharge locations. No water quality standards or objectives would be exceeded because of the implementation and maintenance of required BMPs.

## CEQA Impact Determination

Construction activities associated with the proposed Project would not accelerate erosion or sedimentation that could not be contained on-site due to implementation and maintenance of required BMPs, as described above. Therefore, impacts to water quality from erosion and sedimentation would be less than significant under CEQA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

## NEPA Impact Determination

Construction activities associated with the proposed Project would not accelerate erosion or sedimentation that could not be contained on-site due to implementation and maintenance of required BMPs, as described above. Therefore, impacts to water quality from erosion and sedimentation would be less than significant under NEPA. The areas of Tank Farm Site 1 and Tank Farm Site 2 would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to erosion-related impacts to water quality from the proposed Project. This represents a minor difference in the impact determinations relative to those under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

#### 3.14.4.3.1.2 Operational Impacts

**Impact WQ-1.2: Runoff, vessel operations, and oil spills during operation of proposed Project facilities have the potential to result in discharges which create pollution, contamination, or nuisance as defined in section 13050 of the CWC, or could cause regulatory standards to be violated in harbor waters.**

### Runoff

Episodic stormwater runoff represents the primary operational discharge associated with the proposed Project. Stormwater discharges would be a potential source for contaminants associated with on-site aerial deposition of particulates, fertilizers and pesticides, and other equipment residues, such as from tire wear, brake pad linings, or leaks and spills of petroleum and cleaning agents, which are subject to offsite transport via runoff. Small amounts of fertilizers and pesticides could be used for landscaping at the tank farm sites and at the administration building on Pier 400. Runoff of fertilizer and pesticide residues could add a small amount of pollutants to Harbor waters during storm events. The concentrations of these residues reaching the Harbor are not expected to exceed water quality standards or objectives because the amount of these materials applied onsite and susceptible to runoff would be small, soil particles transporting these pollutants would be intercepted using stormwater BMPs, and any remaining residues would be rapidly diluted by Harbor waters. Industrial maintenance chemicals, such as cleaners, paints, coatings, and lubricants, would be brought on site as needed and removed when maintenance is completed. Runoff of maintenance chemicals would not be expected to occur as a result of Project operations.

Airborne pollutants, such as exhaust particles from Project-related, non-electric equipment and vehicle and vessel operation would be deposited on upland portions of the site, where they would be subject to stormwater runoff into the Harbor. However, the facilities associated with the proposed Project would be operated in accordance with the industrial SWPPP that contains monitoring requirements to ensure that the quality of the stormwater runoff complies with the permit conditions. These discharges would contribute small and episodic loadings of pollutants to the Harbor but would not cause concentrations to exceed water quality standards or objectives.

Stormwater from non-process areas such as parking lots, roads, and buildings would be collected by storm drains and routed to drainage systems. Stormwater from process areas such as tank farms, manifold and equipment areas, and equipment wash-down areas would be collected in a tank and then routed to an oil/water separator to remove oils. The collected oil would be returned to the oil storage

system. The water effluent would be discharged to the Harbor under the approved NPDES permit (i.e., industrial stormwater permit). Facilities would operate in accordance with an industrial SWPPP that contains monitoring requirements to ensure the quality of the stormwater runoff complies with the permit conditions. Terminal operations would also be governed by SUSMP requirements to incorporate BMPs that minimize loading of pollutants of concern from site runoff to the harbor. Existing regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented. The tenant would be responsible for all conditions of the stormwater discharge permits, including compliance monitoring and reporting, as well as all Port pollution control requirements.

The stormwater system would be designed to handle runoff volumes corresponding to a 50-year storm event at the Marine Terminal and Tank Farm Site 1, and a 10-year event at Tank Farm Site 2 on Terminal Island. Larger storm events would exceed the system capacity which could result in localized ponding. If the treatment system failed to operate under these beyond-design flood conditions, some pollutants could be released to the Harbor due to the lack of complete treatment. However, the largest proportion of stormwater-related pollutants are associated with the "first flush", which is expected to occur well before the stormwater system capacity is exceeded. Thus, given the expectation that the first flush would be captured by the stormwater system, combined with the low probability that the capacity of the system would be exceeded, stormwater discharges from the Project operations are not expected to cause exceedences of water quality standards.

Stormwater sampling in the Port of Long Beach in 2005 (MBC 2005) showed that pollutants such as metals and semivolatile organic compounds were present in runoff from the Port facilities. At a few locations, copper, lead, mercury, nickel, and zinc occurred in stormwater samples at concentrations that exceeded the standards for marine waters. However, the study concluded that mixing with the receiving waters would rapidly dilute the pollutants so that the receiving water standards would not be exceeded. It is reasonable to expect that these findings would also apply to stormwater runoff from the proposed Project site, and runoff would not cause exceedances of receiving water quality objectives, assuming that constituents in the stormwater were in compliance with the permit limits.

## Vessel Operations

Vessel traffic near Pier 400 would increase as a result of the proposed Project compared to the CEQA Baseline. Conversely, the projected number of vessel calls associated with the proposed Project would be lower than the incremental increase in vessel calls associated with the NEPA Baseline. Another important difference between the proposed Project and the NEPA Baseline relative to operational impacts to water quality is that vessel traffic for the proposed Project would be concentrated in the vicinity of Berth 408, whereas the incremental vessel traffic associated with NEPA Baseline would be distributed throughout the San Pedro Bay Ports Harbor complex.

Inadvertent or illegal discharges from vessels, ballast water discharges, and releases of chemicals from antifouling vessel hull paints and sacrificial anodes represent potential sources of contaminants to Harbor waters from the proposed Project

operations. Discharges of polluted water or refuse directly to the Harbor are prohibited, and the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be quantified because the rate and chemical composition of illegal discharges from commercial vessels are unknown. There is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Also, over the past several decades, there has been an improvement in water quality despite an overall increase in ship traffic. Thus, while it is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits, there is no evidence to support this relationship. As discussed in Section 3.3, ballast water discharges from vessels at Berth 408 are expected to be minimal because the vessels would be unloading cargo and taking on water for ballast rather than discharging ballast water. Additionally, ballast water discharges are governed by specific ballast water management practices that went into effect on March 22, 2006. These practices are intended, in part, to prevent discharges of contaminants. Regardless, any illegal discharges from vessels at Berth 408 would result in pollution or would be considered a nuisance, and this potential for water quality impacts would be increased relative to CEQA and NEPA Baseline conditions at the proposed Project site.

Increases in tanker vessel traffic could also result in higher mass loadings of contaminants, such as copper released from vessel hull anti-fouling paints. Portions of the Harbor (Inner Cabrillo Beach and Fish Harbor; see Table 3.14-1) are impaired with respect to copper, but not in the vicinity of Berth 408. As noted in Section 3.14.2.2.7, recent data from the Port's Enhanced Monthly Water Quality Study (AMEC 2007) indicate that copper concentrations in waters adjacent to Pier 400 are below the criterion (3.1 µg/L). While increased vessel traffic associated with the proposed Project would increase copper loading in the immediate vicinity of Berth 408, copper leaching from vessel hulls would not be expected to increase concentrations in site to levels above the criterion. However, because there would not be any physical barriers to prevent transport and mixing of waters between the proposed Project site and areas of the inner Harbor, inputs of copper or other pollutants at Berth 408 could affect water quality in other areas of the Port.

As a condition of their lease, the project tenant would be required to conform to applicable requirements of the Non-Point Source (NPS) Pollution Control Program. The tenant also would be required to design all terminal facilities whose operations could result in the accidental release of toxic or hazardous substances (including sewage and liquid waste facilities, solid and hazardous waste disposal facilities) in accordance with the state Non-Point Source Pollution Control Program administered by the SWRCB. As a performance standard, the measures selected and implemented would use the Best Available Technology that is economically achievable such that, at a minimum, relevant water quality criteria as outlined by the California Toxics Rule and the Basin Plan are maintained, or in cases where ambient water quality exceeds these criteria, maintained at or below ambient levels. The applicable measures would include:

- Solid Waste Control - Properly dispose of solid wastes to limit entry of these wastes to surface waters;

- Liquid Material Control - Provide and maintain the appropriate storage, transfer, containment, and disposal facilities for liquid materials; and
- Petroleum Control - Reduce the amount of fuel and oil that leaks from container and support vessels.

The presence of pier pilings would cause some localized deposition of sediments beneath the wharf, and some bottom sediments in the vicinity of Berth 408 may be disturbed by turbulence from propeller wash. Resuspended sediments would settle back to the bottom, although some horizontal displacement by currents could occur. However, this would not promote erosion of the harbor bottom or excessive sedimentation near the proposed Project site.

## Oil Spills

The other potential operational source of pollutants that could affect water quality in the vicinity of Pier 400 is accidental oil spills on land that enter storm drains and accidental spills from vessels (tankers and MGO barges) while transiting or offloading at Berth 408. Spill-related impacts to water and sediment quality would depend on the characteristics of the material spilled, such as volatility, solubility in water, and sedimentation rate, and the speed and effectiveness of the spill response and cleanup efforts. Activities that involve hazardous liquid bulk cargoes at the Port are governed by the Los Angeles Harbor Department Risk Management Plan (RMP) (LAHD 1983). This plan provides for a methodology for assessing and considering risk during the siting process for facilities that handle substantial amounts of dangerous cargo, such as liquid bulk facilities. The Release Response Plan prepared in accordance with the Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Chapter 6.95), which is administered by the City of Los Angeles Fire Department (LAFD), also regulates hazardous material activities within the Port. These activities are conducted under the review of a number of agencies and regulations including the RMP, U.S. Coast Guard (USCG), fire department, and state and federal departments of transportation (49 CFR Part 176). The Oil Pollution Prevention regulations at Title 40 of the Code of Federal Regulations, Part 112 (40 CFR 112) describe the requirements for certain facilities to prepare, amend, and implement SPCC Plans. These plans ensure that facilities include containment and other countermeasures to prevent oil spills that could reach navigable waters. In addition, an OSCP is required to address spill cleanup measures after a spill has occurred. For the proposed Project, a SPCC Plan and an OSCP would be prepared and then reviewed and approved by the California Department of Fish and Game 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. Additionally, **MM 4B-7** from the Deep Draft FEIS/FEIR requires that the Port petition the state for increased local staffing of the California Department of Fish and Game Office of OSPR to reduce the level of accidental spills at ship fuel docks.

