Section 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 alternatives. This section also addresses surface water hydrology and potential for flooding impacts. The environmental setting, applicable regulations, and impacts and mitigation measures are discussed in Sections 3.14.2 through 3.14.4.

3.14.2 Environmental Setting

3.14.2.1 Regional Setting

The proposed Berth 97-109 Project area is located in the Los Angeles Drainage Basin, which drains approximately 832 square miles (2,155 square kilometers). Los Angeles Harbor has been physically modified through previous dredging and filling projects as well as construction of breakwaters and other structures. The Harbor consists of the Inner Harbor, Outer Harbor, and Main Channel (refer to Figures 2-1 and 2-2). The proposed Project area in the West Basin is part of the Inner Harbor and connects to the Outer Harbor by the Main Channel (see Figure 2-1). The Los Angeles Harbor is adjacent to Long Beach Harbor. Both Harbors function oceanographically as one unit due to an inland connection via Cerritos Channel and because they share Outer Harbors behind the San Pedro, Middle, and Long Beach breakwaters.

The combined Los Angeles/Long Beach Harbor oceanographic unit has two major hydrologic divisions: marine and freshwater. The marine hydrologic division is primarily influenced by the Southern California coastal marine environment known as the Southern California Bight. The main freshwater influx into the Los Angeles Harbor is through Dominguez Channel. Another freshwater contributor to the Harbor is the discharge of treated sewage from the Terminal Island Treatment Plant (TITP) into the Outer Harbor. Sheet runoff and storm drain discharges during and after storm events also add freshwater to the Harbor.

The proposed Project site is within the Dominguez Watershed (Hydrologic Unit 405.12), which covers approximately 133 square miles of land and water. Approximately 81 percent of the watershed is developed, and 62 percent of the land is covered by impervious surfaces. Drainage within the watershed is primarily through an extensive network of underground storm drains. This system of storm drains defines the boundaries of the watershed. More than half of this watershed drains to Dominguez

Channel, and the remaining portions of the watershed drain to retention basins for groundwater recharge, into Wilmington Drain, or to the Los Angeles and Long Beach Harbors (MEC 2004). The proposed Project site is within the Harbors subwatershed, which covers 95 square kilometers (37 square miles). Surface freshwater in the proposed Project area is primarily from stormwater runoff that enters the Harbor from numerous storm drains or drainage systems. The largest of these is the Dominguez Channel, which drains into the East Basin of the Harbor. In the West Basin, major storm drains discharge stormwater and dry weather runoff from an area of approximately 5 square miles of northern San Pedro and some of Rancho Palos Verdes to the Southwest Slip, and at the Northwest Slip, which drains the Machado Lake/Harbor Regional Park area. Dry weather discharges from storm drains can also occur and affect the marine water quality in the West Basin. All of the developed backlands (upland areas) have storm drains that are designed for a 10-year event and comply with the standard urban stormwater mitigation plan of the County of Los Angeles (see Section 3.14.3.4). These drains are inspected at least annually and maintained as necessary. The proposed Project is also located in the West Basin, which is part of the Inner Harbor. The existing beneficial uses of coastal and tidal waters in the Inner Harbor areas of Los Angeles Harbor, as identified in the *Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan), include industrial service supply, navigation, water contact recreation, noncontact water recreation, commercial and sport fishing, preservation of rare and endangered species, marine habitat, and shellfish harvesting (RWQCB, 1994b). Waters in the proposed Project area that are 303(d)-listed for impairment (*Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments, Los Angeles Regional Board*; approved October 25, 2006) include the Consolidated Slip, Cabrillo Marina, Fish Harbor, Inner Cabrillo Beach Area, Los Angeles/Long Beach Outer Harbor (inside breakwater), Los Angeles/Long Beach Inner Harbor, and Los Cerritos Channel (SWRCB, 2006). Dominguez Channel, which drains into Consolidated Slip, is also on the current 303(d) list. The reasons for impairment of these water bodies 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 RWQCB amended the Basin Plan (Resolution No. 2004-011) to incorporate a TMDL for bacteria at Los Angeles Harbor, including Inner Cabrillo Beach and the Main Ship Channel. However, this site is not listed for this stressor on the current 303(d) list.

The water and sediment quality parameters that could be affected directly by the proposed Project and project 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 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 West Basin. Oceanographic conditions that could be affected by the proposed Project include circulation (current patterns) as it may affect water exchange between West Basin and adjacent waters of the Harbor.

Table 3.14-1. Section 303(d) Listed Waters in Los Angeles Harbor

Listed Waters/Reaches	Impairments
Los Angeles Harbor, Cabrillo Marina (77 acres)	DDT, PCBs
Los Angeles Harbor, Inner Cabrillo Beach Area (82 acres)	Cu, DDT*, PCBs*
Los Angeles/Long Beach Outer Harbor, inside breakwater (4042 acres)	DDT, PCBs
Los Angeles Harbor, Fish Harbor (34 acres)	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)	Beach closures, benthic community effects, DDT, PCBs, sediment toxicity
Los Cerritos Channel (31 acres)	Ammonia, bis(2ethylhexyl)phthalate/DEHP, coliform bacteria, Cu, Pb, Zn, trash Sediment: chlordane
Los Angeles Harbor, Consolidated Slip (36 acres)	Benthic community effects, sediment toxicity, dieldrin Sediment: Cd, Cr, Cu, Pb, Hg, Zn Sediment & tissue: chlordane, DDT*, PCBs* Tissue: toxaphene
Domínguez Channel, from Vermont to Estuary (8.3 miles)	Benthic community effects, Cr, Pb, Zn, pesticides, DDT, PAHs, ammonia, bacteria

Source: SWRCB, 2006.

*Fish consumption advisory

3.14.2.2 Water Quality

Water quality conditions in the Harbor complex and proposed Project area have been summarized from the 2000 baseline study (MEC and Associates 2002) and other sources as cited below. Water and sediment quality sampling throughout the Harbor is not undertaken on an annual basis, with the most recent surveys completed in 2000. However, the Port conducts monthly sampling for selected parameters at several stations in Los Angeles Harbor, including two stations in the West Basin. Results from the monthly sampling are contained in a database, but the data have not been analyzed statistically or published in a report. Use of 2000 (and earlier for some parameters) data to approximate conditions for the year prior to 2001 is permitted because the conditions fall within the CEQA baseline period.

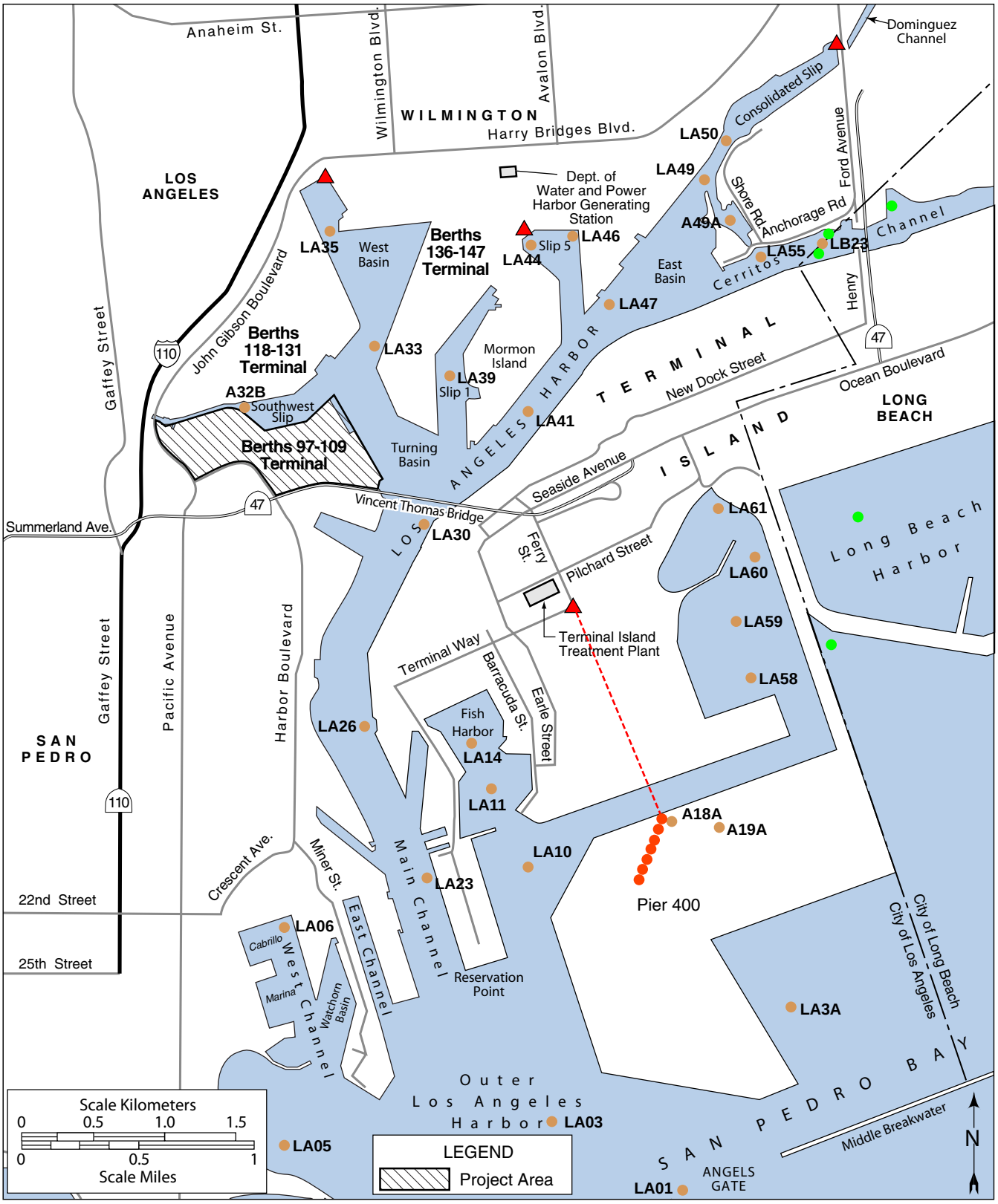
Marine water quality in the Los Angeles Harbor is primarily affected by climate, circulation (including tidal currents), and biological activity. Parameters such as salinity, pH, temperature, and transparency/turbidity are influenced primarily by large scale oceanographic and meteorological conditions, 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, affect water and sediment quality within the Harbor. Data from the RWQCB indicate that there are 10 major NPDES discharge sources, one publicly owned treatment works (TITP), six refineries, 58 minor discharges, 63 general discharges, 424 discharges covered under an industrial stormwater permit, and 115 discharges under the construction stormwater permit. Active and historical NPDES permits for discharges to the Harbor and Los Angeles River, as identified on the RWQCB website (www.waterboards.ca.gov/losangeles/html/permits/permits.html), are listed in Appendix K. 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, 2000a). The relative contributions (i.e., loadings) to the Los Angeles Harbor from regulated point source and unregulated nonpoint sources are expected to vary for individual contaminants. Specific loadings for stressors identified on the 303(d) list are not well characterized, but they are expected to be addressed by future TMDL studies.

Discharges from storm drains into the West Basin, Southwest Slip, Cerritos Channel and Dominguez Channel also can affect water quality in the West Basin. Information to characterize the quality of storm runoff from the portion of the watershed draining into West Basin is unavailable. However, Los Angeles County Department of Public Works (LACDPW, 2002) evaluated water quality at a sampling location on the Dominguez Channel by comparing sampling data to the Ocean Plan, Basin Plan, California Toxics Rule, and AB 411 standards. LACDPW concluded the following: coliform levels exceeded AB 411 standards; ammonia levels exceeded Basin Plan objectives; dissolved copper exceeded Basin Plan objectives and total copper concentrations exceeded Ocean Plan objectives; and total zinc concentrations exceeded Ocean Plan objectives (MEC and Associates 2004). Existing conditions for runoff into West Basin are expected to be similar to those for Dominguez Channel because land uses are similar.

Surface freshwater in the proposed Project area is primarily from stormwater runoff, which drains into the West Basin (Figure 3.14-1). Following storm events, the quality of the runoff water may reflect loading from oils, grease, hydrocarbons, and particulate matter associated with the operation of rail loading facilities, industrial land uses, and urban runoff from roadways. Recently, the City of Los Angeles approved funding through Proposition O for implementation of water quality and habitat improvements in Harbor Regional Park, which drains into the West Basin at the Northwest Slip. These improvements will reduce future pollutant loadings from stormwater/urban runoff into the West Basin.

The West Basin also receives the thermal discharge from the Harbor Generating Station. Recent discharge volumes from the Generating Station were about 40 million gallons per day. The discharge consists of seawater that is pumped from the Harbor and used to cool the turbines. This cooling process does not alter the chemical composition of the intake water through the plant and to the discharge (MBC, 2006).



Legend:

- Major Drains
- Titp Outfall
- Los Angeles Stations
- Long Beach Stations
- LA Sanitation Stations

Source: Los Angeles Harbor Department (unpublished data)

Figure 3.14-1
Water Quality Monitoring Stations
Berth 97-109
Container Terminal Project EIS/EIR

CH2MHILL

For those Los Angeles Harbor Complex waters listed on the 303(d) list, the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background"(40 CFR 130.2) such that the capacity of the water body to assimilate pollutant loadings is not exceeded. Upon establishment of TMDLs, the state is required to incorporate the TMDLs along with appropriate implementation measures into the state Water Quality Management Plan (40 CFR 130.6[c][1], 130.7). TMDLs are divided among existing (and potentially future) loading sources through an allocation process. Point sources regulated under the NPDES program receive wasteload allocations; nonpoint sources receive load allocations. The sum of wasteload and load allocations may not exceed the TMDL. Water quality data for the Dominguez Channel and Los Angeles/Long Beach Harbor have been evaluated by the LARWQCB and USEPA as part of the assessment of impaired water bodies of the nation under Section 303(d) of the Clean Water Act, which requires that "Each State shall identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard applicable to such waters".[1] Consequently, in the 1998 and the 2002 Section 303(d) List provided by LARWQCB, three constituents were identified as impairing the Southwest Slip: DDT, PCBs, and sediment toxicity. However, in other areas of Harbor including Dominguez Channel, numerous additional toxicants were identified as pollutants or stressors. These included polynuclear aromatic hydrocarbons (PAHs), copper, tributyltin (TBT), zinc, fecal indicator bacteria in most Harbor areas; and aldrin, ammonia, benthic community effects, ChemA, chromium, copper, dieldrin, high coliform count, lead, PAHs, and zinc in the Dominguez Channel. In addition to many of the pollutants listed above, cadmium, mercury, nickel, and toxaphene were also identified as stressors in the Consolidated Slip area of the Harbor. In the 2006 Section 303(d) List, 14 constituents were identified in the Southwest Slip (now included in the Dominguez Channel Estuary water segment), which include those listed above. Similar constituents were also listed for other areas of Harbor, with the addition of several individual PAH compounds (i.e., benzo[a]anthracene, dibenz[a,h]anthracene, and phenanthrene). It should be noted that California listing policy allows for the inclusion of pollutants not yet identified by listing designated use impairments such as sediment toxicity, beach closures, and benthic community effects, which may include pollutants such as TBT.

The waters of the Harbor complex are governed by the LARWQCB Basin Plan and applicable statewide plans, which serve as the state Water Quality Management Plan. TMDLs and allocations for these types of pollutants are normally set in terms of long-term mass loading levels, and the state and USEPA work with stakeholders to weigh many factors in setting waste load and load allocations. Currently, a TMDL is being developed for the Harbor complex for numerous constituents (i.e., copper, zinc, lead, benzo[a] pyrene, chrysene, phenanthrene, pyrene, total PCBs, total DDTs), many of which are associated with sediment, and multiple water bodies. USEPA and the LA Regional Board have contracted consultants to prepare estuarine hydrodynamic and watershed models to assess existing and potential future pollutant loads. These models are often helpful in the allocation process because they evaluate whether the reduction of different mixes of pollutants from various sources/watershed locations, will result in attainment of the numeric targets and hence meet the water quality standards. These

[1]These waters do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water on the lists and develop action plans, called Total Maximum Daily Loads (TMDL) to improve water quality.

allocations are developed through an iterative process in which the state, USEPA, and members of the public identify and test allocation options. After the models are verified for predictive performance, they will be used to evaluate possible waste load and load allocation alternatives. Depending on the alternative selected, any number of implementation actions may be required to meet the requirements of the final TMDL. TMDLs are divided among existing (and potentially future) loading sources through an allocation process. Point sources regulated under the NPDES program receive waste load allocations; nonpoint sources receive load allocations. The sum of waste load and load allocations may not exceed the TMDL.

3.14.2.2.1 Dissolved Oxygen

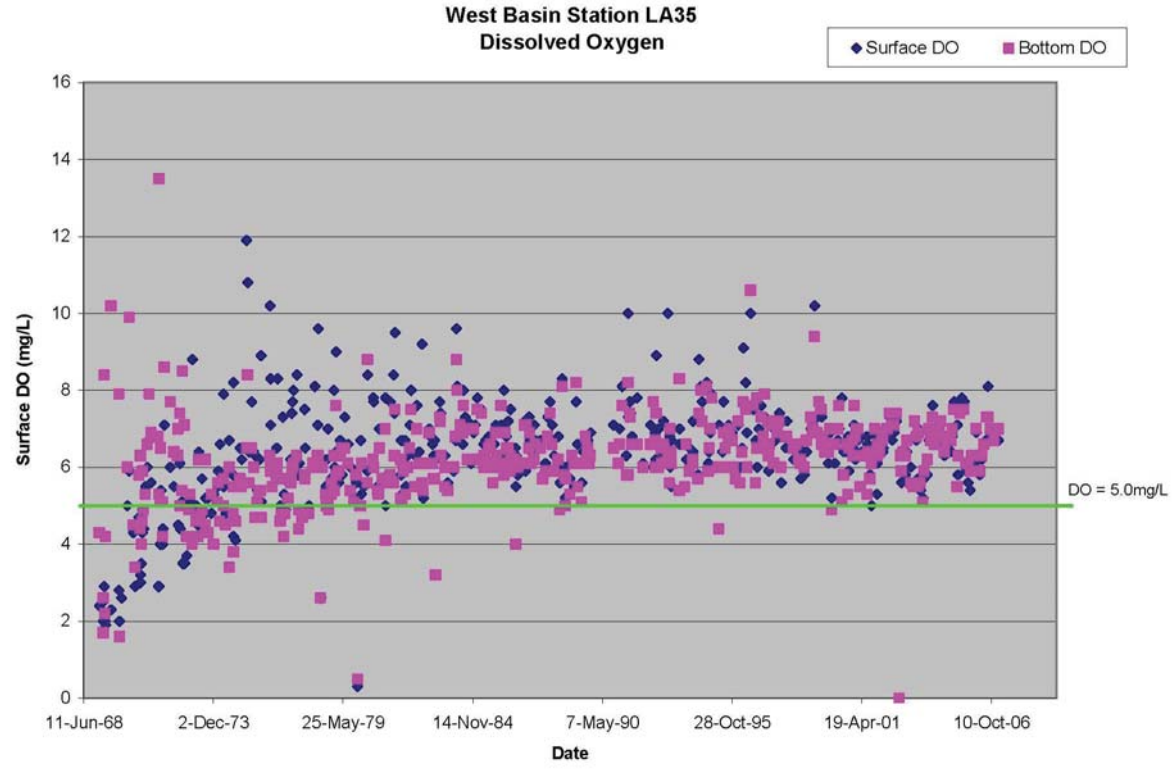
Dissolved oxygen (DO) is a principal indicator of marine water quality. DO concentrations vary in response to a variety of processes and conditions, such as:

- Respiration of plants and other organisms
- Oxygen demand from waste discharges
- Surface water mixing through wave action
- Diffusion rates at the water surface
- Water depth
- Disturbance of anaerobic bottom sediments

The Basin Plan (RWQCB, 1994b) specifies that the mean annual DO concentration of waters shall be 7 mg/L or greater with no event less than 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 late 1960s, DO levels at some locations in Los Angeles Harbor were so low that little or no marine life could survive. Since that time, regulations have reduced direct waste discharges into the Harbor, resulting in improved DO levels throughout the Harbor (MEC and Associates, 2002).

Water quality sampling in the West Basin in 2000 and 2003 showed DO concentrations in surface, middle, and bottom waters from 5.3 to 7.2 mg/L (MEC and Associates 2002; MBC 2003). As mentioned in Section 3.14.2.2, these values measured in 2000 are considered representative of baseline conditions prior to March 2001. Monthly monitoring (unpublished Port of Los Angeles monitoring data) at two locations in the West Basin (LA33 and LA35) since 1969 (Figure 3.14-2) has documented that the recent surface and bottom water DO concentrations measured are mostly at or above 6 mg/L, with only five measurements below 5 mg/L at each of these locations since November 1984, and only one at each location below 4 mg/L.

Algal (dinoflagellate) blooms (red tides) occur occasionally in the Harbor, typically associated with high solar radiation and nutrient levels, such as on sunny days following storm events. These blooms can severely reduce DO levels, but the effects are usually localized and short-lived. Disturbances of anaerobic sediments by dredging activities also result in short-term, localized DO reductions due to resuspension of materials with a high oxygen demand. Water quality monitoring associated with a dredging operation at Southwest Slip in June 2003 recorded DO concentrations from 7.8 to 7.9 mg/L throughout the water column (Port of Los Angeles unpublished monitoring data; included in Appendix K). In this case, dredging did not result in reduced DO concentrations.



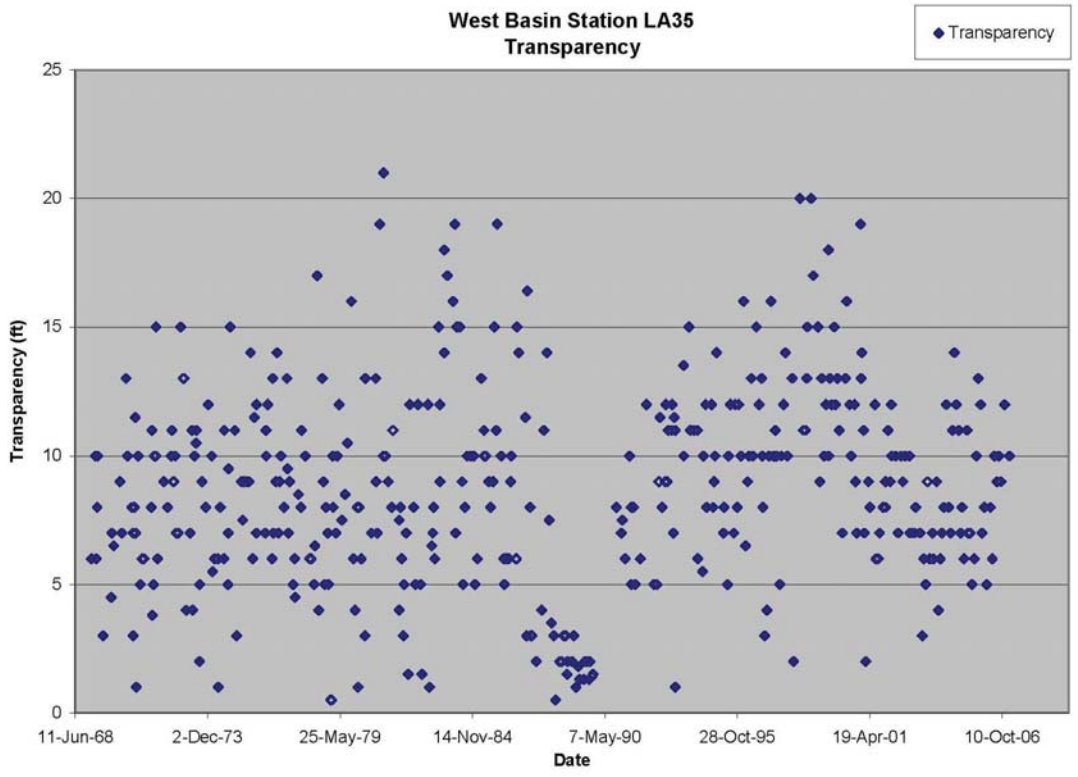


Figure 3.14-2
Examples of Long-Term Trends in Water Quality at West Basin
Berth 97-109
Container Terminal Project EIS/EIR

3.14.2.2.2 pH

Hydrogen ion concentrations (pH) in the open ocean typically remain fairly constant due to the buffering capacity of seawater (Sverdrup et al., 1942). It is affected by plant and animal metabolism, mixing with water with different pH values from external sources 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. In the open ocean, pH levels typically range from 8.0 to 8.3. In the Outer Harbors, pH levels have ranged from 8.1 (upper level in warmer months) to 7.4 (lower levels in cooler months). In the Los Angeles and Long Beach Inner Harbor waters, pH levels have ranged from 7.0 to 8.7. Measurements in the West Basin in 2000 and 2003 found pH to be consistently between 7.8 and 8.0 at all depths throughout the year (MEC and Associates, 2002; MBC, 2003). Based on the apparent absence of trends in other water quality parameters (DO and transparency) discussed in Section 3.14.2.2, the pH values measured in 2000 are considered representative of baseline conditions for pH prior to March 2001. The RWQCB has established an acceptable range of 6.5 to 8.5 with a change in tolerance level of no more than 0.2 due to discharges (proposed Project impacts) in bays or estuaries (RWQCB, 1994b).

3.14.2.2.3 Transparency

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, called 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 total suspended solids (TSS) in the water column as measured in mg/L. Increased turbidity usually results in decreased 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; algal blooms; and dredging activities. In addition, propeller wash from ships moving in and out of the Harbor are 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. One other cause of increased turbidity is algal blooms following storm runoff events, which typically provide high nutrient loadings that are efficiently utilized by plankton.

Historically, water clarity in the Harbor has varied tremendously, with secchi disk readings ranging from 0.0 to 40 feet. Water clarity generally increased from 1967 to 1986-1987 (USACE and LAHD, 1992), although individual readings still vary greatly. In the West Basin, transmissivity measured at one location and three depths in 2000 ranged from 50 to 73 percent and averaged over 60 percent (MEC and Associates, 2002). Monthly water clarity sampling at two locations in the West Basin from 1969 through 2006 (Figure 3.14-2) showed a wide range in measurements, 0.5 to 24 feet, with an average that has been relatively consistent over the past several years. As mentioned in Section 3.14.2.2, based on the absence of apparent trends in recent water clarity values, the measurements obtained in 2000 are considered representative of baseline conditions prior to March 2001. (Environmental studies of the Harbor have not reported turbidity in nephelometric turbidity units or NTUs, as this scale is typically used to measure clarity of drinking water on scales that do not correlate well with light transmission). Suspended solids concentrations in surface waters of the Outer Harbor range from less than 1 mg/L to 22.4 mg/L (USACE and LAHD, 1992).

3.14.2.2.4 Contaminants

Contaminants in Harbor waters can originate from a number of sources in and outside the Port. Potential sources of trace metals and organics include municipal and industrial wastewater discharges, stormwater runoff, dry weather flows, leaching from ship hull antifouling paints, petroleum or waste spills, atmospheric deposition, and resuspension of bottom sediments containing legacy (i.e., historically deposited) contaminants such as DDT and PCBs. Most of the metal, pesticide, and PAH contaminants that enter the Harbor have a low solubility in water and adsorb onto particulate matter that eventually settles to the bottom and accumulates in bottom sediments. Dredging projects in both the Inner and Outer Harbor areas, including the Los Angeles Harbor Deepening Project (USACE and LAHD, 1984), 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.

3.14.2.2.4.1 Atmospheric Deposition of Organic Pollutants

Recent studies have linked the atmospheric deposition of pollutants such as particulates, metals, and polycyclic aromatic hydrocarbons (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, both fresh and salt. One way to regulate potential deposition is through the TMDL program (established and regulated as part of the Clean Water Act), which sets daily load standards 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, an existing 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 enter the Harbor through aerial deposition. The USEPA and RWQCB are currently developing TMDLs to address Harbor impairments and 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 related to research and regulatory authority. 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 also be complicated. The 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. Emission sources from the proposed Project Alternatives would produce diesel particulate matter (DPM), which contains trace amounts of toxic chemicals. Through its Clean Air Action Plan, the Port will reduce air pollutants from its future operations, which will support the goal of reducing atmospheric deposition for purposes of water quality protection. The Clean Air Action Plan will reduce air pollutants that generate both acidic and toxic compounds, include emissions of NO_X, SO_X, and DPM.

Regionally, major transportation corridors, including those utilized for Ports goods movement purposes, contribute to PAH atmospheric deposition in the watershed. The PAH contribution comes from on-road trucks, off-road construction equipment, and is supplemented by diesel fuel combustion products from cargo-handling equipment, Harbor craft and marine vessels.

Since the watershed contains several major transportation corridors, it is difficult to separate localized project contributions from regional contributions to surface and marine water quality impacts. Air quality mitigation measures, as described in Section 3.2, will also 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, the CARB diesel risk-reduction measures, the CARB memorandum of understanding with the railroads to implement low-sulfur fuels and new engines in locomotives, regional transportation improvement plans implemented as part of the projects funded by Proposition 1-B.

The Port, through its Clean Air Action Plan, actively will 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 Clean Air Action Plan focuses primarily on reduction of PM, NO_X, and SO_X and 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.

3.14.2.2.4.2 Atmospheric Deposition of Metals

Presentations at a public workshop on 9 February 2006 indicate that the primary sources of 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 adsorb on particulates that are greater than 10 microns in diameter that settle in the watershed and then are washed into bodies of water in storm runoff (Bishop, 2006). 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 Port goods movement purposes, contribute to the atmospheric deposition of metals in the watershed. The project specific contribution to metal atmospheric deposition includes emissions from on-road trucks and off-road construction and terminal equipment. Metal contaminants as a result of atmospheric depositions associated with container terminals present a potentially larger localized impact to the watershed in the immediate vicinity of the sites. However, the contribution from area wide and regional transportation sources likely dominate the metal containing particulate matter that enters the storm drain systems since traffic volumes from freeways, commercial roads, and surface streets far exceed the transportation volumes from the port or container terminal operations alone. As previously mentioned, larger diameter mechanically generated particles >10 µm (e.g., from grinding, braking, resuspended dust, and maintenance operations) have a greater tendency to deposit in the immediate vicinity of the emission source. Finer particle fractions likely will travel greater distances and may not settle out in the immediate watershed area.

Emission factors developed for copper as a result of brake wear by the Brake Pad Partnership (BPP) demonstrated that passenger vehicles and medium duty vehicles represent the largest portion of copper generated from brake wear (Process Profiles, 2006). Passenger vehicles were determined to have a composition/wear emission factor of 0.5 mg of copper per kilometer traveled. Medium duty vehicles were determined to have a composition/wear emission factor of 0.7 mg of copper per kilometer traveled. In comparison, heavy-duty vehicles (such as those used in shipping terminal industries) were determined to have a composition/wear emission factor of 0.3 mg of copper per kilometer traveled. The Process Profile Report further stated:

> *Heavy-duty vehicles are not large contributors to copper releases from brake lining wear. This is in part due to the fact that they do not comprise a substantial portion of vehicle miles traveled. In addition, more than 95% of heavy-duty vehicle brakes are drum brakes (Lawrence, 2004) and much of the brake lining material that is worn during braking remains trapped in the drum. Also, the reported copper concentration of lining material in drum brakes in heavy-duty vehicles is lower than the copper concentration in disc brake linings.*

Based on evidence presented by the BPP, copper from passenger vehicles represents 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 µm. This particle fraction is likely to be dispersed over a much broader area than the coarse fraction >10 µm.

Atmospheric deposition of lead is primarily related to resuspended dust in urban environments. Lead is often a function of roadway soils containing residual, historical concentrations from leaded gasoline during the 1970s. Lead can also be found in paints from older homes and facilities in the surrounding vicinity. As paint chips wear from these facilities, they may become re-entrained in surrounding soils and subsequently be found in urban stormwater runoff.

Atmospheric deposition of zinc is primarily related to tire wear in urban environments (Councell, et al., 2004). Tire wear is predominately associated with larger particle fractions >10 µm and presents a larger potential for localized impacts to water quality. Terminal related industries likely represent a larger contribution of zinc since heavy-duty vehicles tend to have more tires (e.g., 18 wheels), larger diameter tires with greater surface areas, more frequent cornering, and higher payloads. Typical wear rates for passenger vehicles under mild conditions vary but are estimated at 0.01 grams tread per kilometer per tire. Typical wear rates for heavy-duty vehicles under mild conditions vary but are estimated at 0.034 grams of tread per kilometer per tire. However, tire wear rates are greatly increased during fast cornering and under severe conditions with values as high as 0.49 and 24.9 grams tread per kilometer per tire respectively. Literature values of zinc content found in tires (Councell et al., 2004) were reported as 0.04 to 1.55 wt %.

Although emission factors are provided for both copper and zinc, it is inherently difficult to accurately quantify the contribution that actually deposits on a watershed. Particulate deposition is controlled by wind speed, direction, and particle size. Additionally, build up/wash off rates and their contribution to stormwater concentrations are not well understood.

Atmospheric deposition of vanadium and nickel as a result of marine vessels burning crude oil has been linked to concentrations observed in air and rainwater (Poor, 2002).

3.14.2.2.4.3 Aqueous Sources of Contaminants

Potential contaminants in the Harbor might be derived from sources such as permitted discharges, nonpoint source runoff, atmospheric deposition from nearby industries, illicit dumping of wastes, and flux into the overlying water from deposited sediment-associated contaminants. Data from LARWQCB indicate that permitted discharges to the Harbor include major NPDES discharge sources (industrial sources with a yearly average flow of 0.1 mgd), a publicly owned treatment works (such as TITP), refineries, minor discharges (discharges other than major discharges), general discharges (covered by general permits), discharges covered under an industrial stormwater permit, and discharges under the construction stormwater permit.

As described above, a number of segments of the bodies of water in the Dominguez Basin and the Los Angeles/Long Beach Harbor are listed under Section 303(d) as impaired including Cabrillo Beach (inner and outer), Dominquez Channel (above Vermont, estuary to Vermont), Fish Harbor, Consolidated Slip, Southwest Slip, and the Main Channel. In addition, the CDP EIR identified the potential for low levels of heavy metals (particularly cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc), oil and grease, chlorinated hydrocarbons (specifically, DDT and DDE), and PCBs in various locations in the water column (USACE and LAHD, 2000). Furthermore, many of the contaminants on the 303(d) list for Southwest Slip are listed because sediment contaminant concentrations have been shown to be elevated above sediment quality guidelines (such as mercury and chromium) (Kinnetic Laboratories/ToxScan, 2002). However, whether sediments near the terminal facility represent a substantial contaminant flux to overlying water column and subsequently affect the impending TMDL is currently under investigation by the Port.

3.14.2.2.4.3.1 Tributyltin Leachate from Vessel Hulls

Antifouling paints containing tributyltin (TBT) were first manufactured and used in the U.S. in the late 1960s, and were found to prevent fouling on ships for approximately 5 years (International Maritime Organization, 2002). Consequently, TBT has been entering the marine system for over 30 years, through the leaching of TBT from paint, and as a result of paint removal and ship repair activities. By the 1980s, numerous studies had demonstrated toxic effects of TBT at extremely low concentrations (part per trillion levels) to nontarget species such as the mortality to larvae of the commercially important Pacific oyster (*Crassotrea virginica*), and imposex and subsequent mortality in dog whelks (Huggett et al., 1992). Because of these studies, regulatory actions were adopted in France (1982), followed by the United Kingdom (1985), and then the U.S. Congress, who passed the Organotin Antifouling Paint Control Act (OAPCA) in 1988. This act banned TBT on ships less than 25 m in length and ships without aluminum hulls. In addition, for ships with aluminum hulls that were greater than 25 m, TBT-based paints were limited to release rates of < 4 ($\mu g/cm^2$)/day, based on release rates from laboratory studies (Huggett et al., 1992).

More recently, the IMO adopted the International Convention on the Control of Harmful Antifouling Systems on Ships (October 5, 2001). This convention prohibits or restricts the use of antifouling systems on all ships that are parties to the convention, those above 400 gross tonnage that are engaged in international voyages, or those greater than 24 m in length. This convention will be initiated 12 months after 25 states or 25 percent of the merchant shipping tonnage of the world have ratified it. The status of this IMO convention as of March 2007 is that 23 states representing approximately 17 percent of

the merchant shipping tonnage of the world have ratified it (http://www.imo.org/Conventions/mainframe.asp?topic_id=529).

TBT is a potential contaminant of concern in seawater near the terminal facility because until the IMO convention is ratified, ships greater than 25 m in length containing TBT based paints on their hulls will continue to enter this area and leach TBT into the surrounding water. Laboratory studies have shown that TBT release rates from TBT-painted ship hull panels range from 0.5 to 5 ($\mu g/cm^2$)/day (Champ and Pugh, 1987). Additional studies have demonstrated similar rates. TBT release rates from vessels in Tamar Estuary (southwest England) were estimated to be approximately 1 ($\mu g/cm^2$)/day (Harris et al., 1991). TBT leach rates ranged from 0.5 to 2.1 ($\mu g/cm^2$)/day upon equilibration, from a panel painted with a TBT copolymer based paint (Thomas et al., 1999). Studies performed by the Navy in 1987 and 1988 on vessels from Pearl Harbor demonstrated an average steady-state release rate of 0.38 ($\mu g/cm^2$)/day (Naval Command Control and Ocean Surveillance Center RDT&E Division [NRaD], 1989).