As discussed in Section 2.4.4, the proposed Project facility would operate under an OSCP prepared by the applicant. The OSCP would provide a finalized list of emergency service providers. Commercial contractors handle most oil spills in the Harbor and have a variety of response services and equipment (e.g., boats, skimmers,

booms, and pumps) to handle all types of spills. In addition, LAHD has established conditions that are applied to all new and renewed Marine Oil Terminal leases (see Appendix E). These include provisions for the inspection, control, and cleanup of leaks from aboveground tank and pipeline sources that would minimize the potential for impacts from a spill to biological resources.

Potential releases of pollutants from a large spill on land to Harbor waters and sediments would be minimized through existing regulatory controls. The probability of a spill during the life of the proposed Project is low. Oil spilled on the berth platform structure would be retained on the platform by the 6-inch concrete dike, and oil would drain to containment sumps. The sumps would be equipped with sensors to detect fluid levels, pumps to transfer the contents into the terminal oil water treatment system, and alarms that could trigger operational responses (e.g., shut down pumping and inspections). These features would reduce the potential for any spilled oil on the berth platform to reach the Harbor. Similarly, spills from the tanks and process areas would be retained within the containment dikes, which would minimize the potential for spreading and transport off-site and maximize the efficiency of the recovery and cleanup process. Residual oil, or oil mixed with stormwater, within the containment dikes would be collected in a tank that would feed a treatment system to remove sufficient oil from the water to meet requirements for discharge of treated stormwater under an NPDES permit. The collected oil would be returned to the oil storage system.

Spills or leaks of oil from buried pipelines are unlikely to occur, and the potential risk of oil from a pipeline to reach Harbor waters before detection and cleanup is remote (Section 3.12.4.1, Risk of Upsets/Hazardous Materials, Upset Scenarios). Additionally, a number of design features and monitoring procedures, described in Section 3.7.4.3.1.2, have been incorporated into the proposed Project to prevent spills from the pipeline. These include regular visual inspections, internal inspections (using "smart pigs"), hydrostatic testing, cathodic protection and external pipe coatings, and automatic safety and control systems. Section 3.12 (Risk of Upset and Hazardous Materials) considers the probability of a spill from the proposed Project pipelines to be "Extraordinary" and less than significant due to the low probability of a spill in any appreciable volume to reach Harbor waters (Section 3.12.4.3.1.2).

Spill protection would not be in-place at the Pier 400 Causeway and at the Dominguez Channel. The extent of water quality impacts would depend on the specific location and size of the spill, as well as local conditions at the time of the spill. However, even if the spilled oil were contained by booms in the water, soluble components of the oil would enter the water and affect water quality in the immediate vicinity of the spill. The proposed Project applicant has a contractual agreement with a regional spill response cooperative that would serve as the emergency response contractor with primary responsibility for containment, cleanup, and health and safety. These contractors are located in the regional area. In addition, operations personnel are trained in the Incident Command System and oil spill containment and cleanup procedures.

Accidental oil spills directly to the Harbor could occur during vessel transit through the Harbor and/or during unloading at Berth 408 (See Section 3.12.4.1). It is reasonable to assume that an incremental increase in the probability of an oil spill from a tanker to the Harbor would be proportional to the increase in vessel calls

associated with the proposed Project. Oil spills are more likely to occur during unloading than during transit to Berth 408; however, the volumes of spills that occur during unloading typically are less than 50 barrels (bbl). Spill prevention and cleanup procedures for the proposed Project would be addressed by the OSCP that defines actions to minimize the magnitude of the spill and extent of impacts. If any oil is observed in the water, unloading operations would be stopped and the facility's OSCP would be activated. The regional spill response cooperative would serve as the emergency response contractor and they would be responsible for containment, cleanup, and health and safety at the Marine Terminal.

Vessels moored to Berth 408 would be surrounded by a spill containment boom prior to initiating unloading operations. Thus, any oil lost from the vessel or the unloading arms to the Harbor would be contained within the boom, preventing the spread of spilled oil to other areas of the Harbor. Oil spilled at the berth could contaminate the berth pilings near the water surface as well as the intertidal zone of the Pier 400 shoreline within the area defined by the ends of the containment boom. Oil spilled in the immediate Berth 408 area that contacts rip rap in the shoreline dike or pier pilings could be difficult to recover completely, and residual oil could represent a source for hydrocarbons to Harbor waters for periods of weeks to months depending on the rate of oil degradation (i.e., weathering).

The probability of an oil spill from a vessel transiting the Harbor is lower than the probability of a spill associated with unloading operations. Nevertheless, a spill in open water would affect water quality at the site of the spill and potentially in other areas of the Harbor depending on the spill volume, transport speed and direction related to tides and winds, and the speed and efficiency of containment and cleanup. Although unlikely, a large spill that could not be contained and cleaned quickly has the potential to impact the shoreline and sensitive biological habitats.

The Basin Plan (LARWQCB 1994) water quality objective for oil and grease is "[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." These conditions could be exceeded with relatively small volumes of spilled oil. Fresh (unweathered) oil spilled in the Harbor could also represent a source for soluble and potentially toxic hydrocarbon components to the water at the oil-water interface that are subject to transport by currents to adjacent areas.

As a condition of their lease, the project tenant would be required to develop an approved Source Control Program (SCP) with the intent of preventing and remediating accidental fuel releases. Prior to construction, the tenant would develop an approved SCP in accordance with Port guidelines established in the General Marine Oil Terminal Lease Renewal Program (Appendix E). The SCP would address immediate leak detection, tank inspection, and tank repair. The tenant also would be required to submit to the Port an annual compliance/performance audit in conformance with the Port's standard compliance plan audit procedures. This audit would identify compliance with regulations and BMPs recommended and implemented to ensure minimizing of spills that might affect water quality, or soil and groundwater.

## CEQA Impact Determination

Operations associated with the proposed Project would not result in direct discharges of wastes, other than episodic stormwater discharges in compliance with the NPDES discharge permit limits. Stormwater discharges that complied with permit limits would not exceed water quality standards. Therefore, impacts to water quality from stormwater discharges and operations on upland portions of the proposed Project site would be considered less than significant under CEQA.

While ships would release copper to Harbor waters while at Berth 408, the resulting copper concentrations would not exceed the water quality standard due to mixing and dilution. However, illegal discharges would result in pollution or contamination, as defined in Section 13050 of the CWC, and impacts to water quality would be considered significant.

Spills or leaks that occur on land are expected to be contained and cleaned up before any impacts to surface water quality can occur. Spills from the pipeline are considered highly unlikely (Section 3.12.4.1) and thus less than significant due to the very low likelihood of a pipeline failure occurring in a location where the oil could reach surface waters. Spills from vessels at Berth 408 would likely occur during offloading operations, but spill volumes would be small. However, any amount of oil spilled from project operations that reaches Harbor waters is likely to exceed the Basin Plan objective for oil and grease. Thus, oil spills directly to Harbor waters as a result of proposed Project operations would have a significant and unavoidable impact on water quality.

### *Mitigation Measures*

Beyond legal requirements, there are no feasible mitigation measures to eliminate completely impacts to water quality from spills and illegal discharges from vessels.

As discussed in Section 3.14.4.4, **MM 4B-7** from the Deep Draft FEIS/FEIR has been implemented by the Port to ensure that oil spill impacts are minimized to the greatest extent feasible. The Port is petitioning the state for increased staffing of OSPR to reduce the level of accidental spills at ship fuel docks. These efforts are documented and kept on file in the Port's administration offices.

To reduce the potential for significant impacts to marine water quality from illegal or inadvertent discharges from vessels during product offloading at Berth 408, the following mitigation measure is proposed.

**MM WQ-1.2: Cleanup of Floating Materials Retained by Containment Boom.** All vessels at Berth 408 shall be surrounded by a spill containment boom prior to initiating unloading operations. Following unloading and before releasing the boom, the project tenant shall visually inspect the water surface or the area encircled by the containment boom and recover and dispose any floating materials (e.g., trash) or petroleum sheen.

### *Residual Impacts*

Residual impacts would be less than significant for operational discharges but would remain significant and unavoidable for oil spills directly to the Harbor. For most small oil spills (less than 238 bbl) during unloading of oil at the berth and for spills at the tank farms, standard measures proposed as part of the proposed Project to prevent, contain, and clean up the spill would reduce the residual impact to less than significant. If larger volumes of oil are spilled in the immediate Berth 408 area and not recovered before contacting rip rap in the shoreline dike or pier pilings, complete removal could be difficult, and residual oil could represent a source for hydrocarbons to Harbor waters, and residual impacts to water quality, for periods of weeks to months depending on the rate of oil degradation (i.e., weathering). Residual impacts from oil spills in open areas of the Harbor (i.e., during vessel transit to the berth) also could remain significant under conditions of large spill volumes, incomplete containment and recovery, and wide dispersion by tides and wind.

Also, while the presence of an oil boom around vessels unloading at Berth 408 would prevent floating materials and surface oils from spreading to adjacent areas of the Harbor, it would not restrict the movement of soluble components of an oil spill or prevent negatively buoyant materials from sinking to the bottom. Therefore, some operational impacts to water quality would remain significant.