It should be noted that leachate rates of TBT from paint on the hulls of vessels in the studies above vary as a result of many factors including the type of paint, the speed of the vessel, and many environmental variables such as salinity, temperature, and the amount of suspended solids. Initially, antifouling paints were comprised of TBT oxide or halides, also referred to as free association paints. While these paints had high release rates, they lost potency in 18 to 24 months. Consequently, antifouling paints comprised of the slower-releasing and longer lasting, TBT copolymers were developed, which effectively prevented the fouling organisms for up to 60 months. Today, most of the vessels with TBT-based paints have coatings comprised of the slow-releasing TBT copolymers such that the paint release rates meet the OAPCA regulations of less than 4 ($\mu g/cm^2$)/day. According to the United Nations Development Program (UNDP) of the Global Environment Facility (GEF), China annually consumes approximately 65,000 metric tons (MT) of antifouling paint, of which 25,000 MT contains TBT (GEF, 2006). While the UNDP reports that most Chinese vessels traveling internationally do not use TBT-based antifouling paints, the China Maritime Bureau has not yet signed the IMO convention of 2001. Thus, some Chinese Ships entering and docking at the terminal facility of Harbor, may have TBT-based hull paints that contribute to TBT loadings here. It should be noted however, that the U.S. also has not yet signed the IMO convention of 2001, indicating that TBT leaching from U.S. ships also may contributing to TBT loadings from ships docking at the terminal facility near the Southwest Slip. States that have signed the 2001 IMO convention include Antigua and Barbuda, Australia, Bulgaria, Cook Islands, Croatia, Cyprus, Denmark, France, Greece, Japan, Kiribati, Latvia, Lithuania, Luxembourg, Mexico, Nigeria, Norway, Poland, Romania, Saint Kitts and Nevis, Spain, Sweden, and Tuvalu.

In addition to paint type, other variables affect the actual loading of TBT into a harbor. Specifically, this depends on the size of the ship and the surface area of its hull, the duration the ship is in the slip, the release rate of the TBT from the paint on the hull, and environmental variables described above. Using calculations derived from the U.S. Navy, it is possible to estimate the loading of TBT or other leachates into a harbor area if these variables can be determined (i.e., TBT Loading of a ship = release rate*surface area*time, where time = number of days the vessel is within 12 nautical miles (or within a homeport) (USEPA, 1999). For example, using this calculation, the loading of TBT into Pearl Harbor from Armed Forces vessels that contain TBT-painted hulls was estimated at 0.4 kg/yr, after adjusting for time spent out of water. Similar estimates of 0.8 and 0.2 kg/yr were determined for San Diego and Mayport Harbors, respectively.

The calculation of actual loading of TBT into the area of the Harbor near the terminal facility is possible using the release rates described above; however, this estimate would require the determination of additional measurements including the following: number of TBT-coated vessels traveling within a 12 nautical miles of the terminal facility per day (or within a homeport), number of days each is within 12 nautical miles (or within a homeport), and the wetted surface area of each vessel (USEPA, 1999).

3.14.2.2.4.3.2 Environmental Fate of Tributyltin

Upon leaching from vessel hulls into the water column, TBT is subjected to a variety of environmental processes and mechanisms that ultimately affect its fate (Maguire et al., 1983; Fent and Hunn, 1995; Suzuki et al., 1996). When leaching has occurred, TBT oxides or copolymers (e.g., methacrylates) will exist primarily as cat ions in the aqueous environment. In this form, TBT will strongly adsorb to particulate matter, much of which will be deposited onto the sediment layer. A much smaller portion of the dissolved TBT will be subjected to abiotic (i.e., photodegradation) and biotic degradation by microorganisms. The main products of degradation include the less alkylated tins, dibutyltin, monobutyltin, and tin; however, other metabolites such as hydroxylated and carboxylated alkyltins also may result from microbial activity. The ultimate fate of TBT in the environment will be dependent on environmental variables such as season, temperature, microbes, particulate organic matter, exposure to sunlight, and salinity. For instance, in the surface microlayer of the water column, where there is significant sunlight and potential for biodegradation, the half-life of TBT may be as short as a week. In contrast, within anaerobic sediments, the half-life may be several years; once sediment-bound, desorption of TBT is low. Another fate of TBT in the aqueous environment is loss through volatilization, which is not expected to be an important process.

3.14.2.2.4.3.3 Leachate of Metals from Vessel Hulls

In addition to TBT, there are a variety of other compounds found in antifouling coatings on vessels (USEPA, 1999) that may enter and dock at terminals. The paint coatings used are dependent on the type of material comprising the hull. TBT or biocide-free silicone-based coatings are used on aluminum hulls while copper-based coatings are typically applied to steel, fiberglass, glass-reinforced plastic composites (GRP), and wood hulls. Because of the restrictions on TBT-based coatings, and because many ships greater than 25 m in length do not have aluminum hulls, many of the ships docking at the terminal facility likely contain copper-based coatings.

Copper-based coatings contain small amounts of zinc, also used as a biocide in antifouling paints, and as such, both metals will leach from copper coatings of vessels docking at the terminal facility. Similarly, TBT-based paints often also contain small amounts of copper and zinc, and thus in addition to TBT, these paints will also leach zinc and copper into surrounding waterways.

Leachate rates and loadings of copper and zinc from copper-based ship coatings have been determined by previous US Navy studies (Marine Environmental Support Office, NRaD, 1997). These studies predicted copper and zinc release rates from copper antifouling paint coatings using dynamic and static tests. Results indicated that release rates during simulated vessel operations were 17 ($\mu g/cm^2$)/day and 6.7 ($\mu g/cm^2$)/day for copper and zinc, respectively, and under static conditions release rates were 8.9 ($\mu g/cm^2$)/day and 3.6 ($\mu g/cm^2$)/day for copper and zinc, respectively. Similar release

rates for copper (1.0 to 22 [μg/cm^2]/day) have been reported in other studies (Johnson et al., 1998; Valkirs et al., 2003). Using release rates derived from the 1997.

US Navy study, copper and zinc loadings per vessel and annually in San Diego Harbor, Pearl Harbor and Mayport Harbor, were calculated based on the equation described above for TBT loading estimates. Copper loadings were estimated at concentrations of 1,975 kg/yr in Mayport Harbor to 7,171 kg/yr in San Diego Harbor while zinc loadings were estimated at concentrations of 778 kg/yr in Mayport Harbor to 2,826 kg/yr in San Diego Harbor. These release rates for copper and zinc are likely similar to those of large commercial vessels of similar size, that dock at terminals; however, copper and zinc loadings from commercial vessels would vary depending on ship number, duration of exposure, surface area, and type, as well as paint coating variety.

3.14.2.2.4.4 Monitoring

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, 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 water are expected to be considerably higher following a storm event due to the higher mass loadings associated with stormwater runoff. Following a large storm event, contaminant concentrations decrease as loadings decline, stormwater 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 (POLA, 2007).

The Monthly Monitoring Program for the Port has measured water quality monthly at LA35 since 1969. For the majority of the sampling events, oil and grease was present at minimal levels or nonexistent. During the last 13 years, more floating solids have been identified, but they were categorized as “unspecific.” From May 2005 until March 2006 the Port conducted quarterly enhanced water quality monitoring that coincided with the monthly monitoring program. The enhanced program included chemical and microbiological parameters to compliment the basic biological and visual parameters already being measured. Overall, there were no detections of total organic carbon, oil and grease, and total petroleum hydrocarbons. Concentrations of dissolved and total metals were detected at levels similar to the study average, and no samples had levels above the California Toxic Rule (CTR) criteria. Tributyltin was detected, but concentrations were at or below the CTR criteria. Fecal and total coliform bacteria were detected, primarily during the sampling event that took place 48 hours after a significant rain event, but levels did not exceed the AB 411 criteria for either parameter (AMEC, 2007). The enhanced monitoring program was not conducted in 2001. However, the results summarized above for 2005-2006 are considered representative of 2001 baseline conditions because the composition and magnitude of the primary sources, such as ship traffic, storm patterns and resultant runoff, and biological activity, were comparable.

3.14.2.2.5 Nutrients

Nutrients are necessary for primary production of organic matter by phytoplankton. Low nutrient concentrations can limit the photosynthetic production, whereas excess nutrient concentrations can cause eutrophication and promote harmful algal blooms. Major nutrients that may limit phytoplankton photosynthesis are phosphates and nitrates. Spatial and temporal variations in phosphates and nitrates change from day-to-day and are influenced by the local environment. Other sources of nutrients to Harbor waters include wastewater discharges such as the TITP in the Outer Harbor, industrial discharges, and stormwater runoff. Point source discharges are regulated through discharge permits, and stormwater discharges are regulated though municipal and industrial stormwater permits. The enclosed nature of the Harbor has created 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, nutrients in the Los Angeles/Long Beach Harbor complex may vary in concentration by several orders of magnitude. The following ranges were measured in 1978 by Harbors Environmental Projects (Allan Hancock Foundation, 1980): phosphate, 0.172 to 12.39 ppm; ammonia, 0.12 to 119.28 ppm; nitrate, 0.00 to 82.97 ppm; and nitrite, 0.00 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.

3.14.2.2.6 Temperature

Temperature of waters in the Harbor shows seasonal and spatial variation that reflects 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 of stratified, warmer temperatures with cooler waters at the bottom in the summer and fall. The stratified summer and fall conditions may be attributed to warmer ocean currents, local warming of surface waters through insolation, and reduced runoff into nearshore waters. Inter-annual or longer-term patterns in water temperatures reflect the influences of oceanographic conditions, such as those associated with El Nino/La Nina cycles (MEC and Associates, 2002). In 2000, surface water temperatures in the West Basin averaged 59.4°F in January, 61.9°F in May, 73.4°F (23.0°C) in August, and 63.9°F (17.7°C) in November. Bottom temperatures were 0.7 to 6.3°F (0.4 to 3.5°C) lower with the larger difference in the summer (MEC and Associates, 2002). These temperatures are similar to monitoring conducted by MBC in the West Basin in 2006, which ranged from 14.0°C to 15.2°C in the winter to 21.6°C to 24.7°C in the summer (MBC, 2006).

3.14.2.2.7 Salinity

Salinity variations occur in Los Angeles Harbor 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). Salinity in the Outer Harbor was generally higher in the summer (due to warmer weather evaporation) than in the winter (due to less evaporation in cooler weather and freshwater inputs from to storms), and deeper Outer Harbor locations were typically more saline than shallower locations (MEC, 1988). Typical salinity for coastal waters is around 33 ppt. Measurements in the

West Basin during 2000 and 2003 showed salinity values ranging from 32.8 to 33.6 ppt in surface and bottom waters (MEC and Associates, 2002; MBC, 2003). Storm drains empty into the western end of the Southwest Slip and into the Northwest Slip. Stormwater discharges cause reduced salinity during storm runoff events, particularly in surface waters because freshwater is lighter and floats on top of the denser seawater of the West Basin. As the fresher runoff waters mix with the seawater, due to wind, vessel traffic, tidal currents, and diffusion, the salinity of the runoff plume increases (POLA, 2007).

3.14.2.3 Marine Sediments

Sediments in the proposed Project area are primarily composed of nearshore marine or estuarine sediments that were either deposited in place along the margin of the early San Pedro embayment or subsequently dredged and placed at their current locations as fill material. Spills of petroleum products and hazardous substances due to long-term industrial land use have resulted in contamination of some sediments. The State Water Resources Control Board (2006) has listed various areas in the Los Angeles/Long Beach Harbor complex, which includes West Basin, as an impaired body of water under Section 303(d) of the Clean Water Act for specific sediment contaminants (see Table 3.14-1).

Sediments in the northern portion of the West Basin have a higher proportion of sand (51 to 63 percent) than silt and clay (37 to 48 percent) (MEC and Associates, 2002; MBC, 2003). For the Channel Deepening Project, bulk sediment chemical analyses were conducted on sediment samples from numerous locations in the West Basin (Kinnetic Laboratories/ToxScan, 2002). The samples were analyzed for heavy metals, butyltins, chlorinated pesticides and PCBs, petroleum hydrocarbons, oil and grease, PAHs, total phthalates, percent solids, and total soluble sulfides. Elutriate samples were also analyzed for most of the same constituents. No biological (toxicity or bioaccumulation) testing was performed for these sediments. Sediments adjacent to Berths 145 to 147 were tested in 2002 for suitability for ocean or in-water disposal (AMEC, 2003b). Testing was performed in accordance with standard USEPA and USACE (1991, 1998) protocols, which included bulk sediment chemical analyses, elutriate testing, solid and suspended phase bioassays, and contaminant bioaccumulation testing. Results from testing are summarized in Sections 3.14.2.3.1 and 3.14.2.3.2. Some sediment quality data from 2003 are available for these areas (MBC, 2003). The sediment quality conditions represented by sampling in 2000 and 2002 (MEC and Associates, 2002; AMEC, 2003; respectively) are considered representative of baseline conditions in 2001 because the magnitude and composition of source inputs to the West Basin were comparable and no substantial disturbances of bottom sediments, such as dredging, occurred in the West Basin between 2000 and 2003. NPDES monitoring conducted in the West Basin in 2003 which included grain size, and metals (MBC, 2003; Appendix K) is also consistent with the MEC and AMEC studies. Metals were below effects range low (ERL) levels (lower 10 percentile where effects on biota would rarely be observed) except copper, which was slightly higher than the ERL. Monitoring in 2005 and 2006 showed copper, nickel, and zinc above ERL levels, probably due to higher proportions of fines from abnormal runoff amounts in winter 2004-2005.

Although the Inner Harbor is significantly cleaner than it was 25 years ago, some segments exhibit the effects of historic deposits of pollution in the sediments and from the existing point and nonpoint discharges (LARWQCB, 2002). Marine biological communities in part of the Inner Harbor show contamination from PCBs and the chlorinated pesticide DDT and toxicity of the surface water microlayer in a test species

(larval kelp bass) (Southern California Coastal Water Research Project [SCCWRP], 1998 and 2002). Localized areas of contaminated sediments still remain. The CalEPA Office of Environmental Health Hazard Assessment has issued health advisories on the consumption of certain fish species (white croaker, black croaker, queenfish, and surf perches) from Los Angeles and Long Beach Harbors.

The State Mussel Watch (SMW) Program has documented instances of high levels of metals, PCBs, TBT, and PAHs in mussel tissue at several locations in the Inner Harbor. Additionally, the Bay Protection and Toxic Cleanup Program (BPTCP) has identified some areas of the Inner Harbor with elevated pollutant levels, some of which exhibit sediment toxicity (California State Water Resources Control Board [SWRCB] et al., 1998).

The sediments in the Southwest Slip are predominantly silt and clay (over 90 percent), while the northern portion of the West Basin has a higher proportion of sand (63 percent) than silt and clay (37 percent) (MEC Analytical Systems, 2002). Sediment quality has been investigated as part of the numerous Port improvement and dredging projects. Enforcement and elimination of contaminant sources have resulted in reduction of pollutant loading to the Harbor, but the contaminant levels remaining have resulted in many areas being listed as waters with impaired water quality from sediment contamination.

The MEC Analytical Systems biological baseline study (2002) results suggest that the removal of contaminated sediments during the Channel Deepening Project has led to a significant improvement in the environmental quality of the Harbor.

At present, no numerical sediment quality objectives exist to compare to the sediment testing results; however sediment quality objectives are being developed by the SWRCB. Therefore, recent sediment testing results are used to characterize sediment quality by comparisons to published guidelines and exceedance criteria (Long et al., 1995; USEPA/USACE, 1991; USEPA, 2000a) as follows:

- Effect Range Low (ERL) = concentrations in bulk sediment below which adverse biological effects are not expected
- Effect Range Medium (ERM) = concentrations in bulk sediment above which adverse biological effects are expected
- Water Quality Standards (WQS): 1-hour and 4-day averages (elutriate test)
- Limiting Permissible Concentration (LPC) (bioassay)

The following summarizes the sediment quality of different areas in the proposed Project area.

3.14.2.3.1 Southern West Basin

Testing of fine-grained sediments in the southern part of the West Basin area generally indicated concentrations of DDTs and PCBs above ERL values but below ERM values. Concentrations of a subset of metals (mercury and nickel) also were above ERL values. Solid phase bioassays of the sediments in the southwest portion of the basin (outside the proposed Project area) produced significant toxicity to a benthic amphipod, and bioaccumulation tests showed lead, mercury, DDD, and PCBs accumulated in tissues of test organisms. No toxicity or bioaccumulation occurred for the remainder of the area (Kinnetic Laboratories/ToxScan, 2002).

Sediment samples collected along Berths 127-131 in 1997 contained mercury and cadmium concentrations above ERL levels (Ogden, 1997). Solid phase bioassays found significant toxicity to a worm, while suspended phase tests found toxicity to a shrimp and bivalve larvae. Bioaccumulation tests showed accumulation of cadmium, lead, and PAH in tissues of a clam; selenium in a worm; and DDE in a clam and worm. Results from testing are listed in Appendix K.

Results from testing sediments collected near Berths 146-147 (Site 2) by AMEC (2003) generally were consistent with the previous testing results. Sediments contained arsenic, copper, lead, nickel, and total DDT concentrations that exceeded the ERL values, and mercury concentrations that exceeded the ERM value. Concentrations of other metals and PAHs were below the ERL values, and PCBs were not detected in any of the sediment samples. Contaminant concentrations in the elutriate sample were all below detection limits, with the exception of arsenic and zinc concentrations (0.003 mg/L and 0.009 mg/L, respectively) that were at or below the respective CTR criteria. Solid phase bioassay test results indicated no significant toxicity, whereas the suspended particulate phase tests indicated significant reductions in bivalve larvae development at the 50 percent and 100 percent elutriate concentrations that appeared to be an artifact of high unionized ammonia concentrations in the test sediments. Bioaccumulation tests indicated statistically significant accumulation of PAHs in tissues of test organisms. While these differences were not considered to be ecologically significant (AMEC, 2003), the material was considered by USACE unsuitable for in-water disposal. Results from testing are listed in Appendix K.

Previous studies of the area of Berths 100-102 included sediment testing to depths of 12 to 22 feet below msl or about 9 to 19 feet below MLLW. This sampling showed essentially clean sediments at those depths (ToxScan, 1995). During construction of the West Basin Widening Project where a 9-acre area of the former Chevron Marine Terminal was removed to improve navigation (Berth 100 area); however, dredged material was found to be contaminated with petroleum hydrocarbons. This material was removed and managed as part of the West Basin Widening Project.

Sediments in the southern part of the West Basin prior to construction of the CDP were tested and found to contain mercury, nickel, DDT compounds, and PCBs in excess of ERL and/or ERM guidance levels. In addition, significant toxicology was measured using a benthic amphipod test. Bioaccumulation tests showed lead, mercury, DDD, and PCBs in tissue tests at significant levels (Kinnetic Laboratories/ToxScan, 2002). The sediment testing was performed to identify disposal and management options for the dredge material as part of the CDP. The identified contaminated sediments were dredged and used for fill in other areas of the Port as part of the CDP, which was completed largely in 2005.