## NEPA Impact Determination

Similar to the CEQA impact determination for **Impact WQ-1.2**, impacts to water quality from stormwater discharges during operations associated with the proposed Project would be less than significant under NEPA. Similarly, under the proposed Project, contaminant loadings to the Harbor from tanker hull paints would be less than significant under NEPA. However, spill-related impacts to marine water quality at the proposed Berth 408 location would be higher than for the NEPA Baseline because vessel calls for the proposed Project would be concentrated at the Project site. Spills from vessels at Berth 408 would likely occur during offloading operations, but spill volumes would be small. Regardless, any amount of oil spilled from project operations that reaches Harbor waters would exceed the Basin Plan objective for oil and grease. Thus, oil spills directly to Harbor waters as a result of proposed Project operations would have a significant and unavoidable impact on water quality under NEPA. Also, similar to impacts under CEQA, illegal discharges from vessels would result in pollution and would be considered a nuisance. These impacts to marine water quality would be considered significant.

### *Mitigation Measures*

Beyond legal requirements, there are no feasible mitigation measures to eliminate impacts to water quality from spills, illegal discharges from vessels, or leaching of contaminants from vessel hull paints.

However, **MM 4B-7** from the Deep Draft FEIS/FEIR has been implemented by the Port to ensure that oil spill impacts are minimized to the greatest extent feasible.

Additionally, **MM WQ-1.2** would reduce the potential for floating materials and surface oil slicks/sheens to spread to adjacent areas of the Harbor.

### *Residual Impacts*

Residual impacts would remain significant and unavoidable for oil spills directly to the Harbor. For most small oil spills (less than 50 bbl) during unloading of oil at the berth and for spills at the tank farms, standard measures proposed as part of the proposed Project to prevent, contain, and clean up the spill would reduce the residual impact to less than significant. However, larger volumes of oil spilled in the immediate Berth 408 area and not recovered before contacting rip rap in the shoreline dike or pier pilings, could be difficult to remove completely, and residual oil could represent a source for hydrocarbons to Harbor waters, and residual impacts to water quality, for periods of weeks to months depending on the rate of oil degradation (i.e., weathering). Residual impacts from oil spills in open areas of the Harbor (i.e., during vessel transit to the berth) could remain significant under conditions of large spill volumes, incomplete containment and recovery, and wide dispersion by tides and wind. Also, the presence of an oil boom around vessels unloading at Berth 408 would prevent floating materials and surface oils from spreading to adjacent areas of the Harbor, but it would not restrict the movement of soluble components of an oil spill or prevent negatively buoyant materials from sinking to the bottom. Therefore, some operational impacts to water quality would remain significant.

### Impact WQ-2.2: Operation of proposed Project facilities would not cause or increase the potential for flooding that could harm people or result in damage to property or sensitive biological resources.

Buildings, tanks, access roads, other facilities, and containment berms (Marine Terminal or Tank Farm Site 1) constructed on Pier 400 would add impervious surfaces and thereby potentially increase runoff volumes to the Harbor. Tanks, containment berms, and facilities at Tank Farm Site 2 would similarly represent impervious surfaces in presently unpaved areas. However, the new storm drains installed as part of the proposed Project would accommodate the runoff and prevent flooding of the facilities at the Marine Terminal and Tank Farm Site 1 during storms smaller than a 50-year event, and during storms smaller than a 10-year event at Tank Farm Site 2 facilities on Terminal Island. The minor increases in runoff volumes would not increase the potential for flooding within the proposed Project area or anywhere in the Harbor because the volume of runoff from direct rainfall on these sites would be a small portion of the total runoff to the Harbor.

Tank Farm Site 2 is outside of the mapped 500-year flood zone. The proposed Project Marine Terminal site is approximately 2 ft (0.6 m) lower than the adjacent container terminal and the Face C fill shoreline dike. Tank Farm Site 1 is at a lower elevation than the adjacent container terminal to the north and the least tern nesting site to the east by 7.5 ft (2.3 m), as well as the Pier 400 shoreline dike to the south by 7 ft (2.1 m). Thus, even if storm drains failed to function as designed, flooding within portions of Tank Farm Site 1 would not affect adjacent parcels or sensitive biological resources on the least tern nesting site.

## CEQA Impact Determination

*Impacts to People*

The potential for flooding is small, and few people would be present at any of the proposed Project facility sites, thereby reducing the potential for injury to people during flooding events. If the storm drain capacity is exceeded, the impacts to people would be less than significant because the water would run off into the Harbor and any on-site flooding would not be deep enough to harm people.

*Impacts to Property*

The proposed Project would not result in flooding that could impact property and structures other than Project facilities. Flooding of proposed Project structures such as tanks would be unlikely to cause property damage because the tanks are sealed to contain oil. Electrical equipment that is flooded would need to be cleaned and maintained before being returned to service. If the storm drain capacity is exceeded, the impacts to property would be less than significant because the water would run off into the Harbor and any on-site flooding would not be deep enough to harm property or structures.

*Impacts to Biological Resources*

The proposed Project site would be graded to prevent runoff from the vicinity of the Marine Terminal and Tank Farm Site 1 to flow onto the California least tern habitat. No other sensitive biological resources occur in the immediate vicinity of the proposed Project site that could be affected by runoff or flooding. Impacts would be less than significant.

*Impacts to Flood Flows*

The proposed Marine Terminal facilities on Pier 400 and on Terminal Island would not impede flood flows at these sites. Runoff would be directed to storm drains and routed by the stormwater drainage system. Impacts on flood flows would be less than significant.

Consequently, impacts to water quality under CEQA would be less than significant because project operations would not cause flooding or increase the potential for harm to people or biological resources or damage to property. Impacts of flooding from tsunamis are described in Section 3.5, Geology, under **Impact GEO-2**.

### *Mitigation Measures*

*Impacts to People.* No mitigation is required.

*Impacts to Property.* No mitigation is required.

*Impacts to Biological Resources.* No mitigation is required.

*Impacts to Flood Flows.* No mitigation is required.

### *Residual Impacts*

*Impacts to People.* Less than significant impact.

*Impacts to Property.* Less than significant impact.

*Impacts to Biological Resources.* Less than significant impact.

*Impacts to Flood Flows.* Less than significant impact.

## NEPA Impact Determination

The areas of Tank Farm Site 1 and Tank Farm Site 2 would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to flooding that could harm people, property, or sensitive biological resources from the proposed Project. This represents a minor difference in the impact determinations relative to those under CEQA. Impacts from flooding related to the proposed Project operations would be less than significant under NEPA because project operations would not cause flooding or increase the potential for harm to people or biological resources or damage to property.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

### Impact WQ-3.2: Project operations would not cause a substantial loss of surface water in the harbor.

Proposed Project facilities would occur mostly on land, and no in-water structures other than the Berth 408 pier pilings would be required for proposed Project. No other operational losses or obstructions to surface waters are anticipated as a result of the proposed Project.

## CEQA Impact Determination

Impacts to water quality would be less than significant under CEQA because no substantial loss of surface water would occur as a result of the proposed Project operations.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Impacts to water quality would be less than significant under NEPA because no substantial loss of surface water would occur as a result of the proposed Project operations.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

Less than significant impact.

**Impact WQ-4.2: Operation of the Project would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow.**

The proposed Project operations would not result in barriers that would prevent or impede water movement within the Harbor. There are no freshwater features in the vicinity of the proposed Project site; therefore, operations would not affect water flows within upland portions of the site, with the exception that site grading, paving, and drainage systems would route runoff flows.

### CEQA Impact Determination

Operation of the proposed Project would not cause permanent changes in the movement of surface water that could produce a substantial change in water flow. Therefore, impacts from the proposed Project operations to surface water movement would be less than significant under CEQA.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Operation of the proposed Project would not cause permanent changes in the movement of surface water that could produce a substantial change in water flow. Therefore, impacts from the proposed Project operations to surface water movement would be less than significant under NEPA.

#### *Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**Impact WQ-5.2: Proposed Project operations would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.**

Operation of the proposed Marine Terminal and tank farm sites would not disturb or subject the soil surface to wind and water erosion. Soils disturbed during construction would be stabilized or paved prior to proposed Project operations. Existing regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements. The small amount of exposed soil in non-process areas that could occur in site runoff would be directed to storm drains that empty into the Harbor. This runoff would not cause excess sedimentation.

**CEQA Impact Determination**

The proposed Project operations would not accelerate natural erosion or sedimentation processes that would result in sediment runoff or deposition which could not be controlled on-site. Therefore, the proposed Project operations would result in less than significant impacts under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

The proposed Project operations would not accelerate natural erosion or sedimentation processes that would result in sediment runoff or deposition which would not be controlled on-site. Therefore, the proposed Project operations would result in less than significant impacts under NEPA. The areas of Tank Farm Site 1 and Tank Farm Site 2 would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to erosion-related impacts to water quality from the proposed Project. This represents a minor difference in the impact determinations relative to those under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### 3.14.4.3.2 No Federal Action/No Project Alternative

Under the No Federal Action/No Project Alternative, proposed Project facilities would not be constructed or operated. As described in Section 2.5.2.1, the No Federal Action/No Project Alternative considers the only remaining allowable and reasonably foreseeable use of the proposed Project site: Use of the site for temporary storage of wheeled containers on the site of Tank Farm 1 and on Tank Farm Site 2. This use would require paving, construction of access roads, and installation of lighting and perimeter fencing.

In addition, for analysis purposes, under the No Federal Action/No Project Alternative a portion of the increasing demand for crude oil imports is assumed to be accommodated at existing liquid bulk terminals in the San Pedro Bay Ports, to the extent of their remaining capacities. Although additional demand, in excess of the capacity of existing marine terminals to receive it, may come in by rail, barge, or other means, rather than speculate about the specific method by which more crude oil or refined products would enter southern California, for analysis purposes, the impact assessment for the No Federal Action/No Project Alternative in this SEIS/SEIR is based on marine deliveries only up to the available capacity of existing crude oil berths. As described in Section 2.5.2.1, the impact assessment for the No Federal Action/No Project Alternative also assumes existing terminals would eventually comply with the California State Lands Commission (CSLC) Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS), that LAHD and the Port of Long Beach would renew the operating leases for existing marine terminals, and that existing terminals would comply with Clean Air Action Plan (CAAP) measures as of the time of lease renewal (i.e., 2008 for Port of Long Beach Berths 84-87, 2015 for LAHD Berths 238-240, and 2023 for Port of Long Beach Berths 76-78).

Thus, under the No Federal Action/No Project Alternative, the only impacts to water quality from in-water or on-land construction activities would be those related to the improvements at Tank Farm Site 1 and Tank Farm Site 2 to allow container storage. To the extent that a portion of future demand for crude oil would be handled by increased volume through existing terminals at the San Pedro Bay Ports, there could be an increased risk of upset, compared to CEQA Baseline conditions, from increased vessel traffic, lightering operations, and storage and pipeline operations.

The NEPA Baseline condition coincides with the No Federal Action/No Project Alternative for this project because the USACE, the LAHD, and the applicant have concluded that, absent a USACE permit, no part of the proposed Project would be built (Section 2.6.1). All elements of the No Federal Action/No Project Alternative are identical to the elements of the NEPA Baseline. Therefore, under a NEPA determination there would be no impact associated with the No Federal Action/No Project Alternative.

#### 3.14.4.3.2.1 Construction Impacts

**Impact WQ-1.1: Construction of facilities would not result in discharges which could create pollution, contamination, or nuisance as defined in section 13050 of the CWC, or cause regulatory standards to be violated in harbor waters.**

Under the No Federal Action/No Project Alternative, oil shipments would be handled using existing facilities, and no new construction would be required. The only possible alteration associated with the No Federal Action/No Project Alternative would be paving portions of Pier 400 and Terminal Island (i.e., the areas of Tank Farm Site 1 and Tank Farm Site 2) and construction of access roads to facilitate use of the areas for storage of wheeled containers. Stormwater runoff from Pier 400 would be discharged to the Harbor under an approved NPDES permit (i.e., construction stormwater permit), and would not cause regulatory standards to be violated.

**CEQA Impact Determination**

The No Federal Action/No Project Alternative would not construct any new facilities which could create pollution, contamination, or nuisance or cause regulatory standards for water quality to be violated. Therefore, impacts to water or sediment quality from project construction would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

Because the No Federal Action/No Project Alternative is identical to the NEPA Baseline in this project, under NEPA the No Federal Action/No Project Alternative would have no impact. Potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**Impact WQ-2.1: Construction of facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources.**

Under the No Federal Action/No Project Alternative, no new project facilities would be constructed, with the minor exception of paving portions of Pier 400 and Terminal Island (i.e., the areas of Tank Farm Site 1 and Tank Farm Site 2) and construction of access roads to facilitate use of the areas for wheeled container storage. Paving would add to the areal coverage by impermeable surfaces, resulting in minor increases in runoff volumes. The additional runoff volume would not exceed the capacity of the stormwater conveyance system and, therefore, not increase the risk of flooding.

## CEQA Impact Determination

The No Federal Action/No Project Alternative would not construct any new facilities, but would result in increased paved area. However, this minor change would not increase the potential for flooding that could harm people or sensitive biological resources or damage property. Therefore, the potential impact from flooding would be less than significant under CEQA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

## NEPA Impact Determination

Because the No Federal Action/No Project Alternative is identical to the NEPA Baseline in this project, under NEPA the No Federal Action/No Project Alternative would have no impact. Potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

No impact.

### Impact WQ-3.1: Construction of facilities would not cause a substantial loss of surface water in the harbor.

Under the No Federal Action/No Project Alternative, no new in-water project facilities would be constructed; therefore, there would be no loss of surface water in the Harbor.

### CEQA Impact Determination

No loss of surface water would occur as a result of the No Federal Action/No Project Alternative, and no impacts would occur under CEQA.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

No impact.

### NEPA Impact Determination

Development under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no loss of surface water would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

No impact.

### Impact WQ-4.1: Construction of facilities would not cause permanent changes in the movement of surface water that would produce a substantial change in the current or direction of water flow.

Under the No Federal Action/No Project Alternative, no new project facilities would be constructed, with the minor exception of paving portions of Pier 400 and Terminal Island (i.e., the areas of Tank Farm Site 1 and Tank Farm Site 2) and construction of access roads to facilitate use of the areas for wheeled container storage. Therefore, there would be no change in the movement or strength of water flows in the Harbor.

### CEQA Impact Determination

No changes in surface water movement would occur as a result of the No Federal Action/No Project Alternative, and no impacts to water quality would occur under CEQA.

#### *Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**NEPA Impact Determination**

Development under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no change in the movement of surface water would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**Impact WQ-5.1: Construction activities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.**

Under the No Federal Action/No Project Alternative, no new project facilities would be constructed, with the minor exception of paving portions of Pier 400 and Terminal Island (i.e., the areas of Tank Farm Site 1 and Tank Farm Site 2) and construction of access roads to facilitate use of the areas for wheeled container storage. This paving would cause only minor disturbances of site soils, and these disturbances would not accelerate erosion or off-site transport.

**CEQA Impact Determination**

In the No Federal Action/No Project Alternative no new facilities would be constructed, paving portions of Pier 400 and Terminal Island would occur. Minor disturbances of soils during paving would not accelerate erosion of promote off-site transport of soils. Therefore, the potential impact from erosion would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

Development under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no change in the potential for erosion of site soils would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

#### 3.14.4.3.2.2 Operational Impacts

**Impact WQ-1.2: Runoff, vessel operations, and oil spills during operation of facilities have the potential to result in discharges which create pollution, contamination, or nuisance as defined in section 13050 of the CWC, or could cause regulatory standards to be violated in harbor waters.**

### Runoff

For the No Federal Action/No Project Alternative, future increases in crude oil shipments would be accommodated by existing facilities (Port of Long Beach Berths 76-78 and 84-87, and LAHD Berths 238-240). The only possible alteration associated with operation of the No Federal Action/No Project Alternative would be related to runoff from the Tank Farm 1 and Tank Farm 2 storage areas and access road. Stormwater runoff from these storage areas would be discharged to the Harbor under an approved NPDES permit (i.e., industrial stormwater permit). Conversion of a portion of Pier 400 to a storage area for wheeled containers would not substantially change the composition or quality of stormwater discharges to the Harbor. Further, use of other, existing facilities for offloading crude oil shipments would not be expected to increase the volumes or alter the composition of stormwater discharges at other locations in the Harbor. The rate and composition of aerial deposition of pollutants associated with the No Federal Action/No Project Alternative would be comparable to the proposed Project, with the exception that the absence of emissions control technology at existing facilities could result in relatively higher harbor-wide vessel exhaust and aerial deposition for the No Federal Action/No Project Alternative. Water quality impacts from stormwater runoff would be less than significant assuming that all drainage and treatment systems are maintained and discharges comply with permit conditions.

### Vessel Operations

Similar to the proposed Project, inadvertent or illegal discharges from vessels and releases of chemicals from antifouling hull paints are potential sources of

contaminants to Harbor waters. However, unlike the proposed Project, vessel-related inputs associated with the No Federal Action/No Project Alternative would be distributed throughout the San Pedro Bay Ports Harbor complex. Discharges of polluted water or refuse directly to the Harbor are prohibited, and the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be quantified because the rate and chemical composition of illegal discharges from commercial vessels is unknown. There is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Also, over the past several decades, there has been an improvement in water quality despite an overall increase in ship traffic. Thus, while it is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits, there is no evidence to support this relationship. Consequently, the No Federal Action/No Project Alternative would not necessarily result in increases over CEQA Baseline conditions in contaminant loadings from illegal vessel discharges and contaminant leaching from vessel hull paints.

## Oil Spills

Under the No Federal Action/No Project Alternative, terminals receiving crude oil shipments would employ the same safety, security, and spill prevention measures as the proposed Project, with the exception that LAHD Berths 238-240 have components that do not meet current design standards and are potentially deficient (see Section 2.5.2.1). Similar to the proposed Project, accidental oil spills could occur during vessel unloading at the berth, from pipelines, and from the tanks and valves at the tank farms. The number of tanker calls associated with the No Federal Action/No Project Alternative would increase by an estimated 267 tankers per year due to the need to use smaller vessels to meet the throughput demand.

Oil spills on the wharf and within process areas at the tank farms or along the pipelines would be contained and cleaned up using systems and procedures that are consistent with existing OSCPs for the individual berths. Under the most likely spill scenarios, implementation of these plans would prevent significant impacts to water and sediment quality. If such a spill were to occur at the berth and enter harbor waters, it would be contained and cleaned-up immediately with the onsite containment/clean-up equipment. Oil spilled into the Harbor would contaminate the berth pilings at the water surface as well as the shoreline within the containment booms. Even if the oil spilled into the Harbor was contained by booms, soluble compounds would dissolve into surface waters and a surface sheen would form. Thus, while the spill volumes likely would be small and contained at the berth, any amount of oil spilled that reaches Harbor waters is likely to exceed the Basin Plan objective for oil and grease.

Larger spills are not expected to occur. The extent of shoreline and water surface area affected would depend on the amount of oil spilled, location and local conditions (e.g., currents), and response time for containment and cleanup.