In addition, sediment testing was performed of the Berth 100 area in 2001 prior to the construction of the Berth 100 wharf. The testing identified a limited area near the northern portion of Berth 100 in which DDE/DDT, chlordane, dieldrin, and limited PAHs exceeded the ERL and/or ERM. Most other compounds were below the detection levels; although some metals were detected, they were at levels far below Title 22 criteria (MEC Analytical Systems, 2001). These sediments were dredged and removed as part of the Berth 100 wharf construction.

3.14.2.3.2 Southwest Slip

Previous studies have demonstrated that sediments in the Southwest Slip were contaminated with metals, PAHs, PCBs, and DDT derivatives, some at moderate to high levels (SWRCB et al., 1998; Kinnetic Laboratories/ToxScan, 2002). In the 1998 study, mercury, PAHs, and PCBs were elevated, above ERM values and were associated with amphipod toxicity. In the 2002 study, of the 10 metals tested, all but arsenic were above ERM values at one or more locations. DDT, PCBs, and PAHs were also above ERM values at several locations. Lead, copper, nickel, zinc, PCBs, DDT, and PAHs were well above ERM values at a few locations. Water sampling tests found copper and mercury above water quality standards (4-day average and 6-month median, respectively). Bioaccumulation tests showed that all eight metals, PAHs, DDE, and PCB were taken up by organisms that are similar to those that routinely inhabit these sediments (e.g., worms and clams). Forty-three acres in the Southwest Slip were filled as part of the CDP, which has covered a large portion of these sediments. A portion of this fill was also a CDF where contaminated sediments from other areas in the Harbor were disposed.

3.14.2.4 Oceanography

Los Angeles Harbor is a southern extension of the relatively flat coastal plain, bounded on the west by the Palos Verdes Hills. The Palos Verdes Hills offers 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 forces. Tidal variations along the coast of Southern California are influenced primarily by the passage of two harmonic tide waves, one with a period of 12.5 hours and the other with a period of 25 hours. This combination of two harmonic tide waves usually produces two high and two low tides each day. The twice daily (semidiurnal) tide of 12.5 hours predominates over the daily (diurnal) tide of 25 hours in Los Angeles Harbor, generating a diurnal inequality, or mixed semidiurnal tides. This causes a difference in height between successive high and low waters (“water” is commonly used in this context instead of “tide”). The result is two high waters and two low waters each day, consisting of a higher-high water (HHW) and a lower-high water (LHW), and a higher-low water (HLW) and a lower-low water (LLW).

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 phenomenon of a new or full moon. 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 feet; and the mean diurnal range, calculated by averaging the difference between all the HHW and LLW, is approximately 5.6 feet (USACE and LAHD, 1992). The extreme tidal range (between maximum high and maximum low waters) is about 10.5 feet. The highest and lowest tides reported are 7.96 feet above mean lower low water (MLLW) and -2.56 feet below MLLW, respectively (USACE and LAHD, 1992). Mean lower-low water is the mean of all lower-low waters, equal to 2.8 feet below mean sea level (msl) in the Port of Los Angeles. It is the datum from which Southern California tides are measured.

Available Los Angeles 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 feet 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. Los Angeles Harbor is directly exposed to ocean swells entering from two main exposure windows to the south and southeast, regardless of swell origin. The more severe waves from 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 Los Angeles Harbor are greatly diminished by the time they reach the Inner Harbor. Most swells from the southern hemisphere arrive at Los Angeles from May through October. Southern hemisphere swells characteristically have low heights and long periods. Typical swells rarely exceed 4 feet 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. Wave period is a measurement of the time between two consecutive peaks as they pass a stationary location.

Northern hemisphere swells occur primarily from November through April. Deep water significant wave heights have ranged up to 20 feet, but are typically less than 12 feet (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 feet 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. Flood tides in Los Angeles 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 and Queens gates, maximum surface tidal velocities reach approximately 0.8 fps (24.8 cm/sec), while minimum tidal velocities of 0.88 fps (2.68 cm/sec) occur in the Inner Harbor (Wang, 1995). The maximum velocity of water entering and leaving the harbor through Angels Gate is 0.8 fps on flood tides and 0.3 fps on ebb tides (MEC and Associates, 2002).

Circulation patterns in the harbor are determined by a combination of tide, wind, thermal structure, and local topography. The net tidal exchange is inward through Angels Gate and outward through Queens Gate and the gap between the eastern end of Long Beach Breakwater and Alamitos Bay. Thus, there is a net eastward flow in the harbor (LAHD, 1993b). Overall tidal exchange rates fluctuate between 8 and 25 percent, with the flushing rate estimated at 90 tidal cycles (Maloney and Chan, 1974).

3.14.2.4.4 Flooding

With the exception of most of Berths 138-140, the West Basin area lies within a 100-year floodplain, as determined by the Federal Emergency Management Agency (FEMA). The proposed Project area was formerly a marsh, which has been modified by dredging and filling, resulting in elevations of only 10 to 15 feet above sea level. Flooding in this area occurs because of its location near the Cerritos Channel and drainages discharge into the Harbor in the vicinity of West Basin, including Dominguez Channel and low-land elevations. The proposed Project area is predominantly paved, resulting in minimal surface water infiltration during rainfall events and flooding. The only sources of flooding at the site would be storm surge, tsunami, or seiche. The latter two sources are discussed in Section 3.5, Geology.

3.14.3 Applicable Regulations

3.14.3.1 Clean Water Act of 1972 (PL 92-500, as amended)

This Act provides for the restoration and maintenance of the physical, chemical, and biological integrity of the waters in the nation. Discharges of wastewaters must be authorized through NPDES permits. These permits can include Waste Discharge Requirements (WDRs) required by the Porter-Cologne Act (see below) and require Stormwater Pollution Prevention plans (SWPPPs). Section 303 of the Act requires states to develop water quality standards for all waters and submit to the USEPA for approval all new or revised standards established for inland surface and ocean waters. Under Section 303(d), the state is required to list water segments that do not meet water quality standards and to develop action plans, called TMDLs, to improve water quality. The SWRCB and its Regional Water Quality Control Boards (RWQCBs) implement sections of the Act through the Ocean Plan, Water Quality Control Plan, Standard Urban Stormwater Mitigation Plans, and permits for discharges. The RWQCBs typically issue conditional Clean Water Act Section 401 Water Quality Certifications with waiver of WDRs for small projects. For larger and more complex projects, the RWQCB may issue WDRs under its state Porter-Cologne Water Quality Control Act authority.

Dredge/fill permits are issued by the USACE under Section 404 of the Clean Water Act. Permits typically include the following conditions to minimize water quality effects:

- USACE review and approval of sediment quality analysis prior to dredging.
- Detailed pre- and post-construction monitoring plan that includes disposal site monitoring.
- Flow back of dredged water at the dredging site is limited to a maximum of 60 minutes for suitable material and 15 minutes for unsuitable material per barge. Time limit is 15 minutes at the disposal site. Flow-back water must meet RWQCB Waste Water Discharge and Receiving Water Monitoring Program requirements.

- Flow-back water shall be free of solid dredged material.
- No flow back of water or solid dredged material shall occur during transit to the disposal site.
- Compensation for loss of waters of the U.S.

3.14.3.2 Porter-Cologne Act of 1972

The Porter-Cologne Water Quality Control Act (California Water Code Section 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. Since 1973, the SWRCB and its nine RWQCBs were established by the Act and have been delegated the responsibility for implementing its provisions and administering permitted waste discharge into the coastal marine waters of California.

The Porter-Cologne Act also implements many provisions of the federal Clean Water Act, such as the NPDES permitting program. Under the Act "any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" must file a report of the discharge with the appropriate RWQCB. Pursuant to the Act, the regional board may then prescribe "waste discharge requirements" (WDRs) that add conditions related to control of the discharge. Porter-Cologne defines "waste" broadly, and the term has been applied to a diverse array of materials, including non-point source pollution. When regulating discharges that are included in the Federal Clean Water Act, the state essentially treats WDRs and NPDES as a single permitting vehicle. In April 1991, the SWRCB and other state environmental agencies were incorporated into the California EPA. CWA Section 401 gives the SWRCB the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with state water quality standards. If the SWRCB imposes a condition on its certification, those conditions (including WDRs) must be included in the federal permit or license.

Standard WDRs would include conditions and requirements addressing potential impacts to the existing water and sediment quality. These conditions would be addressed by implementing the requirements of a series of permits and management programs. The assessment of impacts for dredging and filling is based on these regulatory controls for dredging and filling activities that contain conditions including standard WDRs. Discharges of fill regulated under Section 404 of the CWA, including the placement of dredged material in confined fills within waters of the U.S., as well as the placement of quarry rock, pilings, and other associated wharf work, would require a 401 water quality certification from the RWQCB to certify that those discharges would not violate state water quality standards. With full implementation of these permit conditions and requirements, no significant impacts to the existing water or sediment quality conditions should occur from construction and operations.

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) was amended in 1999 to require the SWRCB to develop guidance to enforce the state's NPS pollution control program. The SWRCB complied by adopting the NPS Implementation and Enforcement Policy on May 20, 2004. The Office of Administrative Law approved the policy on August 26, 2004. The RWQCBs must regulate all nonpoint sources of pollution, using the administrative permitting authorities provided by the Porter-Cologne Act and are implementing a Nonpoint Source Pollution Control Program. Under this

program, dischargers must comply with the administrative permits issued by the RWQCBs by participating in the development and implementation of NPS pollution control programs, either individually or collectively as participants in third-party coalitions.

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

The Basin Plan (*Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* [RWQCB, 1994b]) 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 that are established for the reasonable protection of beneficial uses of water or the prevention of nuisance in a specific area."

The Basin Plan specifies water quality objectives for a number of constituents/ characteristics that could be affected by the proposed Project 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 that are harmful to aquatic life or human health;
- Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use;
- No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life;
- All waters shall be maintained free of toxic substances in concentrations that are toxic to, or produce detrimental physiological responses in human, plant, animal, or aquatic life. There shall be no chronic toxicity in ambient waters outside mixing zones.

The Basin Plan also specifies water quality objectives for other constituents, including ammonia, bacteria, total chlorine residual, and radioactive substances. These are not evaluated in this Draft EIS/EIR because the proposed Project and 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. All construction activities that disturb

1 acre or more must prepare and implement a construction SWPPP that specifies Best Management Practices (BMPs) to prevent 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 nonstormwater discharges to storm sewer systems and other waters of the United States, and perform sampling and analytical monitoring to determine the effectiveness of BMPs in reducing or preventing pollutants (even if not visually detectable) in stormwater discharges from causing or contributing to violations of water quality objectives. The General Industrial Activities Stormwater Permit requires dischargers to develop and implement an SWPPP to reduce or prevent industrial pollutants in stormwater discharges, eliminate unauthorized nonstorm discharges, and conduct visual and analytical stormwater discharge monitoring to verify the effectiveness of the SWPPP.

3.14.3.5 SWRCB Standard Urban Stormwater Mitigation Plans

The City of Los Angeles is covered under the Permit for Municipal Stormwater and Urban Runoff Discharges in Los Angeles County (LARWQCB Order No. 01-182). This permit incorporates the requirements of the *Standard Urban Stormwater Mitigation Plan (SUSMP) 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 in 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

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 Clean Water Act Section 304(a) guidance.

3.14.3.7 Spill Prevention, Control, and Countermeasure

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

3.14.4 Impacts and Mitigation Measures

3.14.4.1 Methodology

Potential impacts of the proposed Project and alternatives to water and sediment quality were assessed through a combination of literature data (including applicable water quality criteria), results from past dredge and fill projects in the Port, results from previous testing of West Basin sediments, and scientific expertise of the preparers. For oceanographic resources and flooding, potential impacts were assessed using results from previous modeling studies for the Harbor and preparer expertise. Impacts would be considered significant if any of the significance criteria listed below occur in association with construction or operation of the proposed Project or alternative.

Results from previous toxicity and bioaccumulation testing (AMEC, 2003) using standard sediment testing protocols (USEPA and USACE, 1991) were the basis for determining the suitability of material for in-water disposal and potential for impacts to biota. Elutriate tests were compared to water quality standards to determine if pollutants released during dredging or filling could adversely affect water quality and biota. Additional sediment testing would be required by USEPA and USACE prior to any dredging associated with the proposed Project or alternative to confirm the suitability of the material for in-water disposal.

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 Recirculated Draft EIS/EIR, the CEQA baseline for determining the significance of potential Project impacts is the environmental setting prior to March 2001, pursuant to the ASJ described in Chapter 1, Section 1.4.3. The CEQA baseline for this proposed Project includes 45,135 TEUs/year that occurred on the Project site in the year prior to March 2001.

The CEQA baseline represents the setting at a fixed point in time and differs from the No Project Alternative (discussed in Section 2.5) in that the No Project Alternative addresses what is likely to happen at the site over time, starting from the existing conditions. The No Project Alternative allows for growth at the Project site that could be expected to occur without additional approvals.

3.14.4.1.2 NEPA Baseline

For purposes of this Recirculated Draft EIS/EIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the NEPA baseline. The NEPA baseline condition for determining significance of impacts is defined by examining the full range of construction and operational activities the applicant could implement and is likely to implement absent a permit from the USACE. For this project, the NEPA baseline includes construction and operation of backlands container operations on up to 117 acres, but precludes construction of wharves and bridges, dredging, and improvements that would require a federal permit. The NEPA baseline includes 117 acres of backland development (i.e., the 72 acres of backlands currently in use and another 45 acres resulting from the Channel Deepening Project prior

to 2001), which is greater than the backlands under the 2001 baseline conditions. To ensure a full analysis of the impacts associated with Phases I through III, the NEPA baseline does not include the dredging required for the Berth 100 wharf, the existing bridge across the Southwest Slip, or the 1.3 acres of fill constructed as part of Phase I (i.e., the project site conditions are considered without the in-water Phase I activities and structures). In addition, the NEPA baseline would store or manage up to 632,500 TEUs onsite, but no annual ships calls are included in the NEPA baseline (see Section 2.6.2 for further information).

Unlike the CEQA baseline, which is defined by conditions at a point in time, the NEPA baseline 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 describe the NEPA baseline condition. Normally, any ultimate permit decision would focus on direct impacts of the proposed Project to the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to be within the scope of federal control and responsibility. 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 2.6.2.

The NEPA baseline also differs from the No Project Alternative, where the Port would take no further action to construct and develop additional backlands (other than the 72 acres that are currently developed). The No Project Alternative includes backland construction (applied from Phase I), removal of the four existing A-frame cranes, and the abandonment of the bridge over the Southwest Slip built as part of Phase 1. However, forecasted increases in cargo throughput would still occur as greater operational efficiencies are made.

3.14.4.2 Thresholds of Significance

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

The effects of a project on water and sediment quality, hydrology, and oceanography are considered to be significant if the project would result in any of the following:

WQ-1 Discharges that create pollution, contamination or a 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.

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 Permanent, adverse changes to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

WQ-4 Accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

3.14.4.3 Impacts and Mitigation

The assessment of impacts is based on the assumption that the proposed Project or alternative (as applicable) would include the following:

- An individual CWA Section 402 NPDES permit for construction stormwater discharges or coverage under the General Construction Activity Storm Water Permit for the onshore portions of the proposed Project will be obtained by the tenant. The associated 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.
  - Monitoring to verify that the BMPs are implemented and kept in good working order.
- Other standard operating procedures and best management practices for Port construction projects, consistent with the Master Storm Water Program, 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).
- All onshore contaminated upland soils would be characterized and remediated in accordance with LAHD, RWQCB, DTSC, and Los Angeles County Fire Department protocol and cleanup standards.
- The tenant will obtain and implement the appropriate stormwater discharge permits for operations.
- A CWA Section 404 permit from the USACE for dredging, filling, and wharf and bridge construction activities in/over waters of the Harbor.
- A CWA Section 401 (of the Clean Water Act) Water Quality Certification from the RWQCB for construction dredging and filling activities that contains conditions including standard WDRs.
- Sediments from the proposed dredging units would be retested using standard USEPA/USACE protocols prior to dredging to determine the suitability of the material for unconfined, aquatic disposal.
- A Debris Management Plan and SPCC Plan would be prepared and implemented prior to the start of demolition, dredging, and construction activities associated with the proposed Project. The SPCC Plan specifically identifies in-water containment

and spill management in the event of an accidental spill. The plan shall require that emergency clean-up equipment is available onsite to respond to such accidental spills. All pollutants shall be managed in accordance with all applicable laws and regulations.

- The Water Quality Certification will define a "mixing zone" around the dredging and construction operations. The mixing zone will be equivalent to a zone of dilution and, per the Basin Plan (RWQCB, 1994b) "[a]llowable zones of dilution within which high concentrations may be tolerated may be defined for each discharge in specific Waste Discharge Requirements."
- An adaptive management program would be implemented during dredging and in-water construction, which would ensure that turbidity levels that occur during in-water construction remain below applicable Water Quality Standards and/or permit conditions.
- Dredged contaminated sediments would be placed in an approved confined disposal site(s) at either the Port of Los Angeles or the Port of Long Beach, or at an appropriate upland site such as the Anchorage Road soil storage site that is engineered and constructed in such a manner that the contaminants cannot enter Harbor waters after the fill is complete. The specific confined disposal facility would be determined at the time of dredging and would depend on the capacity of available sites.
- Although BMPs, SWPPP, NPDES Permit compliance, and SPCC are requirements that must be implemented and that would prevent significant water quality impacts, compliance with these requirements are included as conditions of approval to facilitate their tracking and implementation.

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-1a: Wharf construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Wharf construction (Phase I, Phase II, and Phase III) construction activities would require dredging, dredged material disposal, rocky dike construction, fill, and pile installation. Relocation of Catalina Express Terminal would require removing the existing floating dock and relocating these docks in Phase II. Minor amounts of fill and pile driving would be required to anchor the relocated Catalina Express Terminal docks. Dredging of 41,000 cubic yards of soft sediments would occur between the pierhead line and the federal channel dredging limits for Berth 100 construction (Berth 100 construction occurred in Phase I and is being reanalyzed as part of this Project). Additionally, there may be some minimal maintenance and/or construction dredging for Berth 102. While the channel and wharf area were dredged as part of the Channel Deepening Project, due

to a delay in the expected construction of the proposed Project, some sediment may have accumulated along the channel edges requiring minimal dredging during construction. Approximately 204,000 cubic yards of rock dike would be placed along the Berth 100 and the area behind the dikes filled with approximately 38,000 cubic yards of material. The dike and fill, including piles, would occupy approximately 2.54 acres. Selection and handling of fill materials would comply with procedures specified by best management practices for the Port (e.g., basic site materials and methods [02050]; earthworks [02300]; excavating, stockpiling, and disposing of chemically impact soils [02111]; material delivery and storage [CA010]; and material use [CA011]).