## CEQA Impact Determination

Runoff of pollutants associated with the No Federal Action/No Project Alternative would have less than significant impacts on water quality under CEQA. However, in-water releases of copper from tanker hull paints and illegal discharges from vessels could constitute pollution or contamination and result in significant impacts to water quality. Oil spills in the Harbor also would have significant impacts on water quality.

### Mitigation Measures

*Runoff*

No mitigation is required.

*Vessel Operations and Oil Spills*

OSCPs for existing facilities would minimize the potential for spills to reach Harbor waters. Beyond legal requirements, there are no available mitigation measures to eliminate impacts to water quality from spills, illegal discharges from vessels, or leaching of contaminants from vessel hull paints.

### Residual Impacts

*Runoff*

Less than significant impacts.

*Vessel Operations and Oil Spills*

Residual impacts would remain significant and unavoidable for illegal discharges and from oil spills directly to the Harbor. For most small oil spills (less than 50 bbl) during unloading of oil at the berth and for spills at the tank farms, standard measures would reduce residual impacts to less than significant. Residual impacts from oil spills in open areas of the Harbor (i.e., during vessel transit to the berth) could remain significant under conditions of large spill volumes, incomplete containment and recovery, and wide dispersion by tides and wind.

## NEPA Impact Determination

Operations under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no change in the potential for runoff or spills to create pollution or violate regulatory standards would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**Impact WQ-2.2: Operation of facilities would not cause or increase the potential for flooding that could harm people or result in damage to property or sensitive biological resources.**

The No Federal Action/No Project Alternative would not operate any new facilities, with the exception of a paved storage area on Pier 400 for wheeled containers. The storage facility site would be at a lower elevation than the adjacent container terminal to the north and the least tern nesting site to the east by 7.5 ft (2.3 m), as well as the Pier 400 shoreline dike to the south by 7.0 ft (2.1 m). This storage facility would not cause or increase the potential for flooding compared with baseline conditions.

**CEQA Impact Determination**

Under the No Federal Action/No Project Alternative, the Port would not operate any new facilities, with the minor exception of the paved storage site. Operation of the paved storage site would not increase the potential for flooding that could harm people or sensitive biological resources or damage property. Therefore, the potential impact from flooding would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

Operations under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no change in the potential for runoff or spills to create pollution or violate regulatory standards would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**Impact WQ-3.2: Operations would not cause a substantial loss of surface water in the harbor.**

Under the No Federal Action/No Project Alternative, no new in-water facilities would be operated at Pier 400. Therefore, there would be no loss of surface water in the Harbor.

**CEQA Impact Determination**

No loss of surface water would occur as a result of the No Federal Action/No Project Alternative, and no impacts would occur under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**NEPA Impact Determination**

Operations under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no change in the potential for loss of surface water would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**Impact WQ-4.2: Operation of the Project would not cause permanent changes in the movement of surface water that would produce a substantial change in the current or direction of water flow.**

The No Federal Action/No Project Alternative would not operate any new facilities in the Harbor that would impede water movement.

### CEQA Impact Determination

No permanent changes in the movement of surface water would occur as a result of the No Federal Action/No Project Alternative, and no impacts would occur under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

### NEPA Impact Determination

Operations under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no permanent changes in the movement of surface water would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

**Impact WQ-5.2: Operations would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.**

Operation of existing facilities for the No Federal Action/No Project Alternative would not expose the soil surface to wind and water erosion. Thus, impacts from operations on erosion and sediment runoff would be less than significant.

### CEQA Impact Determination

Under the No Federal Action/No Project Alternative, the Port would not operate any new facilities, with the minor exception of the paved storage area on Pier 400. These operations would not accelerate erosion of promote off-site transport of soils. Therefore, the potential impact from erosion would be less than significant under CEQA.

No impacts from erosion would occur.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

Operations under the No Federal Action/No Project Alternative would be the same as under the NEPA Baseline. Therefore, no changes in the potentials for erosion or offsite transport of site soils would occur, and potential impacts under NEPA would not occur because there would be no net change in the environmental conditions between the No Federal Action/No Project Alternative and the NEPA Baseline.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

No impact.

### 3.14.4.3.3 Reduced Project Alternative

Under the Reduced Project Alternative, as described in Section 2.5.2.2, construction and operation at Berth 408 would be identical to the proposed Project with the exception of the lease cap limiting throughput in certain years. However, as explained in Section 2.5.2.2, the lease cap would not change the amount of crude oil demanded in southern California, and therefore the analysis of the Reduced Project Alternative also includes the impacts of marine delivery of incremental crude oil deliveries to existing liquid bulk terminals in the San Pedro Bay Ports in years where demand exceeds the capacity of the lease-limited Berth 408.

As described in Section 2.5.2.2, the impact assessment for the Reduced Project Alternative also assumes existing terminals would eventually comply with the MOTEMS, that the LAHD and the Port of Long Beach would renew the operating leases for existing marine terminals, and that existing terminals would comply with CAAP measures as of the time of lease renewal (i.e., 2008 for Port of Long Beach Berths 84-87, 2015 for LAHD Berths 238-240, and 2023 for Port of Long Beach Berths 76-78).

#### 3.14.4.3.3.1 Construction Impacts

**Impact WQ-1.1: Construction of Reduced Project Alternative facilities would not result in discharges which could create pollution, contamination, or nuisance as defined in section 13050 of the CWC, or cause regulatory standards to be violated in harbor waters.**

Because the design and construction of facilities for the Reduced Project Alternative would be the same as those for the proposed Project, possible construction-related impacts of the Reduced Project Alternative to water and sediment quality would also

be of the same type and intensity as those discussed for the proposed Project. The same BMPs would be implemented and maintained during construction, and, similar to the proposed Project, discharges would be regulated under a general construction stormwater permit.

## CEQA Impact Determination

As described for the proposed Project, construction activities for the Reduced Project Alternative would not result in discharges that create pollution, contamination, or nuisance, or cause regulatory standards to be violated. Some, minor changes to water quality would occur as a result of installing pilings, but these changes would not affect beneficial uses. Therefore, construction activities would have less than significant impacts on water quality under CEQA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

## NEPA Impact Determination

Construction of the Reduced Project Alternative would have less than significant impacts on water quality under NEPA because in-water activities would not result in discharges that create pollution, contamination, or nuisance, or cause regulatory standards to be violated in harbor waters. The area of Tank Farm Site 1, Tank Farm Site 2, and access roads would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to potential impacts to water quality from the Reduced Project Alternative. This represents a minor difference in the impact determinations relative to those under CEQA.

### *Mitigation Measures*

No mitigation is required.

### *Residual Impacts*

Less than significant impact.

### Impact WQ-2.1: Construction of Reduced Project Alternative facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources.

Construction of facilities for the Reduced Project Alternative would not increase the potential for flooding. Existing storm drains would continue to accommodate the runoff and prevent flooding of the construction sites at the Marine Terminal and tank farm sites, and new storm drains would be installed to collect runoff associated with new facilities (e.g., Tank Farm Site 1) as part of the Reduced Project. The

construction contractor would be responsible for maintaining the drainage systems. Construction activities on land would not increase the potential for flooding or impede flood flows because drainage would be adequate to prevent damages to property or biological resources.

### CEQA Impact Determination

Construction of the Reduced Project Alternative would not cause or increase the potential for flooding that could harm people or sensitive biological resources or damage property. Therefore, impacts from construction operations would be less than significant under CEQA.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Impacts from construction of the Reduced Project Alternative on flood flows would be less than significant under NEPA because operations would not cause or increase the potential for flooding that could harm people or sensitive biological resources or damage property. The area of Tank Farm Site 1, Tank Farm Site 2, and access roads would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to flooding impacts from the Reduced Project Alternative. This represents a minor difference in the impact determinations relative to those under CEQA.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

Less than significant impact.

### Impact WQ-3.1: Reduced Project Alternative construction of the Marine Terminal berth would not cause a substantial loss of surface water in the harbor.

Berth construction under the Reduced Project Alternative would be the same as for the proposed Project, and would involve installation of in-water pilings. Up to 2.4 acres (0.99 ha) of surface water, equal to the combined cross-sectional area of the support pilings in the water, would be lost. No surface water features are present where onshore facilities (e.g., two tank farms and Marine Terminal buildings) would be constructed.

### CEQA Impact Determination

Construction operations for the Reduced Project Alternative would not result in a substantial loss of surface water in the Harbor. Therefore, impacts related to loss of surface water in the Harbor would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Construction operations for the Reduced Project Alternative would not result in a substantial loss of surface water in the Harbor. Therefore, impacts related to loss of surface water in the Harbor would be less than significant under NEPA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**Impact WQ-4.1: Construction of Reduced Project Alternative facilities would not cause permanent changes in the movement of surface water that would produce a substantial change in the current or direction of water flow.**

For the Reduced Project Alternative, Berth 408 would be constructed on the southwest side (Face C) of Pier 400, which is the same as for the proposed Project. Construction activities associated with the Berth 408 would not substantially impede water movement within the Harbor. Tides and waves would not be altered by construction of the wharf. Construction activities associated with development of the Marine Terminal and two tank farms would alter drainage patterns for surface runoff on these sites through grading, berm construction, and installation of drainage systems to collect stormwater, equipment wash water, leaks and spills, and firewater. However, because construction activities would be covered under a construction permit, changes in drainage patterns would not affect the quantity or quality of stormwater discharges to the Harbor. The construction contractor would be responsible for complying with all permit conditions related to stormwater discharges.