Sediments dredged from the West Basin for new wharf construction would be used as fill behind the dikes and the remaining material disposed at an approved site or reused as fill in the Port. Prior to dredging, sediment testing would be conducted and the Port would work with USACE and other regulatory agencies to identify an acceptable disposal location based on the sediment testing results. Likely disposal options would include placement in a permitted confined disposal facility (CDF) or upland disposal site. Dredged material for the Berth 100 construction was taken to the upland Anchorage Road soil storage site. Any additional maintenance or construction dredging (for subsequent phases) would also be taken to the upland Anchorage Road soil storage site, or placed at a confined disposal site to be identified at the time of dredging. The Anchorage Road soil storage site is a 31-acre site adjacent to Pier A West, and it has been used for the past 15 years to dispose or store dredged material from various maintenance dredging projects.

Dredging, dredged material disposal, dike construction, fill placement, and pile installation for wharf construction and relocation of the Catalina Express Terminal docks would affect water quality in the West Basin. The types of water quality impacts that could occur include short-term increases in suspended sediments and turbidity levels, decreases in DO concentrations, increases in nutrient concentrations, and increases in dissolved and particulate contaminant concentrations in areas where contaminated sediments would be disturbed by demolition and construction activities. These changes to water quality would be temporary and expected to be confined to the immediate vicinity (e.g., within 300 feet) of in-water construction and dredging activities (USACE and LAHD, 1992) in the West Basin and in the mixing zone defined by the water quality certification issued by the RWQCB and included by reference in dredge permit issued by the USACE. Dredging would also remove some sediment-associated contaminants from the West Basin, which would provide some long-term benefits to the health of the harbor environment. Pile installation activities at Berths 97-109 would suspend bottom sediments into the water column, causing localized and temporary turbidity. Each of these construction operations would occur over periods up to approximately 4 to 5 months. The relocation of the floating docks for the Catalina Express Terminal would also require pile installations (approximately 15 piles) in the vicinity of Berth 95, which would be installed over several days. Resuspended sediments would settle fairly rapidly (within hours to days) and turbidity levels would decrease once activities were completed. Contaminants already present in those sediments could be resuspended in the water column (see discussion below) and would settle to the bottom with the sediments.

The USACE DREDGE model was used to estimate the fate and transport of bottom sediments resuspended during dredging operations. The numerical model calculates the TSS concentration in a turbidity plume downstream of dredging operations. Conservative assumptions were made to quantify necessary parameters. Model simulations assumed use of a closed bucket dredge (environmental dredge). DREDGE model results (see Appendix K) indicate that TSS concentrations drop to levels

approaching measured background concentrations within a few hundred meters of the dredge.

The certification and permits issued by the RWQCB and the USACE would include water quality standards that must be met at various distances from the dredging activities, the mixing zone, or other in-water activities. As the DREDGE model indicates, TSS concentrations would drop to levels approaching background concentrations in the vicinity of the dredging activity and, therefore, resuspended sediments would settle in the vicinity of the dredging activities. Because of this, the water quality standards at the specified distances in the certification/permits resulting from in-water activities are not expected to be violated, and significant impacts to water quality would not result.

The dredging permit issued by the USACE would require the dredger to minimize the amount of water in the disposal vessel that flows back to the dredging site and prohibit the flow back of dredged water from containing any solid dredged material. Dredging would resuspend some bottom sediments and create localized turbidity plumes. For continuous dredging operations, elevated turbidity conditions would occur in the immediate vicinity of the dredge for periods of days to several weeks. Following completion or interruption of dredging, the time it takes for suspended materials to settle out, combined with the current velocity, and would determine the size and persistence of the turbidity plume. Settling rates are largely determined by the grain size of the suspended material but are also affected by the chemistry of the particle and the receiving water (USACE and LAHD, 1992). Dredging sediments adjacent to Berths 97-109 would generate a relatively small turbidity plume (i.e., within the mixing zone defined in the WDR) because the material is mostly coarse-grained and will settle fairly rapidly. Previous studies have shown that concentrations of suspended solids return to background levels within 1 to 24 hours after dredging stops (Parish and Wiener, 1987). Water quality parameters in West Basin were monitored in the vicinity of clamshell and suction dredges during the Los Angeles Channel Deepening Project in June 2003 and Berth 100 construction in 2002.

Concentrations of TSS within the clamshell and suction dredge areas ranged from 11 mg/L to 46 mg/L and from 5 mg/L to 77 mg/L, respectively, but the corresponding reduction in light transmittance did not exceed the 40 percent reduction criterion listed in the monitoring work plan for uncontaminated sediments. Dredging using a clamshell was monitored between July and August 2002 for a period of 5 weeks at Berth 100 at the entrance to the West Basin (MBC, 2002). Results indicated that turbidity (TSS) at Station C (the designated USACE compliance station), 300 feet downcoast of dredging operations, averaged 36.3 mg/L during dredging surveys and 20.5 mg/L during the pre- and post-dredge surveys. There was an average of a 23.5 percent change in light transmission between Station C and Station D, the control station, during dredge operations, and a 7.8 percent difference during nondredge operations. The mean for dissolved oxygen and hydrogen ion concentrations were both slightly higher during dredge operations than during nondredge operations. In general, the results showed that the plume persisted during dredging operations (although typically well below the 40 percent decrease threshold in the regulations) and transmissivity returned to normal background (60 to 70 percent) within 1 week of dredging cessation (MBC, 2002). Consequently, turbidity plumes generated during dredging operations are expected to affect a small proportion of the West Basin and dissipate within the Main Channel.

Dissolved oxygen (DO) levels in harbor waters could be reduced in the immediate vicinity of dredging and pile removal activities by the introduction of suspended sediments and associated oxygen demand on the surrounding waters. Reductions in DO

concentrations, however, would be brief. A study in New York Harbor measured a small reduction in DO concentrations near a dredge, but no reductions in DO levels 200 to 300 feet away from the dredging operations (Lawler et al., 1983). These results are consistent with the findings and conclusions from studies of the potential environmental impacts of open water disposal of dredged material conducted as part of the USACE Dredged Material Research Program (Lee et al., 1978; Jones and Lee, 1978). As mentioned in Section 3.14.2.2.1, measurements conducted 90 feet and 300 feet from dredging operations at Southwest Slip (Port of Los Angeles unpublished monitoring data; Appendix K) did not exhibit any reductions in DO concentrations. Therefore, reductions in DO levels below 5 mg/L associated with Project construction and dredging activities are not expected to persist or cause detrimental effects to biological resources.

Changes in pH may occur in the immediate vicinity of dredging operations due to reducing conditions in sediments resuspended into the water column. Seawater, however, is a buffer solution (Sverdrup et al., 1942) that acts to repress any change in pH. Therefore, any measurable change in pH would likely be highly localized and temporary, and would not result in persistent changes to ambient pH levels of more than 0.2 units. As discussed for the Berth 100 project in 2002, mean pH levels at the compliance station remained within 0.02 units and slightly higher than found at the control site (MBC, 2002). Thus, the water quality objective for pH would likely not be exceeded outside the mixing zone.

Contaminants, including metals and organics, could be released into the water column during the dredging and pile driving operations. However, like pH and turbidity, any increase in contaminant levels in the water is expected to be localized in the mixing zone and of short duration. The magnitude of contaminant releases would be related to the bulk contaminant concentrations of the disturbed sediments, as well as the organic content and grain size that affect the binding capacity of sediments for contaminants. Because the sediment characteristics vary across the Project site, the magnitude of contaminant releases, and water quality effects, would also vary. Nevertheless, elutriate test results for the coarse-grained sediments to be dredged at other nearby locations in the West Basin (near Berths 136-139 and 144-147) showed metal concentrations in the elutriate (water) phase that were well below water quality standards (Kinnetic Laboratory/Toxscan, 2002; AMEC, 2003). Similarly, elutriate tests of sediments from Berths 145 through 147 (AMEC, 2003) indicated only minor possible releases of selected metals from dredged sediments. These results demonstrated that contaminant releases from sediments disturbed by dredging and other demolition and construction activities would not substantially affect the concentrations or bioavailability of contaminants in West Basin waters.

Sediments containing contaminants that are suspended by the dredging, dike placement, and pile installations would settle back to the bottom in a period of hours to day. Transport of suspended particles by tidal currents would result in some redistribution of sediment contaminants. The amount of contaminants redistributed in this manner would be small, and the distribution localized in the West Basin and Main Channel adjacent to the work area. Monitoring efforts associated with previous dredging projects in the Harbor have shown that resuspension followed by settling of sediments is low (generally 2 percent or less). Consequently, concentrations of contaminants in sediments of the Harbor waters adjacent to the dredged area are not expected to be measurably increased by dredging activities and other in-water activities.

As discussed in Section 3.14.3.3, the Basin Plan defines limits for chemical contaminants in terms of bioaccumulation, chemical constituents, pesticides, PCBs, and toxicity

(RWQCB, 1994b). Results from sediment testing to determine suitability for aquatic disposal (discussed in Section 3.14.2.3) demonstrated that sediments in the Project area would not cause significant toxicity or contaminant bioaccumulation, nor degrade water quality or affect beneficial uses. These results are also applicable to assessments of impacts from contaminant releases from dredging, dike placement, and construction-related activities associated with the proposed Project, and indicate that water quality objectives likely would not be exceeded.

Nutrients could be released into the water column during the dredging and dike/fill placement operations. Release of nutrients may promote nuisance growths of phytoplankton if operations occur during warm water conditions. Phytoplankton blooms have occurred during previous dredging projects, including the Deep Draft Navigation Improvement Project (USACE and LAHD, 1992). However, there is no evidence that the plankton blooms observed were not a natural occurrence or that they were exacerbated by dredging activities. The Basin Plan (RWQCB, 1994b) limits on biostimulatory substances are defined as "…concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses." Given the limited spatial and temporal extent of project activities with the potential for releasing nutrients from bottom sediments, effects on beneficial uses of the West Basin are not anticipated to occur in response to the proposed Project.

Dredging and in-water construction operations are not expected to affect the temperature or salinity of waters in the West Basin because these activities would not involve any wastewater discharges or processes that would affect the baseline conditions. Placement of dredged materials at the Anchorage Road soil storage site would be in accordance with existing permit conditions and would not affect water quality because it is an upland site.

Dredging for the proposed Project would require a permit from the USACE and a Section 401 (of the Clean Water Act) Water Quality Certification from the RWQCB. The Water Quality Certification would specify receiving water monitoring requirements. Monitoring requirements typically include measurements of water quality parameters such as DO, light transmittance (turbidity), pH, and suspended solids at varying distances from the dredging operations.

Analyses of contaminant concentrations (metals, DDT, PCBs, and PAHs) in waters near the dredging operations may also be required if the contaminant levels in the dredged sediments are known to be elevated and represent a potential risk to beneficial uses. Monitoring data are used by the Port dredger to demonstrate that water quality limits specified in the permit are not exceeded. The dredging permit would identify corrective or adaptive actions, such as use of silt curtains, which would be implemented if the monitoring data indicate that water quality conditions outside the mixing zone could be below the permit-specified limits.

CEQA Impact Determination

Dredging, dike placement, fill, and new wharf construction activities during the construction phases of the proposed Project, including the relocation of the Catalina Express terminal docks, would not entail any direct or intentional discharges of wastes to waters of West Basin. However, Project-related in-water activities would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators in the mixing zone defined by the Water Quality Certification. DREDGE model results (Appendix K) indicate that TSS

concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge.

Water quality standards are established for constituents outside the mixing zone (at specified distances from the in-water construction). The proposed dredging along the Berth 100 area is expected to reduce DO concentrations in the immediate vicinity of the dredge, but these changes would generally not extend beyond the mixing zone or persist following the completion of the dredging operation. Changes in pH, nutrient, and contaminant levels could also occur as a result of construction activities for the proposed Project. Previous testing demonstrated that sediments disturbed by Project activities would most likely not cause significant toxicity, contaminant bioaccumulation, or releases of contaminants to surface waters, outside the mixing zone (AMEC, 2004)

During dredge, fill, and pile-driving operations, an integrated multi-parameter monitoring program would be implemented by the Port Environmental Management Division in conjunction with USACE and RWQCB permit requirements, wherein dredging performance would be is measured in situ. The objective of the monitoring program is adaptive management of the dredging operations, including dredging modifications, so that potential violations of water quality objectives do not occur. If standards or permit conditions are approached, the Port Environmental Management Division would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. This would include alteration of dredging methods, and/or implementation of additional BMPs such as a silt curtain. Plans and specifications for fill placement in the West Basin would include measures to prevent turbidity from leaving the fill site and entering the Main Channel, with monitoring to verify that turbidity levels just outside the containment dike during and immediately following discharges of fill remain below WQS. If monitoring shows conditions that approach the WQS, discharge shall stop until measures are implemented to reduce turbidity entering the West Basin/Main Channel, such that permit conditions are not violated. Thus, project-related changes during construction are not expected to create pollution, contamination, a nuisance, or result in violations of water quality standards or permit conditions; therefore, impacts to water quality from in-water construction activities would not be significant under CEQA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although the proposed Project would include in-water elements not included in the NEPA baseline, impacts from dredging, dike placement, fill, and new wharf construction activities during the construction phases of the proposed Project would be the same as described for the CEQA determination, and they are not anticipated to create pollution, contamination, a nuisance, or violate any water quality standards. Therefore, impacts to water quality from in-water construction activities would be less than significant under NEPA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1b: Runoff from backland development/redevelopment would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Ground disturbances and construction activities related to the new backland and bridge construction in Phases I, II, and III could result in temporary impacts on surface water quality if uncontrolled runoff of soils, asphalt leachate, concrete washwater, and other construction materials enter Harbor waters. No upland surface bodies of water currently exist within the proposed Project boundaries. Thus, Project-related impacts to surface water quality would be limited to stormwater runoff and, eventually, waters of the Harbor that receive runoff from the watershed. Runoff from the Project site would be controlled under a construction SWPPP prepared in accordance with NPDES General Permit Construction requirements and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to control releases of soils and contaminants and adverse impacts to receiving water quality. The SWPPP is prepared by the project proponent (or consultant) and is not issued by the RWQCB. An NOI and appropriate fee is submitted to the SWRCB in accordance with construction General Permit conditions. The project proponent must keep the SWPPP onsite at all times and implement its measures.

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., nonstorm 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).

The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities covered under NPDES Permit No. CAS004001 (13 December 2001) require implementation of runoff control from all construction sites. Prior to the start of construction activities for the proposed Project, the contractor would prepare a pollutant control plan that specifies logistics and schedule for construction activities that would minimize potentials for erosion and standard practices that include monitoring and maintenance of control measures (see **Impact WQ-4a**). Control measures, such as those identified in Section 3.14.4.3, would be installed at the construction sites prior to ground disturbance. Implementation of all conditions of proposed Project permits would minimize Project-related runoff into the Harbor and impacts to water quality.

Standard BMPs, such as soil barriers, sedimentation basins, site contouring, and others listed in Section 3.14.4.3, would be used during construction activities to minimize runoff of soils and associated contaminants in compliance with the state General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality

Order 99-08-DWQ) and a construction SWPPP. Sediment basins and sediment traps are engineered impoundments that allow soils to settle out of runoff prior to discharge to receiving waters. Filter fabric fences and 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 onsite 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. 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 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 (USEPA, 1993). 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 or more effective 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 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. Impacts to surface water quality from accidental spills are addressed below under **Impact WQ-1d**. Specific concentrations and mass loadings of contaminants in runoff will 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 will affect stormwater quality because contaminant loadings typically are relatively higher during the initial phases (first flush) of a storm. As discussed in Section 3.7 (Groundwater and Soils), upland portions of the proposed Project site have been affected historically by spills of hazardous materials and petroleum products. However, the Project site has been subjected to numerous soil remediation efforts that have removed much of the soil contamination. The Catalina Express Terminal site may have subsurface contamination, as described in Section 3.7, and mitigation (**MM GW-1**) implemented during construction would prevent contaminated materials beneath that portion of the Project site to runoff from the construction site. Furthermore, all existing Port tenants have contractually agreed to complete restoration of the premises, including clean-up of any hazardous materials contamination on or arising from the premises, before the expiration or earlier termination of each tenant agreement. Also, **MM GW-1** specifies that the Port shall remediate all encountered contaminated soils within the proposed Project boundaries for the site, such that contamination levels are below action levels established by the lead regulatory agency, prior to or during construction activities. Therefore, historical soil contamination would not be expected to contribute to contaminant loading from runoff into the Harbor.

The potential for encountering groundwater requiring extraction and disposal during onshore construction of the proposed Project is uncertain. If dewatering is deemed necessary and is approved by the Port, the dewatering effluent would be tested to determine specific contaminant levels as this would affect the feasibility of various disposal options. Depending on the contaminant concentrations, dewatering effluent would be discharged into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau. Such permit requirements typically include onsite treatment to remove pollutants prior to discharge. Alternatively, the dewatering effluent could be temporarily stored onsite in holding tanks, pending offsite disposal at a facility approved by the RWQCB. Standard Port BMPs (e.g., excavating, stockpiling, and disposing of chemically impacted soils [02111]; solid waste management [CA020]; contaminated soil management [CA022]) specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures would be followed for upland construction activities associated with the proposed Project to ensure that soil or groundwater contaminants were not transported offsite by runoff.

Runoff from the upland portions of the Project site would flow into the Harbor, along with runoff from other adjacent areas of the Harbors subwatershed. As discussed above, the pollutant control plan and implementation and maintenance of construction BMPs would minimize potentials for offsite transport of soils and contaminants from the proposed Project site that could degrade water quality in the Harbor.

Runoff from the construction site would form a plume of fresh or brackish water in the West Basin. Depending on the strength and duration of the storm event, the plume could be more turbid and have lower salinity and DO levels compared to the receiving waters. A plume associated with runoff from the proposed Project site could conceivably overlap with plumes from other drainage systems, such as the storm drain discharging to the Southwest Slip. Nevertheless, subsequent mixing of runoff and receiving waters, and settling of particles carried by runoff into the West Basin, would prevent persistent changes in the quality of receiving waters.

As mentioned, water quality within the Harbor is affected episodically by stormwater runoff from the watershed. Because the 142-acre area of the Project site represents only 0.6 percent of the area of the Harbor subwatershed, runoff from the upland portion of the proposed Project area would represent a small (less than 1 percent) contribution to the total mass loading from stormwater runoff to the Harbor. While runoff from the proposed Project site would contribute to changes in receiving waters that could cause water quality standards to be exceeded, the proposed Project would not create conditions that substantially increase the relative contribution or contaminant mass loadings relative to baseline conditions. Also, the receiving waters for runoff from the proposed Project do not support submerged aquatic vegetation, coral reefs, or other sensitive species (see Section 3.3). Therefore, construction runoff would not affect biological resources.

CEQA Impact Determination

Construction activities associated with backland improvements and bridge construction for the proposed Project have the potential to adversely affect the quality of stormwater runoff. However, the proposed Project would implement an SWPPP and BMPs, such as sediment basins or traps and fabric filter fences or straw bale barriers, to control runoff of eroded soils and pollutants. These measures, combined with the low potential for erosion (see **Impact WQ-4a**), would limit the soil and contaminant loading to the Harbor. Releases of stormwater runoff to the Harbor would also comply with specific measures contained in the construction SWPPP that

would control releases of contaminants to receiving waters. The SWPPP is a document prepared by the Project proponent (or its consultants) as such, there are no conditions associated with an SWPPP only BMPs and measures taken by the Project to reduce potential WQ impacts. With implementation of the SWPPP and BMPs, runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards, and impacts to water quality would be less than significant under CEQA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Project backlands would be greater than the amount of backlands under the NEPA baseline by 25 acres, the proposed Project would implement a pollutant control plan and BMPs, which would ensure that runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards, and impacts to water quality would be less than significant under NEPA.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1c: Fill, development, and wharf extension in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

The dredging, dike construction, fill placement, and wharf construction activities in the West Basin that occurred in Phase I and would occur in Phases II and III of the proposed Project would cause temporary and localized impacts to water quality similar to those discussed under **Impact WQ-1a**. Pile driving for wharf construction (Berth 102) and to anchor the relocated docks for the Catalina Express Terminal, as well as minor maintenance dredging would occur in Phase II. In Phase III, fill and pile driving (south extension of Berth 100) would occur.

Dredging, dike and fill placement, and pile installation operations would disturb bottom sediments, causing localized and short-term increases in suspended sediment concentrations and turbidity in the near-bottom water layers. Fill placement using bottom-dump barges and pumping would also increase suspended sediment concentrations in surface waters of the fill area and immediately outside the dike. The amount and distribution of suspended sediments and turbidity from these activities would vary with

methods used and duration of the work, but changes to water quality conditions are expected to be temporary and localized as described in **Impact WQ-1a**, and are not expected to create pollution, contamination or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters. Turbidity would occur within the West Basin and Main Channel throughout the filling process, but a turbidity plume would not persist once filling is complete (USACE and LAHD, 1992). Construction of the base layers of the containment dike prior to fill placement would help to contain the suspended sediments behind the dike. Turbidity plume effects would be expected to extend approximately 650 feet or less from the discharge location (USACE, 2002a). Furthermore, DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge (MBC, 2002).

Sediments used for fill would be tested to demonstrate suitability for unconfined aquatic disposal. Therefore, placement of suitable fill materials would not release contaminants, affect water quality, or cause biological effects. Similarly, fill placement would cause only minor, temporary changes in DO levels or pH conditions. For example, a study of dredged material releases in San Francisco Bay showed reductions in DO levels near the point of release that lasted for only 3 to 4 minutes (USACE and LAHD, 1973). Contaminant releases to the water above California Ocean Plan objectives were not observed during the placement of contaminated sediments at a pilot fill site in Long Beach Harbor (USACE, 2002a). Consequently, fill placement would not result in violation of any WQS.

Fill placement in the West Basin (entrance area) would cover bottom sediments that may still be tainted with contaminants (see Section 3.14.2.3.3). The fill layer would act as an isolation cap for the contaminated sediments and eliminate the potential for exchanges between existing bottom sediments with overlying Harbor water. This would be considered a benefit for water and sediment quality in the West Basin.

Creation of the 2,500-foot wharf would increase the land surface area of the proposed Project site, which would result in proportional but small increases in volumes of stormwater runoff from the Project facilities. As discussed for **Impact WQ-1b**, while runoff from the proposed Project site would contribute to contaminant mass loadings to the Harbor, the contribution would be negligible because the volume would be small and soil and runoff control BMPs (see Section 3.14.4.3) would be used during construction to prevent impacts to surface water quality.

CEQA Impact Determination

Dredging, dike and fill placement, and pile installation would result in temporary and localized increases in suspended sediment and turbidity levels. However, these conditions are not expected to extend outside the West Basin or extend beyond the Main Channel. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge. Dredging and fill placement operations would be conducted in compliance with proposed Project permits (e.g., USACE Section 404 and RWQCB Section 401), and the chemical and toxicological properties of the fill material would have to be tested to demonstrate suitability prior to use. As described under **Impact WQ-1a**, an adaptive management program would be implemented during dredging and in-water construction, which would ensure that turbidity levels just outside the containment dike during and immediately following discharges of fill remain below applicable Water Quality Standards.

Runoff from backland improvements on the completed fill would be subject to measures as described in the construction SWPPP that would prevent significant impacts to the receiving water quality.

As discussed above, in-water construction activities are not expected to create pollution, contamination, or nuisances, or result in violations of water quality standards or permit conditions. Consequently, impacts on water quality would not be significant under CEQA.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be similar to those described for the CEQA determination. Dredging, dike construction, fill placement, and wharf construction would result in short-term increases in suspended solids and turbidity levels in and adjacent to the fill area, but these activities are not expected to create pollution, contamination, or nuisances. Therefore, the impacts to water quality would not be significant under NEPA.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1d: Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during dredging, fill placement, and wharf construction could occur during Project construction. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.7). 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]). Construction and industrial SWPPPs and standard Port BMPs listed in Section 3.14.4.3 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of

leaks) would reduce potentials for materials from onshore construction activities to be transported offsite and enter storm drains.

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. Dredging contractors are responsible and liable for any accidental spills (hydraulic fluid leaks, fuel spills, or such) during dredging operations, including spills from the dredge, chase boats, the barge, and tugs. Equipment is generally available onsite to respond to such accidental spills, and the general spill response practice is to deploy floating booms (by the chase boats) made of material that would contain and absorb the spill. Vacuums/pumps may be required to assist in the cleanup depending on the size of the spill.

The Basin Plan (RWQCB, 1994b) water quality objective for oil and grease states that "[w]aters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." Spill prevention and cleanup procedures for the proposed Project would be addressed in a 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.

CEQA Impact Determination

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 dredges or barges could directly affect water quality in West Basin, resulting in a visible film on the surface of the water; however, the probability of an accidental spill from a construction vessel to the Harbor is low. In addition, if an accidental spill does occur, the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity. Because of this, significant water quality impacts under CEQA are not expected to occur as a result of accidental spills of pollutants during in-water construction.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although the proposed Project would have 25 acres more backlands than the NEPA baseline, upland construction would not result in significant impacts related to spills, which are expected to be contained and cleaned up before any impacts to surface water quality can occur. Water quality impacts from potential accidental spills of

pollutants during in-water construction activities for the proposed Project would be less than significant because the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-2a: Proposed Project construction would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Although most of the proposed Project site is located in a 100-year flood zone, construction activities would not substantially increase the potential for flooding onsite because site elevations would remain generally the same as the baseline conditions, even though grading and backland construction would occur. During construction, an onsite storm drain system would be installed to convey runoff from the project site to the Harbor. The onsite drainage system would represent an improvement over the 2001 baseline conditions, where the majority of the Project site had not onsite drainage system. Conversion of portions of the existing backlands to container storage would also increase the coverage with impermeable surfaces, which would result in higher runoff volumes compared to baseline conditions.

Once the onsite storm drain system is installed, site grading would direct runoff from the site to onsite storm drains designed for a 10-year event, which is the standard design capacity for the storm drain systems. Runoff associated with larger storm events (e.g., 50-year or 100-year events) could exceed the capacity of the onsite storm drain system, resulting in temporary sheet flow or ponding of water onsite. However, because the Project site terrain is flat, because sheet flow during heavy storm events would flow to the Harbor, and the runoff quantities would not increase as a result of construction activities relative to baseline conditions, the proposed Project would not result in increased flooding that could harm people (including construction and/or terminal employees), damage property, or harm sensitive biological resources (none are present in the project vicinity).

CEQA Impact Determination

As discussed above, construction of the proposed Project would not result in increased flooding that could harm people (including construction and/or terminal employees), damage property, or harm sensitive biological resources (none are present in the project vicinity). Therefore, impacts from flooding would be less than significant under CEQA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although construction of Project backlands would occur on a larger area than the NEPA baseline (25 acres greater than the NEPA baseline backlands), Project construction would not result in increased flooding that could harm people (including construction and/or terminal employees), damage property, or harm sensitive biological resources (none are present in the project vicinity). Therefore, impacts from flooding would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-3a: Construction activities would not result in a permanent adverse change in movement of surface water in the Harbor.

This impact threshold addresses changes (hydromodifications) to the water body that would inhibit circulation or water mass exchanges with adjacent water bodies, thereby promoting stagnation and adverse effects to water quality. Impacts from loss of marine habitat are discussed in Section 3.3.

Dredging and filling activities for the proposed Project would alter the existing bathymetry. Dredging would slightly increase the tidal prism, and filling would slightly reduce the volume of the tidal prism, for a small net decrease because the amount of fill exceeds the amount of dredging within the West Basin. Construction of the containment dikes along the sites water interface would slightly reduce surface water area, but would not restrict circulation in the West Basin or main Channel. Placement of pilings for the new wharf facilities would reduce water movement beneath the wharfs, but due to the distance between pilings and the continual tidal action in the Harbor this would not result in stagnation or cause adverse impacts to marine water quality within the West Basin.

Hydrodynamic and water quality modeling conducted by the USACE for the Pier 300 expansion in the Outer Harbor indicated that the fill options would have only minor effects on water circulation in both the Inner and Outer Harbors, and the fill size (40 or 80 acres) and fill configuration (narrow or wide) would have little effect on water quality. By comparison, the proposed fill in the West Basin would be much smaller in size (2.5 acres) and proportion to the Inner Harbor area. By extrapolation, effects of the proposed fill in the West Basin on circulation and water quality in the West Basin and the Inner Harbor would be minor.

CEQA Impact Determination

Construction activities for the proposed Project would not result in a permanent adverse change in surface water movement because these activities would not impose barriers to water movement into and out of the West Basin, and impacts to water quality and oceanography would be less than significant under CEQA.

Mitigation Measures

No mitigation is required for impacts to water quality; however, **MM BIO-1** (Section 3.3) would compensate for the loss of marine habitat.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Dredging and filling for the proposed Project would not result in a permanent adverse change to surface water movement because these activities would not impose barriers to water movement into and out of the West Basin. Consequently, impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required for impacts to water quality; however, **MM BIO-1** (Section 3.3) would compensate for the loss of marine habitat.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-4a: Construction activities have the potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

Ground disturbances and construction activities related to the development of 142 acres of backlands would have the potential to increase erosion and deposition of soils in the Harbor. The baseline potential for erosion of soils in the proposed Project site is low due to the flat terrain, infrequent rainfall events, and moderate wind velocities. Therefore, the natural processes that could accelerate erosion can be controlled effectively by the use of temporary berms, barriers, and grading. The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities in NPDES Permit No. CAS004001 (13 December 2001) require implementation of runoff control from all construction sites. As discussed under **Impact WQ-1a**, the tenant would prepare a pollutant control plan that specifies logistics and schedule for construction activities that would minimize potentials for erosion and standard practices that include monitoring and maintenance of control measures. Standard practices would follow guidance developed by the Port for soil management (e.g., temporary sediment basin [ESC 56], solid waste management [CA 020], and contaminated soil management [CA 022]) to minimize potentials for soil erosion and offsite transport that would be followed during construction operations for the proposed Project. Additionally, runoff of soils from these facility sites would be controlled by use of BMPs as required by the construction SWPPP for the proposed Project, such as sediment basins or traps, fabric filters or straw bale barriers, and inlet

protection. These soil control measures, which are described in **Impact WQ-1a,** provide an average removal efficiency of 60 to 70 percent. Thus, construction activities are not expected to accelerate erosion or increase loadings to the Harbor of soils carried by stormwater runoff.

As discussed in Section 3.7 (Soils and Groundwater), upland portions of the proposed Project site have been affected historically by past industrial activity, but most of the soil contamination has been remediated. The Catalina Express Terminal site may have subsurface contamination, as described in Section 3.7, and mitigation implemented during construction would prevent contaminated materials beneath that portion of the Project site to runoff from the construction site. Erosion of soils would not increase loadings of residual contaminants to the Harbor, because in accordance with **MM GW-1** and **MM GW-2**, all encountered contamination would be remediated prior to or during proposed Project grading and construction. Runoff of landfill soils would not affect sediment quality in the Harbor because BMPs would be implemented and the materials consist of clean soils that do not contain contaminant levels in excess of the corresponding action levels.

CEQA Impact Determination

Construction activities for the proposed Project would not accelerate natural processes of wind and water erosion because BMPs, such as sediment basins and traps, barriers, inlet protection, and other standard soil management procedures, would be implemented to minimize erosion from the construction site. Runoff from general construction activities would cause short-term, localized changes in receiving water quality, and impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although the proposed Project would have 25 acres more backlands than the NEPA baseline, erosion and sedimentation, no significant impacts under NEPA would occur because construction BMPs would minimize erosion that could enter Harbor waters and runoff would only cause short-term, localized changes in receiving water quality.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Residual impacts would be less than significant.

3.14.4.3.1.2 Operational Impacts

Impact WQ-1e: Operation of proposed Project facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Runoff

Operation of the proposed Project facilities would not involve any direct point source discharges of wastes or wastewaters to the Harbor. However, stormwater runoff from the Project site, including the site of the relocated Catalina Express Terminal, would be collected onsite by the onsite storm drain system and discharged to the Harbor. The operation of marine terminals and backland container facilities on the 142 acres on land partially used for container storage purposes would add particulates and other debris to the site. Transport of these materials by runoff from the site could contribute incrementally to changes in receiving water quality. The amount of truck traffic and yard equipment operations at the Project site would increase to handle the increased up to 1.5 million TEUs annually. Rail traffic would also increase at the existing Berths 121-131 on-dock rail yard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff to the storm drain system.

Additionally, operations of nonelectric equipment and vehicles for the proposed Project would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff into Harbor waters. 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.

Stormwater runoff associated with terminal operations would be governed by SUSMP requirements that would be incorporated into the Project plan that must be approved prior to issuance of building and grading permits. The SUSMP for the Los Angeles County Urban Runoff and Stormwater NPDES Permit (www.swrcb.ca.gov/ rwqcb4/html/programs/storwater/susmp/susmp_details.html) requires “minimization of the pollutants of concern” by incorporating “a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible.” Examples of BMPs used for minimizing the introduction of pollutants of concern from site runoff include oil/water separators, catch basin inserts, storm drain inserts, and media filtration. These BMPs must meet specified design standards to mitigate (infiltrate or treat) stormwater runoff and control peak flow discharges. If structural or treatment control BMPs are included in the Project plan, the tenant would be required to provide verification of maintenance provisions.

Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented for the proposed Project. Tenants would be required to obtain and meet all conditions of applicable stormwater

discharge permits as well as meet all Port pollution control requirements, such as compliance with Non-Point Source Pollution Control Program requirements.

Atmospheric Deposition

Direct atmospheric deposition refers to air pollutants that settle directly on water bodies, whereas indirect atmospheric deposition occurs on upland areas where the pollutants collect and are later conveyed to water bodies during storm events. Atmospheric deposition related to port operations emissions may provide an increased localized impact to the local watersheds. These impacts are primarily related to resuspended dust from vehicular traffic and coarse sized, mechanically derived particles such as zinc from tire wear and copper from brake pad wear. Fine particulates from vehicle exhaust may also contribute to the local watersheds but to a lesser degree.

However, the contribution of particulates from area wide and regional transportation sources likely dominate the metal containing particulate matter that enters the storm drain systems since traffic volumes from freeways, commercial roads, and surface streets far outweigh the transportation volumes from the port operations alone. These particles likely accumulate during dry weather conditions and are later washed off during storm events. For suspended zinc and copper pollutants from the Berths 97-109 Container Terminal (tire and brake wear from equipment and trucks), direct impacts are not expected to significantly affect water quality due to the likely limited and dispersed nature of direct deposition on Harbor waters, and because direct aerial disposition would not allow for a significant build-up of these pollutants before entering Harbor waters.

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 (indirect atmospheric deposition). Copper, lead, mercury, nickel, and zinc occurred in stormwater samples at concentrations that exceeded the standards for marine waters at a few locations. However, the study concluded that mixing with the Harbor 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 violations of receiving water quality objectives, given compliance with Non-Point Source Pollution Control Program requirements, as well as SWPPP and SUSMP requirements.

Ballast Water

The amount of vessel traffic in the West Basin would increase by 234 annual ship calls (for 2030 and beyond) compared to the CEQA and NEPA baselines as a result of the proposed Project. Discharges of polluted water or refuse directly to the Harbor are prohibited. Discharges to the Harbor of clean ballast waters are not prohibited; however, during 2006 only 13 percent of container ships discharged clean ballast waters while in port. Thus, the increased vessel traffic and terminal operations associated with proposed Project would not result in increased contaminated ballast water discharges from vessels.

Contaminants from Vessels

The leaching of TBT, copper, and zinc from vessel hull coatings may occur as a result of additional vessels docking at the terminal facility. Studies by the U.S. Navy have demonstrated that these metals may contribute to overall concentrations in the water column in Harbors such as Mayport, Florida, Pearl Harbor, Hawaii, and San Diego, California; however, estimated concentrations of metals resulting from hull vessel leachates were in most cases below federal and state water quality criteria. In addition, vessels docking at the terminal facility, while expected to be greater than 25 m in length, are likely constructed of steel-based hulls. In contrast to aluminum hulls, steel hulls are not painted with antifouling paint containing TBT, but are instead coated with a copper-based antifouling paint (USEPA, 1999). This information further negates the potential impacts of TBT leachate from vessels docking at the terminal facility. Consequently, potential impacts of slightly increased TBT would likely not be significant.

Project-related increases in vessel traffic could result in higher mass loadings of contaminants such as copper that are released from vessel hull antifouling paints. Although the Navy studies indicate that in most cases, metals (copper) leaching from vessel hulls were below federal and state water quality criteria, because portions of the Los Angeles Harbor are impaired with respect to copper, and because there are likely to be differences between the studied Navy fleet and the Project vessel fleet, increased loadings associated with increases in vessel traffic relative to baseline conditions could exacerbate water and sediment quality conditions for copper. The propeller (prop) wash from vessel traffic within the West Basin creates turbulence sufficient to resuspend bottom sediments. However, sediment resuspension from propeller wash can occur from any shipping activities within the Port, not just those associated with the proposed Project. Resuspended sediments are expected to settle quickly to the bottom, and associated contaminants are not expected to increase toxicity or bioavailability because contaminants typically have a strong attachment to sediment particles.