### CEQA Impact Determination

Construction of facilities for the Reduced Project Alternative would not cause permanent changes in the movement of surface waters producing substantial changes

in current or water flow within the Harbor. Installation of pier pilings would reduce current velocities within the footprint of the berth, but the distance between the pilings and the continual tidal action would not limit water exchange or cause stagnation. Therefore, impacts related to changes in surface water movement would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

Construction of facilities for the Reduced Project Alternative would not produce substantial changes in water flow, other than reduced velocities within the footprint of the berth. Therefore, impacts would be less than significant under NEPA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**Impact WQ-5.1: Construction of Reduced Project Alternative facilities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.**

The scope of construction activities, including pipeline installation, for the Reduced Project Alternative would be the same as for the proposed Project, and it would have the same potential for erosion and runoff of sediments. All HDD waste materials (drill muds and cuttings) would be collected and disposed off-site. Construction activities would implement the same BMPs as for the proposed Project. For the construction activities required for the Reduced Project Alternative, the potential for erosion, offsite transport, and deposition of soils in the Harbor is expected to be minimal. No water quality standards or objectives would be exceeded.

**CEQA Impact Determination**

Construction activities associated with the Reduced Project Alternative would not accelerate erosion or sedimentation that could not be contained on-site due to implementation and maintenance of required BMPs, as described above. Therefore, impacts to water quality from erosion associated with project construction activities would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

Construction activities associated with the Reduced Project Alternative would not accelerate erosion or sedimentation that could not be contained on-site due to implementation and maintenance of required BMPs as described above. Therefore, impacts to water quality from erosion and sedimentation would be less than significant under NEPA. The areas of Tank Farm Site 1, Tank Farm Site 2, and access roads would be paved as part of the NEPA Baseline; thus, under NEPA this paving would not contribute to erosion-related impacts to water quality from the Reduced Project Alternative. This represents a minor difference in the impact determinations relative to those under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### 3.14.4.3.3.2 Operational Impacts

**Impact WQ-1.2: Runoff, vessel operations, and oil spills during Operation of Reduced Project Alternative facilities have the potential to result in discharges which create pollution, contamination, or nuisance as defined in section 13050 of the CWC, or could cause regulatory standards to be violated in harbor waters.**

## Runoff

The volume and composition of runoff from operation of the Reduced Project Alternative facilities would be comparable to those described for the proposed Project. Aerial deposition of pollutants from project-related operations at Berth 408 also would be comparable to or slightly less than those associated with the proposed Project due to the fewer vessel calls associated with the Reduced Project Alternative. Given that vessel emissions would be reduced by employing the AMP system (**MM AQ-15**), differences between the proposed Project and the Reduced Project Alternative in amounts of aerial deposition from vessel emissions at Berth 408 are expected to be minimal. Increased vessel traffic at the other, currently existing terminals in the San Pedro Bay Ports (LAHD Berths 238-240 and Port of Long Beach Berths 76-78 and 84-87) could result in similar increases in the deposition rate of airborne pollutants at the respective terminals. Stormwater discharges to the Harbor

from Berth 408 and other terminal facilities would be governed by stormwater permit conditions that would be identical for both alternatives. Operations at Berth 408 and at LAHD Berths 238-240 and Port of Long Beach Berths 76-78 and 84-87 associated with the Reduced Project Alternative would not alter stormwater discharges or cause concentrations of project-derived contaminants in Harbor waters to exceed any water quality standards or objectives.

## Vessel Operations

Similar to the proposed Project, increases in tanker vessel traffic could result in increased mass loadings of contaminants, such as copper released from vessel hull anti-fouling paints, and inadvertent or illegal discharges at Berth 408. While portions of the Harbor (Inner Cabrillo Beach and Fish Harbor; see Table 3.14-1) are impaired with respect to copper, concentrations in waters adjacent to Pier 400 are below the criterion (3.1 µg/L) and copper is not a stressor in the vicinity of Berth 408. Therefore, the increased vessel traffic associated with the Reduced Project Alternative would increase copper loading in the immediate vicinity of Berth 408, but the dissolved forms of copper would be mixed and diluted in site waters and the resulting concentrations would remain below the criterion.

Discharges of polluted water or refuse directly to the Harbor are prohibited, and the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be quantified because the rate and chemical composition of illegal discharges from commercial vessels are unknown. There is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Also, over the past several decades there has been an improvement in water quality despite an overall increase in ship traffic. Thus, while it is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits, there is no evidence to support this relationship. Consequently, the Reduced Project Alternative would not necessarily result in increases over CEQA or NEPA Baseline conditions in contaminant loadings. Vessels moored to Berth 408 would be surrounded by a spill containment boom prior to initiating unloading operations that would retain any floatable materials from the vessel**.** However, soluble materials or negatively buoyant materials would not be retained by the booms. Thus, any discharges, if they occur, could cause pollution and create a nuisance as defined under section 13050 of CWC.

As a condition of their lease, the tenant would be required to conform to applicable requirements of the Non-Point Source (NPS) Pollution Control Program. The tenant also would be required to design all terminal facilities whose operations could result in the accidental release of toxic or hazardous substances (including sewage and liquid waste facilities, solid and hazardous waste disposal facilities) in accordance with the state Non-Point Source Pollution Control Program administered by the SWRCB. As a performance standard, the measures selected and implemented would use the Best Available Technology that is economically achievable such that, at a minimum, relevant water quality criteria as outlined by the California Toxics Rule and the Basin Plan are maintained, or in cases where ambient water quality exceeds these criteria, maintained at or below ambient levels. The applicable measures would include:

- Solid Waste Control - Properly dispose of solid wastes to limit entry of these wastes to surface waters;
- Liquid Material Control - Provide and maintain the appropriate storage, transfer, containment, and disposal facilities for liquid materials; and
- Petroleum Control - Reduce the amount of fuel and oil that leaks from container and support vessels.

Propeller wash from vessels (tankers and tugs) could cause some disturbance of soft bottom sediments in the vicinity of Berth 408. However, this effect would be minimized by the presence of rocks placed around the base of the berth pilings. Sediments resuspended by propeller wash would settle back to the bottom, although some horizontal displacement by currents could occur. This would not promote erosion of the harbor bottom or sedimentation near the Reduced Alternative Project site.

## Oil Spills

Similar to the proposed Project, design features at Berth 408 would reduce the potential for any spilled oil on the berth platform to reach the Harbor. Similarly, spills from the tanks and process areas would be retained within the containment dikes, which would minimize the potential for spreading and transport off-site and maximize the efficiency of the recovery and cleanup process. Residual oil, or oil mixed with stormwater, within the containment dikes would be collected in a tank that would feed a treatment system to remove sufficient oil from the water to meet requirements for discharge of treated stormwater under an NPDES permit. The collected oil would be returned to the oil storage system. Spills or leaks of oil from buried pipelines are unlikely to occur, and the potential risk of oil from a pipeline to reach Harbor waters before detection and cleanup is remote (Section 3.12.4.1, Risk of Upsets/Hazardous Materials, Upset Scenarios).

Accidental oil spills directly to the Harbor could occur during vessel transit through the Harbor and/or during unloading at Berth 408 as well as LAHD Berths 238-240 and Port of Long Beach Berths 76-78 and 84-87. It is reasonable to assume that an incremental increase in the probability of an oil spill from a vessel to the Harbor would be proportional to the increase in number of vessel calls associated with the Reduced Project Alternative. The Reduced Project Alternative would result in an increase in vessel traffic within the Los Angeles/Long Beach harbor complex. Impacts to water quality from oil spills at Berth 408 associated with operation of the Reduced Project Alternative would be the same as described for the proposed Project, although the probability of oil spills at that location would be slightly lower due to the fewer tanker calls. The probability of a spill, and related impacts to water quality, associated with tanker calls at other, existing terminals in the San Pedro Bay Ports would be less than for the NEPA Baseline until 2040.

Similar to the proposed Project, operations of the Berth 408 facility would be governed by an OSCP that specifies spill prevention, containment, and cleanup measures. The OSCP would provide a finalized list of emergency service providers. Commercial contractors handle most oil spills in the Harbor and have a variety of response services and equipment (e.g., boats, skimmers, booms, and pumps) to handle all types of spills. In addition, LAHD has established conditions that are

applied to all new and renewed Marine Oil Terminal leases (see Appendix E). These include provisions for the inspection, control, and cleanup of leaks from aboveground tank and pipeline sources that would minimize the potential for impacts from a spill to biological resources. Additionally, **MM 4B-7** from the Deep Draft FEIS/FEIR requires that the Port petition the state for increased local staffing of the OSPR to reduce the level of accidental spills at ship fuel docks.

Vessels moored to Berth 408 would be surrounded by a spill containment boom prior to initiating unloading operations. Thus, any oil lost from the vessel or the unloading arms to the Harbor would be contained within the boom, preventing the spread of floating oil slicks to other areas of the Harbor. Oil spilled at the berth could contaminate the berth pilings near the water surface as well as the intertidal zone of the Pier 400 shoreline within the area defined by the ends of the containment boom. Oil spilled in the immediate Berth 408 area that contacts rip rap in the shoreline dike or pier pilings could be difficult to recover completely, and residual oil could represent a source for hydrocarbons to Harbor waters for periods of weeks to months depending on the rate of oil degradation (i.e., weathering).

A spill in open water would affect water quality at the site of the spill and potentially in other areas of the Harbor, depending on the spill volume, transport speed and direction related to tides and winds, and the speed and efficiency of containment and cleanup. Although unlikely, a large spill that cannot be contained and cleaned quickly has the potential to impact the shoreline and sensitive biological habitats.

The Basin Plan (LARWQCB 1994) water quality objective for oil and grease is "[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." These conditions could be exceeded with relatively small volumes of spilled oil. Fresh (unweathered) oil spilled in the Harbor could also represent a source for soluble and potentially toxic hydrocarbon components to the water at the oil-water interface, and which are subject to transport by currents to adjacent areas.