Accidental Spills

Other potential operational sources of pollutants that could affect water quality in the West Basin include accidental spills on land that enter storm drains, as well as accidental spills or illegal discharges from vessels while in the West Basin. 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. Potential releases of pollutants from a large spill on land to Harbor waters and sediments would be minimized through existing regulatory controls and are unlikely to occur during the life of the proposed Project. As described in Section 3.8, activities that involve hazardous liquid bulk cargoes at the Port are governed by the Los Angeles Harbor District 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). As discussed in Section 3.7, 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 that would prevent oil spills that could reach navigable waters. In addition, oil spill contingency plans are required to address spill cleanup measures after a spill has occurred.

For the proposed Project, the terminal operator would prepare an SPCC Plan and an OSCP, which would be 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 prespill conditions.

As discussed in Section 3.8 (Hazards and Hazardous Materials), only five small hazardous waste spills have occurred since 2000 at the TraPac facility, which is considered representative of terminal operations under the proposed Project due to similarities in terminal type and proximity. The probability of an accident is classified as "periodical" (once every 10 years), based on the Port accident history of containers containing hazardous materials. The increased number of ship calls associated with the proposed Project could contribute to a comparatively higher number of spills compared to baseline conditions. Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from proposed Project-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site. Although spill events would be addressed according to procedures described in the SPCC, for oceangoing vessels that carry substantial amounts of fuel, an accidental spill could conceivably be large in the event of a catastrophic accident, which, although remote, could result in significant contamination entering the Harbor.

Illegal Discharges from Vessels

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. It is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits. In this case, loadings from illegal discharges from the proposed Project operations would increase over baseline conditions. However, there is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Over several decades, there has been an improvement in water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges.

CEQA Impact Determination

Upland operations associated with the proposed Project would not result in direct discharges of wastes to Harbor waters. However, stormwater runoff from the Project site could contain particulate debris from operation of the Project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the

NPDES discharge permit limits, SWPPP requirements, and would be subject to treatment via SUSMP devices prior to discharge to Harbor waters. As a consequence, water quality impacts from site runoff would not be significant. However, there is potential for an increase in accidental spills and illegal discharges to Harbor waters due to increased vessel calls at the facility. Leaching of contaminants such as copper, from antifouling paint could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from in-water vessel spills, potential illegal discharges and pollutant leaching from vessel coatings would be significant under CEQA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Beyond legal requirements, there are no available mitigations to eliminate in-water vessel spills, illegal discharges, or leaching of contaminants.

Residual Impacts

Residual impacts for upland spills and stormwater would be less than significant. There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

NEPA Impact Determination

Operation of proposed Project terminal would occur on a slightly larger (by 25 acres) backland area compared to the NEPA baseline, but would not result in substantially greater impacts than baseline conditions. Additional runoff would be subject to NPDES discharge permit limits, as well as implementation of SWPPP and SUSMP measures, which would keep impacts related to site runoff during Project operations below the level of significance under NEPA.

However, there is potential for an increase in accidental spills and illegal discharges due to increased vessel calls at the terminal (234 compared to 0 under the NEPA baseline). Leaching of contaminants, such as copper from antifouling paint, could cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, impacts to water quality from vessel spills, discharges and leaching are significant under NEPA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant.

Beyond legal requirements, there are no available mitigations to eliminate in-water vessel spills and leaching of contaminants.

Residual Impacts

Impacts related to site runoff from upland areas during Project operation would not be significant under NEPA.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

Impact WQ-2b: Operation of proposed Project facilities would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Although the majority of the proposed Project site is located in a 100-year flood zone, proposed Project operations would not increase the potential for flooding compared to the CEQA baseline, because onsite storm drains would be installed as part of the Project (see **Impact WQ-2a**), because site elevations and the flat site topography would remain generally the same subsequent to construction, and because the site is located adjacent to Harbor waters. However, operation of the proposed Project would result in an increase in containers stored at the site compared to baseline conditions, which would subject the containers to some sheet flow or ponding of water if a 50- or 100-year storm occurred that generated more rainfall than could be accommodated by the capacity of the onsite drainage system.

Although Project operations would not increase the risk of flooding at the site, operations would result in increased risks to people and property due to an increase in employees and containers at the site, compared to baseline conditions. However, because the project site is relatively flat, is located along the waters edge (which would allow excess runoff to flow offsite), and would be graded to direct runoff to the drainage system, flood water on the project site from a 50-year or 100-year storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers onsite. In addition, there are no biological resources onsite that could be subjected to flooding.

CEQA Impact Determination

Operation of the proposed Project facilities would not increase the potential for flooding but would increase the number of employees and stored containers onsite relative to the CEQA baseline conditions. However, neither harm to the employees nor substantial damage to property in the stored containers is expected because excess runoff from a 50- or 100-year storm event would flow offsite to the Harbor. In addition, there are no biological resources on the Project site that could be affected by excess site runoff during a 50- or 100-year storm event. Therefore, flooding impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Operation of the proposed Project would occur on a larger site than would occur under the NEPA baseline (117 acres); however, Project operations would not result increase the potential for flooding at the site. Although the proposed Project would increase the number of employees and stored contained onsite compared to the NEPA baseline, neither harm to the employees nor substantial damage to property in the stored containers is expected because runoff from a 50- or 100-year storm event (in excess of the capacity of the onsite drainage system) would flow offsite to the Harbor. In addition, there are no biological resources on the Project site that could be

affected by excess site runoff during a 50 or 100-year storm event. Therefore, no impacts would occur under NEPA. Overall, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-3b: Operations would not result in a permanent adverse change in movement of surface water in the Harbor.

Once construction of facilities for the proposed Project is completed, operations in the in-water portions of the site would not affect water circulation in the West Basin.

CEQA Impact Determination

Proposed Project operations would not cause a permanent adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow because the Project would not install barriers to prevent or impede water movement in the West Basin or Harbor. Therefore, impacts to surface water flow would be less than significant under CEQA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Similar to impacts under CEQA, operations for the proposed Project would not cause a permanent adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow. Therefore, impacts to surface water flow would be less than significant under NEPA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-4b: Operations have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

Operation of terminal facilities on the 142-acre Project site (including the 45 acres of new landfill in the Southwest Slip created by the CDP) would exceed the operational area that existed under the CEQA baseline and would exceed (by 25 acres) the operational area of the NEPA baseline (117 acres). Although the proposed Project would operate on a larger area than both baseline conditions, the Project site would be completely paved, which

would prevent erosion from occurring during terminal operations. As described above under **Impact WQ-1e**, BMPs would be implemented and site runoff would be subject to treatment via SUSMP devices, which would prevent or minimize sediment runoff from the Project site. As a consequence, Project operation would not result in significant impacts related to erosion or sedimentation.

CEQA Impact Determination

Project-related operations would not accelerate erosion and soil deposition in the Harbor due in part to implementation of BMPs and SUSMP control measures, such as Stormceptors, that treat and remove pollutants and solids from site runoff. Although the proposed Project would operate on greater backlands than the CEQA baseline, all backlands would be paved, which would minimize the potential for erosion. Impacts to water quality would be less than significant under CEQA.

Mitigation Measures

No mitigation measures would be necessary.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Impacts to water quality from operation of facilities on the Project site would be less than significant under NEPA, and similar to those described for CEQA. Although the proposed Project would operate on greater backlands (by 25 acres) than the NEPA baseline, all backlands would be paved, which would minimize the potential for erosion. Therefore, no significant impacts would occur for proposed Project operations under NEPA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

3.14.4.3.2 Alternatives

3.14.4.3.2.1 Alternative 1: No Project Alternative

Alternative 1 would utilize the terminal site constructed as part of Phase I for container storage. Because of this, the Phase I construction activities are included under Alternative 1 although the in-water Phase I elements would be abandoned.

As described in Chapter 2, under Alternative 1, no additional Port action or federal action would occur. The Port would not take further actions to construct or develop additional backlands (other than the 72 acres that were constructed under Phase I of the proposed Project). The existing four A-frame cranes would be removed, the bridge over the Southwest Slip would be abandoned, and all wharf operations would cease. The 1.3 acres of fill added to waters of the U.S. during construction of the Phase I terminal under the proposed Project (as allowed under the ASJ and under USACE permit) would remain in place under Alternative 1. Existing storm drains would continue to collect and

discharge stormwater runoff as under baseline conditions. Under Alternative 1, the terminal would be used as supplemental backlands for the Berths 121-131 Container terminal, but no vessel operations would occur. No further CEQA or NEPA actions would occur under Alternative 1.

CEQA Impact Determination

Implementation of an SWPPP and BMPs, as well as SUSMP compliance during construction would keep water quality impacts related to site runoff (**Impact WQ-1b**) below a level of significance.

During Phase I construction, a monitoring and reporting program was implemented during in-water construction under Phase I. The Monitoring Report reported no violations (MBC, 2002). Aside from this, no further in-water or additional backland construction would occur under Alternative 1; therefore, significant impacts to water quality from construction would occur under CEQA (**Impact WQ-1a**, **Impact WQ-1c**, and **Impact WQ-1d**).

For the reasons described under the proposed Project, Alternative 1 would not result in significant impacts related to flooding (**Impact WQ-2a**), surface water (**Impact WQ-3a**), or site erosion (**Impact WQ-4a**).

Operations of the backlands facilities (**Impact WQ-1e**) would not create pollution, contamination, or a nuisance or violate water quality standards for the reasons described under the proposed Project. The potential for an increase in incidental spills on backland areas to result in water quality impacts would be kept below a level of significance because the terminal operator would prepare an SPCC Plan and an OSCP, which would be 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. Consequently, water quality impacts would be less than significant. Furthermore, because no ship calls would occur under this alternative, terminal operation would not result in water quality impacts related to illegal ship discharges, in-water spills from vessels, or leaching from antifouling paint on vessels (**Impact WQ-1e**).

Significant flooding impacts (**Impact WQ-2b**), surface water movement impacts (**Impact WQ-3b**), or erosion impacts (**Impact WQ-4b**) would not occur from Alternative 1 operations, for the same reasons as described under the proposed Project.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

The impacts of this No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

A residual impacts determination is not applicable.

3.14.4.3.2.2 Alternative 2 – No Federal Action

Alternative 2 would utilize the terminal site constructed as part of Phase I for container storage, and would increase the backland area to 117 acres. Because of this, the Phase I construction activities are included under Alternative 2 even though the in-water Phase I elements would not be used (Phase I dike, fill, and the wharf would be abandoned).

The No Federal Action Alternative includes all of the construction and operational impacts likely to occur absent USACE permits. Under Alternative 2, there would be a Port action to further develop backlands at the Project site (which does not require a federal action) on up to 117 acres, but there would be no federal action. However, the four existing A-frame cranes installed in Phase I would be removed, and the bridge constructed during Phase I of the proposed Project would be abandoned. In addition, the 1.3 acres of fill added to waters of the U.S. during construction of the Phase I terminal under the proposed Project (as allowed under the ASJ and under USACE permit) would remain in place under Alternative 2. The existing wharves (Berths 100-102) would cease to be used for ship berthing and ship loading and unloading operations. Alternative 2 includes a CEQA action to increase backlands to 117 acres; however, no NEPA action would occur under Alternative 2.

CEQA Impact Determination

Implementation of an SWPPP and BMPs, as well as SUSMP compliance during construction would keep water quality impacts related to site runoff (**Impact WQ-1b**) below a level of significance.

Although Phase I would be applied to Alternative 2, no significant in-water impacts to water quality would occur for the same reasons described under the proposed Project. During Phase I construction, a monitoring and reporting program was implemented during in-water construction under Phase I. The Monitoring Report reported no violations (MBC, 2002). In addition, Alternative 2 would result in 117 acres of backland construction, but this would not result in significant impacts for the reasons described under the proposed Project. Therefore, Alternative 2 would not result in significant impacts to water quality from construction under CEQA (**Impact WQ-1a**, **Impact WQ-1c**, and **Impact WQ-1d**).

For the reasons described under the proposed Project, Alternative 2 would not result in significant impacts related to flooding (**Impact WQ-2a**), surface water (**Impact WQ-3a**), or site erosion (**Impact WQ-4a**).

Operations of the backlands facilities (**Impact WQ-1e**) would not create pollution, contamination, or a nuisance or violate water quality standards, for the reasons described under the proposed Project. The potential for an increase in incidental spills on backland areas to result in water quality impacts would be kept below a level of significance because the terminal operator would prepare an SPCC Plan and an OSCP, which would be 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. Consequently, water quality impacts would be less than significant. Furthermore, because ship calls would not occur under this alternative, terminal operation would not result in water quality impacts related to illegal ship discharges, in-water spills from vessels, or leaching from antifouling paint on vessels (**Impact WQ-1e**).

Significant flooding impacts, (**Impact WQ-2b**) surface water movement impacts (**Impact WQ-3b**) or erosion impacts (**Impact WQ-4b**), would not occur from Alternative 2 operations for the same reasons as described under the proposed Project.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Implementation of an SWPPP and BMPs, as well as SUSMP compliance during construction, would keep water quality impacts related to site runoff (**Impact WQ-1b**) below a level of significance.

Although Phase I would be applied to Alternative 2, which is not included in the NEPA baseline, no significant in-water impacts to water quality would occur for the same reasons described under the proposed Project. During Phase I construction, a monitoring and reporting program was implemented during in-water construction under Phase I. The Monitoring Report reported no violations (MBC, 2002). Therefore, Alternative 2 would not result in significant impacts to water quality from construction under NEPA (**Impact WQ-1a**, **Impact WQ-1c**, and **Impact WQ-1d**).

For the reasons described under the proposed Project, Alternative 2 would not result in significant impacts related to flooding (**Impact WQ-2a**), surface water (**Impact WQ-3a**), or site erosion (**Impact WQ-4a**).

In addition, Alternative 2 would result in 117 acres of backland construction, which is the same acreage of supplemental backlands as in the NEPA baseline. Impacts from operations of the backlands facilities (Impacts WQ-1e, WQ-2b, WQ-3b, WQ-4b) would be less than significant because there would be no substantive changes in the environmental conditions between Alternative 2 and the NEPA baseline.

Furthermore, because ship calls would not occur under this alternative, terminal operation would not result in water quality impacts related to illegal ship discharges, in-water spills from vessels, or leaching from antifouling paint on vessels (**Impact WQ-1e**).

Mitigation Measures

Mitigation measures are not required.

Residual Impacts

No residual impacts would occur.

3.14.4.3.2.3 Alternative 3 – Reduced Fill: No New Wharf Construction at Berth 102

Alternative 3 does not include construction of 925 linear feet of wharf at Berth 102, but the additional 375 feet of wharf at the south end of Berth 100, the relocation of the Catalina Express Terminal, and other elements of the proposed Project would be constructed. The container terminal under Alternative 3 would include 142 acres of backlands, handle approximately 936,000 TEUs annually, require 130 annual ship calls, and have 1,575 feet of new wharf.

Impact WQ-1a: Wharf demolition and construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Dredging, dike placement, fill, and/or pile installation associated with wharf construction at Berth 100 and the southern extension in Phases I and III of Alternative 3, as well as pile driving for the removal/relocation of the existing floating docks (as part of the Catalina Express Terminal relocation in Phase II), would have the same effects on water quality as for the proposed Project.

Dredging of 41,000 cubic yards of soft sediments would occur between the pierhead line and the federal channel dredging limits for Berth 100 construction (Berth 100 construction occurred in Phase I and is being reanalyzed as part of this alternative). Approximately 204,000 cubic yards of rock dike would be placed along the Berth 100 and the area behind the dikes filled with approximately 38,000 cubic yards of material. The dike and fill, including piles, would occupy approximately 2.5 acres. Sediments dredged from the West Basin for new wharf construction or the CDP would be used as fill behind the dikes and the remaining material disposed at the upland Anchorage Road soil storage site.

Dredging of bottom sediments, dike placement, fill, and pile installations for wharf construction at Berth 100 and minor pile driving for relocation of the Catalina Express terminal docks under Alternative 3 would resuspend bottom sediments, which would generate a turbidity plume near the dredge. Because bottom sediments are primarily coarse-grained, suspended sediments would settle and the turbidity plume would disperse fairly rapidly. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge. The permits would include water quality standards that must be met at various distances from the dredging activities. Removal of contaminated sediments through dredging could cause short-term impacts as described below but would be a beneficial impact in the long term.

Turbidity plumes would not persist after in-water construction activities are completed. The presence of turbidity plumes are not expected to substantially affect water quality outside the mixing zone. Thus, only a small proportion of the West Basin near the dredging site would be affected at any time during the construction phase for Alternative 3. DO levels in Harbor waters would be reduced in the immediate vicinity of dredging, dike placement, fill, and pile installation activities due to the oxygen demand of suspended particulates. Reductions in DO levels, however, would be brief and limited to the mixing zones in the vicinities of the in-water operations.

The pH of waters within the West Basin also may decrease in the immediate vicinity of dredging and in-water construction locations. Change in pH would be highly localized, and no water quality objectives would be exceeded outside the mixing zone. Contaminants, including metals and organics, could be released into the water column during the dredging and pile removal/driving operations. However, like pH and turbidity, any increase in contaminant levels in the water is expected to be localized and of short duration. Results from previous elutriate tests using West Basin sediments (AMEC, 2003; Kinnetic Laboratories/Toxscan, 2002) detected only minor releases of selected metals from sediments that did not exceed water quality criteria. Therefore, as described above for the proposed Project, the release of contaminants would not cause water quality standards or objectives to be exceeded for Alternative 3.

Nutrients released into the water column during the dredging or in-Harbor disposal operations are unlikely to promote nuisance growths of phytoplankton, even if operations occur during warm water conditions for the reasons described above for the proposed Project (see Section 3.14.4.3.1.1). Effects on phytoplankton populations and beneficial uses of the West Basin are not expected in response to Alternative 3.

Similar to the proposed Project, disposal options for sediments dredged for Alternative 3 (that are not used as fill) could include placement at an unconfined disposal location (if determined suitable based on testing), disposal at a CDF, or disposal at the Anchorage Road soil storage site. Placement of clean materials dredged near Berths 97-109 would result in temporary and localized increases in suspended sediment concentrations and turbidity levels within the immediate vicinity of the site. Settling would result in rapid decreases in suspended solids and turbidity levels within the water column. Increases in contaminant concentrations, decreases in DO concentrations, or other changes to water quality conditions relative to water quality objectives would not occur because only sediments suitable for in-water disposal, as demonstrated by results from standardized sediment testing protocols, would be placed at this site. Placement of dredged materials at a CDF or the Anchorage Road soil storage site would not result in any disposal-related impacts to water quality within the Harbor.

Impacts to water and sediment quality from leaks or spills from equipment working in or over the water during dredging and wharf construction are addressed below under **Impact WQ-1d**.

CEQA Impact Determination

Dredging, dike placement, fill, and new wharf construction during the construction phases of Alternative 3, including the relocation of the Catalina Express Terminal docks, would not result in any direct or intentional discharges of wastes to waters of West Basin. However, in-water construction activities would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators in the mixing zone defined by the Water Quality Certification. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge.