As a condition of their lease, the project tenant would be required to develop an approved Source Control Program (SCP) with the intent of preventing and remediating accidental fuel releases. Prior to construction, the tenant would develop an approved SCP in accordance with Port guidelines established in the General Marine Oil Terminal Lease Renewal Program (Appendix E). The SCP would address immediate leak detection, tank inspection, and tank repair. The tenant also would be required to submit to the Port an annual compliance/performance audit in conformance with the Port's standard compliance plan audit procedures. This audit would identify compliance with regulations and BMPs recommended and implemented to ensure minimizing of spills that might affect water quality, or soil and groundwater.

### CEQA Impact Determination

Impacts to water quality from stormwater runoff associated with the Reduced Project Alternative would be less than significant under CEQA. While ships will release copper to Harbor waters while at Berth 408, resulting copper concentrations would not exceed the water quality standard due to mixing and dilution. Floatable materials

associated with illegal or inadvertent discharges from vessels while at Berth 408 would be retained by the containment boom surrounding the ship and would be recovered and disposed before the boom was released, thereby minimizing risks for altering water quality or affecting beneficial uses. However, soluble or negatively buoyant materials in waste and ballast water discharges would not be retained by the booms. Therefore, vessel operations could result in pollution or contamination, as defined in Section 13050 of the CWC, and impacts to water quality would be significant under CEQA. The potential magnitude of impacts to water quality from oil spills could vary from less than significant to significant depending on the volume, composition, and location of the spill, and the timeliness and efficiency of the response and cleanup operations. Spills or leaks that occur on land are expected to be contained and cleaned up before any impacts to surface water quality can occur. Spills from the pipeline are considered highly unlikely (Section 3.12.4.1) and thus less than significant due to the very low likelihood of a pipeline failure occurring in a location where the oil could reach surface waters. However, any amount of oil spilled from project operations that reaches Harbor waters is likely to exceed the Basin Plan objective for oil and grease. Thus, oil spills directly to Harbor waters would also have significant impacts on water quality.

#### *Mitigation Measures*

Beyond legal requirements, there are no available mitigation measures to eliminate impacts to water quality from spills, illegal discharges from vessels, or leaching of contaminants from vessel hull paints.

**MM 4B-7** from the Deep Draft FEIS/FEIR has been implemented by the Port to ensure that oil spill impacts are minimized to the greatest extent feasible. The Port is petitioning the state for increased staffing of the OSPR to reduce the level of accidental spills at ship fuel docks. These efforts are documented and kept on file in the Port's administration offices. Also, **MM WQ-1.2** would be implemented to reduce potential impacts from discharges of floatable materials.

#### *Residual Impacts*

Residual impacts would be less than significant for operational stormwater runoff discharges. For most small oil spills (less than 50 bbl) during unloading of oil at the berth and for upland spills at the tank farms, standard measures proposed as part of the Reduced Project Alternative to prevent, contain, and clean up the spill would reduce residual impacts to less than significant. If larger volumes of oil are spilled in the immediate Berth 408 area and not recovered before contacting rip rap in the shoreline dike or pier pilings, complete removal could be difficult, and residual oil could represent a source for hydrocarbons to Harbor waters, and residual impacts to water quality, for periods of weeks to months depending on the rate of oil degradation (i.e., weathering). Residual impacts from oil spills in open areas of the Harbor (i.e., during vessel transit to the berth) could remain significant under conditions of large spill volumes, incomplete containment and recovery, and wide dispersion by tides and wind.

### NEPA Impact Determination

Similar to the CEQA impact determination for **Impact WQ-1.2**, impacts to water quality from stormwater runoff and standard operations associated with the Reduced

Project Alternative would be less than significant under NEPA. Similarly, contaminant loadings to the Harbor from tanker hull paints under the Reduced Project Alternative would be less than significant under NEPA. However, illegal discharges and spills would result in pollution or contamination, as defined in Section 13050 of the CWC, and impacts to marine water quality would be significant. At the proposed Berth 408 location, spill-related impacts to marine water quality associated with the Reduced Project Alternative would be higher than for the NEPA Baseline because vessel calls for the proposed Project would be concentrated at the Project site. Spills from vessels at Berth 408 would likely occur during offloading operations, but spill volumes would be small. However, any amount of oil spilled from project operations that reaches Harbor waters is likely to exceed the Basin Plan objective for oil and grease. Thus, oil spills directly to Harbor waters as a result of Reduced Project Alternative operations would have a significant and unavoidable impact on water quality under NEPA.

*Mitigation Measures*

Beyond legal requirements, there are no feasible mitigation measures to eliminate impacts to water quality from spills, illegal discharges from vessels, or leaching of contaminants from vessel hull paints. However, **MM 4B-7** from the Deep Draft FEIS/FEIR has been implemented by the Port to ensure that oil spill impacts are minimized to the greatest extent feasible. Also, **MM WQ-1.2** would be implemented to reduce potential impacts from discharges of floatable materials.

*Residual Impacts*

Residual impacts would remain significant and unavoidable for oil spills directly to the Harbor. For most small oil spills (less than 50 bbl) during unloading of oil at the berth and for spills at the tank farms, standard measures proposed as part of the Reduced Project Alternative to prevent, contain, and clean up the spill would reduce the residual impact to less than significant. However, larger volumes of oil spilled in the immediate Berth 408 area and not recovered before contacting rip rap in the shoreline dike or pier pilings, could be difficult to remove completely, and residual oil could represent a source for hydrocarbons to Harbor waters, and residual impacts to water quality, for periods of weeks to months depending on the rate of oil degradation (i.e., weathering). Residual impacts from oil spills in open areas of the Harbor (i.e., during vessel transit to the berth) could remain significant under conditions of large spill volumes, incomplete containment and recovery, and wide dispersion by tides and wind.

**Impact WQ-2.2: Operation of Reduced Project Alternative facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources.**

Similar to the proposed Project, stormwater runoff from facilities operations for the Reduced Project Alternative would be collected by a drainage system consisting of existing and new storm drains, with the capacity for a 50-year storm event. Facility operations would not restrict runoff flows in a manner that represents a risk to humans, biological resources, or property.

### CEQA Impact Determination

Facility operations under the Reduced Project Alternative would not cause or increase the potential for flooding that could harm people, property, or biological resources. Therefore, impacts would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Facility operations under the Reduced Project Alternative would not cause or increase the potential for flooding that could harm people, property, or biological resources. Therefore, impacts would be less than significant under NEPA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**Impact WQ-3.2: Reduced Project Alternative operations would not cause a substantial loss of surface water in the harbor.**

The Reduced Project Alternative would not operate any structures that would result in loss of surface waters in the Harbor.

### CEQA Impact Determination

Operations for the Reduced Project Alternative would not result in a substantial loss of surface water in the Harbor. Therefore, impacts would be less than significant under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Operations for the Reduced Project Alternative would not result in substantial loss of surface water in the Harbor. Therefore, impacts would be less than significant under NEPA.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

Less than significant impact.

### Impact WQ-4.2: Operation of the Reduced Project Alternative would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow.

Operations of the Reduced Project Alternative facilities would not cause changes in the movement of Harbor waters other than the minor, localized flow restrictions associated with in-water pier pilings at Berth 408. The presence of pier pilings at this location would not affect water or sediment quality in the Harbor. Impacts from facility operations in upland portions of the Reduced Project Alternative site would be the same as for the proposed Project. Runoff flows would be directed to storm drains to remove stormwater runoff from upland portions of the site.

### CEQA Impact Determination

Operation of the Reduced Project Alternative would not cause permanent changes in the movement of surface water that could produce a substantial change in water flow. Therefore, impacts from the Reduced Project Alternative operations to surface water movement would be less than significant under CEQA.

#### *Mitigation Measures*

No mitigation is required.

#### *Residual Impacts*

Less than significant impact.

### NEPA Impact Determination

Operation of the Reduced Project Alternative would not cause permanent changes in the movement of surface water that could produce a substantial change in water flow. Therefore, impacts from the Reduced Project Alternative operations to surface water movement would be less than significant under NEPA.

#### *Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**Impact WQ-5.2: Operation of Reduced Project Alternative facilities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.**

Operations of the Reduced Project Alternative facility would be not expose upland soils or shoreline structures (dikes) to erosion or accelerate soil/sediment runoff or deposition rates.

**CEQA Impact Determination**

The Reduced Project Alternative operations would not accelerate natural erosion or sedimentation processes, resulting in sediment runoff or deposition which would not be controlled on-site. Therefore, the Reduced Project Alternative operations would result in less than significant impacts under CEQA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

**NEPA Impact Determination**

The Reduced Project Alternative operations would not accelerate natural erosion or sedimentation processes, resulting in sediment runoff or deposition which would not be controlled on-site. Therefore, the Reduced Project Alternative operations would result in less than significant impacts under NEPA.

*Mitigation Measures*

No mitigation is required.

*Residual Impacts*

Less than significant impact.

### 3.14.4.3.4 Summary of Impact Determinations

The following Table 3.14-2 summarizes the CEQA and NEPA impact determinations for the proposed Project and its alternatives related to Water Quality, Sediments, Hydrology, and Oceanography, as described in the detailed discussion in Sections 3.14.4.3.1 through 3.14.4.3.3. This table is intended to allow easy comparison between the potential impacts of the proposed Project and its alternatives with respect

to this resource. 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, notes the CEQA and NEPA 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. Note that impact descriptions for each of the alternatives are the same as for the proposed Project, unless otherwise noted.

**Table 3.14-2. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality Associated with the Proposed Project and Alternatives**

| *Alternative* | *Environmental Impacts* | *Impact Determination* | *Mitigation Measures* | *Impacts after Mitigation* |
|---|---|---|---|---|
| **3.14 Water Quality** | | | | |
| Proposed Project | **WQ-1.1:** Construction of proposed Project facilities would not result in discharges which would create pollution, contamination, or nuisance, or cause regulatory standards to be violated in harbor waters. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-2.1:** Construction of Project facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-3.1:** Construction of the Marine Terminal berth would not cause a substantial loss of surface water in the harbor. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-4.1:** Construction of proposed Project facilities would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-5.1:** Construction activities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |

**Table 3.14-2. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality Associated with the Proposed Project and Alternatives (continued)**

| *Alternative* | *Environmental Impacts* | *Impact Determination* | *Mitigation Measures* | *Impacts after Mitigation* |
|---|---|---|---|---|
| | | **3.14 Water Quality (continued)** | | |
| Proposed Project (continued) | **WQ-1.2:** Runoff and oil spills during operation of proposed Project facilities have the potential to result in discharges which create pollution, contamination, or nuisance, or could cause regulatory standards to be violated in harbor waters. | CEQA: **Significant** impact<br><br>NEPA: **Significant** impact | **MM 4B-7:** Increase Local Staffing of California Department of Fish and Game (CDFG) Office of Oil Spill Prevention and Response (OSPR)<br>**MM WQ-1.2:** Cleanup of Floating Materials Retained by Containment Boom<br>**MM 4B-7**<br>**MM WQ-1.2** | CEQA: **Significant** and unavoidable impact<br><br>NEPA: **Significant** and unavoidable impact |
| | **WQ-2.2:** Operation of proposed Project facilities would not cause or increase the potential for flooding that could harm people or result in damage to property or sensitive biological resources. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-3.2:** Project operations would not cause a substantial loss of surface water in the harbor. | CEQA: Less than significant impact<br><br>NEPA: Less than significant impact | Mitigation not required<br><br>Mitigation not required | CEQA: Less than significant impact<br><br>NEPA: Less than significant impact |
| | **WQ-4.2:** Operation of the Project would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-5.2:** Proposed Project operations would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |

**Table 3.14-2. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality Associated with the Proposed Project and Alternatives (continued)**

| *Alternative* | *Environmental Impacts* | *Impact Determination* | *Mitigation Measures* | *Impacts after Mitigation* |
|---|---|---|---|---|
| | **3.14 Water Quality (continued)** | | | |
| No Federal Action/No Project Alternative (continued) | **WQ-1.1:** Construction of facilities would not result in discharges which could create pollution, contamination, or nuisance, or cause regulatory standards to be violated in harbor waters. | CEQA: Less than significant impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: No impact |
| | **WQ-2.1:** Construction of facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources. | CEQA: Less than significant impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: No impact |
| | **WQ-3.1:** Construction of facilities would not cause a substantial loss of surface water in the harbor. | CEQA: No impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: No impact<br>NEPA: No impact |
| | **WQ-4.1:** Construction of facilities would not cause permanent changes in the movement of surface water that would produce a substantial change in the current or direction of water flow. | CEQA: No impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: No impact<br>NEPA: No impact |
| | **WQ-5.1:** Construction activities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site. | CEQA: Less than significant impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: No impact |
| | **WQ-1.2:** Runoff and oil spills during operation of facilities have the potential to result in discharges which create pollution, contamination, or nuisance, or could cause regulatory standards to be violated in harbor waters. | CEQA: **Significant** impact<br>NEPA: No impact | Mitigation not applicable<br>Mitigation not required | CEQA: **Significant** and unavoidable impact<br>NEPA: No impact |
| | **WQ-2.2:** Operation of facilities would not cause or increase the potential for flooding that could harm people or result in damage to property or sensitive biological resources. | CEQA: Less than significant impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: No impact |

**Table 3.14-2. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality Associated with the Proposed Project and Alternatives (continued)**

| *Alternative* | *Environmental Impacts* | *Impact Determination* | *Mitigation Measures* | *Impacts after Mitigation* |
|---|---|---|---|---|
| | | **3.14 Water Quality (continued)** | | |
| No Federal Action/No Project Alternative (continued) | **WQ-3.2:** Operations would not cause a substantial loss of surface water in the harbor. | CEQA: No impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: No impact<br>NEPA: No impact |
| | **WQ-4.2:** Operation of the Project would not cause permanent changes in the movement of surface water that would produce a substantial change in the current or direction of water flow. | CEQA: No impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: No impact<br>NEPA: No impact |
| | **WQ-5.2:** Operations would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site. | CEQA: Less than significant impact<br>NEPA: No impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: No impact |
| Reduced Project Alternative | **WQ-1.1**: Construction of Reduced Project Alternative facilities would not result in discharges which could create pollution, contamination, or nuisance, or cause regulatory standards to be violated in harbor waters. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-2.1:** Construction of Reduced Project Alternative facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-3.1:** Reduced Project Alternative construction of the Marine Terminal berth would not cause a substantial loss of surface water in the harbor. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |

**Table 3.14-2. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality Associated with the Proposed Project and Alternatives (continued)**

| *Alternative* | *Environmental Impacts* | *Impact Determination* | *Mitigation Measures* | *Impacts after Mitigation* |
|---|---|---|---|---|
| | | **3.14 Water Quality (continued)** | | |
| Reduced Project Alternative (continued) | **WQ-4.1:** Construction of Reduced Project Alternative facilities would not cause permanent changes in the movement of surface water that would produce a substantial change in the current or direction of water flow. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-5.1:** Construction of Reduced Project Alternative facilities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-1.2:** Runoff and oil spills during Operation of Reduced Project Alternative facilities have the potential to result in discharges which create pollution, contamination, or nuisance, or could cause regulatory standards to be violated in harbor waters. | CEQA: **Significant** impact<br>NEPA: **Significant** impact | **MM 4B-7**<br>**MM WQ-1.2**<br>**MM 4B-7**<br>**MM WQ-1.2** | CEQA: **Significant** and unavoidable impact<br>NEPA: **Significant** and unavoidable impact |
| | **WQ-2.2:** Operation of Reduced Project Alternative facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-3.2:** Reduced Project Alternative operations would not cause a substantial loss of surface water in the harbor. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |

**Table 3.14-2. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality Associated with the Proposed Project and Alternatives (continued)**

| *Alternative* | *Environmental Impacts* | *Impact Determination* | *Mitigation Measures* | *Impacts after Mitigation* |
|---|---|---|---|---|
| **3.14 Water Quality (continued)** | | | | |
| Reduced Project Alternative (continued) | **WQ-4.2:** Operation of the Reduced Project Alternative would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |
| | **WQ-5.2:** Operation of Reduced Project Alternative facilities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site. | CEQA: Less than significant impact<br>NEPA: Less than significant impact | Mitigation not required<br>Mitigation not required | CEQA: Less than significant impact<br>NEPA: Less than significant impact |

### 3.14.4.4 Mitigation Monitoring

Less than significant impacts to water and sediment quality and oceanography would occur as a result of construction and operation of the proposed Project with the exception of effects from oil spills directly to Harbor waters and illegal discharges from vessels, which were identified as significant and unavoidable impact with no feasible mitigation measures.

No mitigation measures to reduce or avoid impacts were identified. The following measure from the Deep Draft FEIS/FEIR would be implemented by the Port to ensure that oil spill impacts are minimized to the greatest extent feasible.

**Mitigation Measures from the 1992 Deep Draft Final EIS/EIR that are Applicable to the Proposed Project:**

| **Impact WQ-1.2: Runoff and oil spills during operation of proposed Project facilities have the potential to result in discharges which create pollution, contamination, or nuisance, or could cause regulatory standards to be violated in harbor waters.** | |
|---|---|
| **MM 4B-7: Increase Local Staffing of CDFG OSR Personnel.** | |
| Mitigation Measure | Requires that the Port petition the state for increased local staffing of the OSPR to reduce the level of accidental spills at ship fuel docks. |
| Timing | Ongoing. |
| Methodology | The Port shall make a continual (at least once yearly) concerted effort to petition the state for increase staffing of OSPR personnel. These efforts shall be documented and kept on file in the Port's administration offices. |
| Responsible Parties | LAHD. |

**Mitigation Measures Developed in this Draft SEIS/SEIR Specific to the Proposed Project:**

| **Impact WQ-1.2: Runoff and oil spills during operation of proposed Project facilities have the potential to result in discharges which create pollution, contamination, or nuisance, or could cause regulatory standards to be violated in harbor waters.** | |
|---|---|
| **MM WQ-1.2: Cleanup of Floating Materials Retained by Containment Boom.** | |
| Measure | All vessels at Berth 408 shall be surrounded by a spill containment boom prior to initiating unloading operations. Following unloading and before releasing the boom, the project tenant shall visually inspect the water surface or the area encircled by the containment boom and recover and dispose any floating materials (e.g., trash) or petroleum sheen. |
| Timing | Ongoing. |
| Methodology | Trained wharf personnel shall complete and document a visual inspection of surface waters between ship hull and containment boom. Any floating debris shall be retrieved and disposed as solid waste. All debris shall be retrieved before the boom is released and the ship leaves the berth. |
| Responsible Parties | Tenant. |

## 3.14.5 Significant Unavoidable Impacts

For the proposed Project, there would be a significant unavoidable impact to water quality from in-water vessel spills and illegal discharges. It is important to note that this significant unavoidable impact (degradation of water and/or sediment quality) is predicated on an uncertain and unpredictable event (i.e., oil spill). While the probability of a future spill can be predicted from historical spill events, the frequencies and severity of future spills are subject to change (reduction) due to improving technology and other changes in operational protocols (discussed in Section 3.12), including Port-wide water quality programs. Therefore, a finding of potentially significant impact from project-related oil spills and illegal discharges may overstate the actual impact, but it is retained as a worst-case scenario.