During dredge, fill, and pile-driving operations, an integrated multi-parameter monitoring program would be implemented by the Port Environmental Management Division in conjunction with USACE and RWQCB permit requirements, wherein dredging performance would be is measured in situ. The objective of the monitoring program is adaptive management of the dredging operations, including dredging modifications, so that potential violations of water quality objectives do not occur. If standards or permit conditions are approached, the Port Environmental Management Division would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. This will include alteration of dredging methods, and/or implementation of additional BMPs, such as a silt curtain. Plans and specifications for fill placement in the West Basin would include measures to prevent turbidity from leaving the fill site and entering the Main Channel, with monitoring to verify that turbidity levels just outside the containment dike during and immediately following discharges of fill remain above minimum levels for WQS. If monitoring shows conditions that approach the WQS, discharge shall stop until measures are implemented to reduce turbidity entering the West Basin/Main Channel, such that permit conditions are not violated. Thus, terminal construction under Alternative 3 is not expected to create pollution, contamination, a nuisance, or result in violations of water quality standards or permit conditions; therefore, impacts to water quality from in-water construction activities would not be significant under CEQA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 3 includes in-water construction that is not included as part of the NEPA baseline. Impacts from the in-water construction (dredging, dike placement, fill, pile driving, and new wharf construction activities) of Alternative 3 would be the same as described for the CEQA determination, and they are not anticipated to create pollution, contamination, a nuisance, or violate any water quality standards. Therefore, impacts to water quality from in-water construction activities would be less than significant under NEPA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant. The permits may contain avoidance or minimization measures, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1b: Runoff from backland development/redevelopment would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Ground disturbances and construction activities related to the new backland construction in Phases I, II, and III could result in temporary impacts on surface water quality if uncontrolled runoff of soils, asphalt leachate, concrete wash water, and other construction materials enter Harbor waters. Runoff from the terminal site would be controlled under a construction SWPPP prepared in accordance with NPDES General Permit Construction requirements and implemented prior to start of any construction activities. The construction SWPPP would specify BMPs to control releases of soils and contaminants and adverse impacts to receiving water quality. The SWPPP is prepared by the project proponent (or consultant) and is not issued by the RWQCB. An NOI and appropriate fee is submitted to the SWRCB in accordance with construction General Permit conditions. The project proponent must keep the SWPPP onsite at all times and implement its measures.

The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities in NPDES Permit No. CAS004001 (13 December 2001) require implementation of runoff control from all construction sites. These control measures would be installed at the construction sites prior to ground disturbance. The terminal operator or its contractors, would prepare a pollutant control plan that includes standard Port guidance and BMPs for construction (e.g., 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]; and solid waste management [CA020]), as well as monitoring and maintenance of the control measures. All conditions of Alternative 3 permits would be implemented and monitored by the Port for compliance.

Standard BMPs, such as barriers, sedimentation basins, and site contouring, would also be used during construction activities for Alternative 3 in compliance with the state General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and the construction SWPPP to minimize runoff of soils and construction-related contaminants. As discussed in Section 3.14.4.3.1, BMPs that are typically used to treat urban runoff achieve average removal efficiencies for total suspended solids from stormwater runoff of 60 to 70 percent (USEPA, 1993). While the specific BMPs required by the construction SWPPP for Alternative 3 are unknown, it is reasonable to expect that measures required by the SWPPP would achieve suspended particle removal efficiencies for runoff the project site. Further, these BMPs would also be expected to remove similar proportions of the loadings for various trace metals and PAHs derived from construction debris or spills/leaks of petroleum products associated with the project site soils. Stormwater monitoring, as required by the permits, would be conducted to ensure that contaminant concentrations comply with the permit limits.

As discussed in Section 3.7 and for the proposed Project (Section 3.14.4.3.1.1), historical soil contamination would not be expected to contribute to contaminant loading from runoff into the Harbor. If dewatering activities were required for Alternative 3 construction, shallow groundwater collected from the dewatering may contain unacceptable levels of contaminants, thereby affecting the ability to discharge this water into nearby drainages and Harbor waters. Any dewatering operations would be required to either discharge into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau, or comply with the NPDES permit regulations and an associated

SWPPP regarding discharge into storm drains and/or directly into Harbor waters. Such permit requirements typically include onsite treatment to remove pollutants prior to discharge. Alternatively, the water could be temporarily stored onsite in holding tanks, pending offsite disposal at a disposal facility approved by the RWQCB. Standard Port BMPs (e.g., excavating, stockpiling, and disposing of chemically impacted soils [02111]; solid waste management [CA020]; contaminated soil management [CA022]) specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures would be followed for upland construction activities associated with Alternative 3 to ensure that soil or groundwater contaminants were not transported offsite by runoff.

Runoff from the upland construction areas would enter the Harbor primarily through storm drain discharges. Effects of runoff on DO, pH, nutrient, and trace contaminant levels would be minor and limited to the vicinity of the drain discharge locations because inputs would mix rapidly with receiving waters and suspended particles would settle to the bottom.

CEQA Impact Determination

Construction activities associated with Alternative 3 would expose soils and generate debris that could be transported offsite by runoff following a storm event. However, implementation of BMPs to control runoff of soils and pollutants, as required by an NPDES-mandated construction SWPPP, would help to ensure that the quality of the runoff meets stormwater discharge permit limits and would not adversely affect the quality of receiving waters. Consequently, runoff from the Project site and impacts to water quality would be less than significant under CEQA because measures listed in Section 3.14.4.3 would be included in the SWPPP. These impacts would be similar in magnitude to those associated with the proposed Project.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although backlands under Alternative 3 would be greater than the amount of backlands under the NEPA baseline by 25 acres, Alternative 3 would implement a pollutant control plan and BMPs, which would ensure that runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards, and impacts to water quality would be less than significant under NEPA.

Mitigation Measures

No mitigation measures would be required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1c: Fill, development, and wharf extension in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

CEQA Impact Determination

Dredging, dike and fill placement, and pile installation under Alternative 3, including pile driving to anchor the relocated docks for the Catalina Express Terminal, would result in temporary and localized increases in suspended sediment and turbidity levels. However, these conditions are not expected to extend outside the West Basin or extend beyond the Main Channel. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge. Dredging and fill placement operations would be conducted in compliance with proposed Project permits (e.g., USACE Section 404 and RWQCB Section 401), and the chemical and toxicological properties of the fill material would have to be tested to demonstrate suitability prior to use. An adaptive management program would be implemented under Alternative 3 during dredging and in-water construction (as described under **Impact WQ-1a** for the proposed Project), which would ensure that turbidity levels just outside the containment dike during and immediately following discharges of fill remain below applicable Water Quality Standards.

Runoff from backland improvements on the completed fill would be subject to measures as described in the construction SWPPP that would prevent significant impacts to the receiving water quality.

As discussed above, in-water construction activities are not expected to create pollution, contamination, nuisances, or result in violations of water quality standards or permit conditions. Consequently, impacts on water quality would not be significant under CEQA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be similar to those described for the CEQA determination. Dredging, dike construction, fill placement, and wharf construction would result in short-term increases in suspended solids and turbidity levels within and adjacent to the fill area, but these activities are not expected to create pollution, contamination, or nuisances. Therefore, the impacts to water quality would not be significant under NEPA.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant. The permits may contain avoidance or minimization measures although no mitigation is required under NEPA, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1d: Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during dredging, fill placement, and wharf construction could occur during construction under this alternative. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.7). 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]). Construction and industrial SWPPPs and standard Port BMPs listed in Section 3.14.4.3 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported offsite and enter storm drains.

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. Dredging contractors are responsible and liable for any accidental spills (such as hydraulic fluid leaks and fuel spills) during dredging operations, including spills from the dredge, chase boats, the barge, and tugs. Equipment is generally available onsite to respond to such accidental spills, and the general spill response practice is to deploy floating booms (by the chase boats) made of material that would contain and absorb the spill. Vacuums/pumps may be required to assist in the cleanup depending on the size of the spill.

The Basin Plan (RWQCB, 1994b) 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." Small spills from in-water construction equipment could result in a temporary but visible film (sheen) on the water surface; however, the probability of an accidental spill from a vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses is low.

CEQA Impact Determination

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 dredges or barges could directly affect water quality in West Basin, resulting in a visible film on the surface of the water; however, the probability of an accidental spill from a construction vessel to the Harbor is low. In addition, if an accidental spill does occur, the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity. Because of this, significant water quality impacts under CEQA are not expected to occur as a result of accidental spills of pollutants during in-water construction

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of the Alternative 3 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 3 would have 25 acres more backlands than the NEPA baseline, upland construction would not result in significant impacts related to spills, which are expected to be contained and cleaned up before any impacts to surface water quality can occur. Water quality impacts from potential accidental spills of pollutants during in-water construction activities for this alternative would be less than significant because the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1e: Operation of Alternative 3 facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Runoff

Stormwater runoff from the 142-acre terminal under Alternative 3 would be collected onsite by the storm drain system and discharged to the Harbor. The operation of the container terminal would add particulates and other debris to the site, which would affect runoff and contribute to incrementally to changes in receiving water quality. The operation of marine terminals and backland container facilities on the 142 acres of land partially used for container storage purposes would add particulates and other debris to the site. Transport of these materials by runoff from the site could contribute incrementally to changes in receiving water quality. The amount of truck traffic and yard equipment operations at the terminal site would increase to handle up to 937,000 TEUs annually. Rail traffic would also increase at the existing Berths 121-131 on-dock rail yard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff to the storm drain system. Additionally, operations of nonelectric equipment and vehicles for the Alternative 3 terminal would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff into Harbor waters. However, the facilities associated with this alternative 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, as well as SUSMP requirements. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented under Alternative 3. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements, such as compliance with Non-Point Source Pollution Control Program requirements.

Atmospheric Deposition

For suspended zinc and copper pollutants associated with container terminal operations under Alternative 3 (tire and brake wear from equipment and trucks), direct impacts are not expected to significantly affect water quality due to the likely limited and dispersed nature of direct atmospheric deposition on Harbor waters, and because direct aerial disposition would not allow for a significant build-up of these pollutants before entering Harbor waters.

A past study (MBC, 2005) concluded that mixing with the Harbor 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 violations of receiving water quality objectives, given compliance with Non-Point Source Pollution Control Program requirements, as well as SWPPP and SUSMP requirements.

Ballast Water

The amount of vessel traffic in the West Basin would increase by 130 annual ship calls (for 2025 and beyond) compared to the CEQA and NEPA baselines as a result of the Alternative 3 operations. Discharges of polluted water or refuse directly to the Harbor are prohibited. Discharges to the Harbor of clean ballast waters are not prohibited; however, during 2006 only 13 percent of container ships discharged clean ballast waters while in port. Thus, the increased vessel traffic and terminal operations associated with Alternative 3 would not result in increased contaminated ballast water discharges from vessels.

Contaminants from Vessels

Studies by the US Navy have demonstrated that TBT, copper and zinc concentrations resulting from hull vessel leachates were in most cases below federal and state water quality criteria. In addition, vessels docking at the terminal facility, while expected to be greater than 25 m in length, are likely constructed of steel-based hulls, and are not likely to be painted with antifouling paint containing TBT. Consequently, potential water quality impacts from Alternative 3 due to TBT leaching would likely not be significant.

Although the Navy studies indicate that in most cases, metals (copper) leaching from vessel hulls were below federal and state water quality criteria, because portions of the Los Angeles Harbor are impaired with respect to copper, and because there are likely to be differences between the studied Navy fleet and the vessel fleet under Alternative 3, increased loadings associated with increases in vessel traffic relative to baseline conditions could exacerbate water and sediment quality conditions for copper. The propeller wash from vessel traffic within the West Basin creates turbulence sufficient to resuspend bottom sediments. However, sediment resuspension from propeller wash can occur from any shipping activities within the Port, not just those associated with Alternative 3 operations. Resuspended sediments are expected to settle quickly to the bottom, and associated contaminants are not expected to increase toxicity or bioavailability because contaminants typically have a strong attachment to sediment particles.

Accidental Spills

Other potential operational source of pollutants that could affect water quality in the West Basin include accidental spills on land that enter storm drains, as well as accidental spills or illegal discharges from vessels while in the West Basin. 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. Potential releases of pollutants from a large spill on land to Harbor waters and sediments would be minimized through existing regulatory controls and are unlikely to occur during the life of the Alternative 3 terminal. These controls ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. In addition, for the Alternative 3 terminal, the terminal operator would prepare an SPCC Plan and an OSCP, which would be 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 prespill conditions.

The increased number of ship calls associated with the Alternative 3 terminal could contribute to a comparatively higher number of spills to Harbor waters compared to baseline conditions. Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from terminal-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site. Although spill events would be addressed according to procedures described in the SPCC, for oceangoing vessels that carry substantial amounts of fuel, an accidental spill could conceivably be large in the event of a catastrophic accident, which, although remote, could result in significant contamination entering the Harbor. Spill events would be addressed according to procedures described in the SPCC Plan.

Illegal Discharges from Vessels

Although illegal discharges cannot be quantified or known, it is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits. In this case, loadings from illegal discharges from the terminal operations would increase over baseline conditions. However, there is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Over several decades, there has been an improvement in water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges.

CEQA Impact Determination

During terminal operations, stormwater runoff from the Alternative 3 terminal site could contain particulate debris from operation of the Project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits, SWPPP requirements, and would be subject to treatment via SUSMP devices prior to discharge to Harbor waters. As a consequence, water quality impacts from site runoff would not be significant. However, there is potential for an increase in accidental spills and illegal discharges to Harbor waters due to increased vessel calls at the facility. Leaching of contaminants such as copper, from antifouling paint could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from in-water vessel spills, potential illegal discharges and pollutant leaching from vessel hull coatings would be significant under CEQA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Beyond legal requirements, there is no available mitigation to eliminate vessel spills, illegal discharges, or leaching of contaminants.

Residual Impacts

Residual impacts for upland spills and stormwater would be less than significant.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

NEPA Impact Determination

Operation of Alternative 3 terminal would occur on a slightly larger (by 25 acres) backland area compared to the NEPA baseline but would not result in substantially greater impacts than baseline conditions because discharges of stormwater would comply with the NPDES discharge permit limits. Additionally, runoff would be subject to SWPPP BMPs and SUSMP measures, which would keep impacts related to site runoff during terminal operations below the level of significance under NEPA.

However, there is potential for an increase in accidental spills and illegal discharges to Harbor waters due to increased vessel calls at the terminal (130 compared to 0 under the NEPA baseline). Leaching of contaminants such as copper, from antifouling paint, could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, impacts to water quality from vessel spills, discharges and leaching are significant under NEPA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Beyond legal requirements, there are no available mitigations to eliminate in-water vessel spills and leaching of contaminants.

Residual Impacts

Impacts related to site runoff during terminal operation would not be significant under NEPA.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

Impact WQ-2a and 2b: Alternative 3 construction and operation would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Although Alternative 3 site is located within a 100-year flood zone, construction and operations would not substantially increase the potential for flooding onsite because site elevations would remain generally the same as the baseline conditions, even though grading and backland construction would occur, and because runoff would be directed to storm drains. During construction, an onsite storm drain system would be installed to convey runoff from the project site to the Harbor. The onsite drainage system would represent an improvement over the 2001 baseline conditions, where the majority of the project site had no onsite drainage system. Development of the backlands would increase the amount of impermeable surfaces due to paving, but this would not increase the potential for flooding because onsite storm drains would be included and would carry the runoff to the adjacent Harbor waters.

Operation of Alternative 3 would result in an increase in containers stored at the site, relative to baseline conditions, which would subject the containers to some sheet flow or ponding of water in the event that a 50- or 100-year storm event occurs that generates

rainfall that cannot be accommodated by the capacity of the onsite drainage system. Although Alternative 3 operations would not increase the risk of flooding at the site, it would result in increased risks to people and property due to an increase in employees and containers at the site, compared to baseline conditions. However, because the Project site is relatively flat, is located along the waters edge (which would allow excess runoff to flow offsite), and would be graded to direct runoff to the drainage system, floodwater on the Project site from a 50-year or 100-year storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers onsite. In addition, there are no biological resources onsite that could be subjected to flooding.

CEQA Impact Determination

Construction and operations for Alternative 3 would not substantially increase the potential for flooding or harming people, property, or sensitive biological resources because they would not substantially alter site topography and because adequate site drainage would be provided. Therefore, flooding impacts would be less than significant under CEQA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 3 would construct and operate a larger terminal than the NEPA baseline, substantial increases in flood risks by Alternative 3 construction or operations would not occur, and impacts would be less than significant under NEPA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-3a and 3b: Construction and operations activities would not result in a permanent adverse change in movement of surface water in the Harbor.

Circulation patterns in the Inner Harbor would not change as a result of the dredging activities for Alternative 3. Circulation in the Inner Harbor areas would not change as a result of Alternative 3 because tidal influences in the West Basin would not be reflected, substantially restricted, or enhanced by Alternative 3 structures. Therefore, Alternative 3 would not change the patterns or intensity of water movements in the Harbor.

CEQA Impact Determination

Construction and operation of Alternative 3 would not result in a permanent adverse change because the terminal and related activities would not impose barriers to water

movement in the West Basin and the Harbor. Therefore, surface water flow impacts would be less than significant under CEQA and comparable to the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 3 would not result in permanent adverse changes because the terminal and related activities would not impose barriers to water movement in the West Basin and the Harbor. Therefore, surface water flow impacts would be less than significant under NEPA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-4a and 4b: Construction and operations activities have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

Construction activities related to the backlands (142 acres) would disturb soils and temporarily increase potentials for wind and water erosion. Erosion of soils could result in temporary impacts on the water quality of surface runoff and receiving waters, the same as for the proposed Project. However, the potential for erosion of soils from construction areas would be controlled by use of standard BMPs, 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), and others as required by the construction and industrial SWPPPs for Alternative 3. All applicable permits would be obtained and the conditions in those permits would be implemented and monitored by the Port. This would minimize the potential for soil runoff and deposition in the Harbor.

Runoff from upland construction areas would enter the Harbor primarily through storm drains. The small amount of soils that would not be removed by BMPs and could reach the Harbor via storm drains would be rapidly dispersed by mixing with Harbor waters in the immediate vicinity of the drain discharge. Runoff of soils from onshore construction activities is not expected to affect the sedimentation rate or quality of Harbor sediment.

Operation of facilities for Alternative 3 would not disturb or expose soils to processes that would not promote erosion; therefore, operations would not accelerate erosion or increase potentials for offsite transport and accumulation of soils.

CEQA Impact Determination

Construction of backlands and other terminal improvements for Alternative 3 would not accelerate natural processes of wind and water erosion because Project BMPs would control runoff of soils. Although Alternative 3 would operate on a larger area than the CEQA baseline conditions, the terminal site would be completely paved, which would prevent erosion from occurring during terminal operations. As described above under **Impact WQ-1e**, BMPs would be implemented and site runoff would be subject to treatment via SUSMP devices, which would prevent or minimize water quality impacts from sediment runoff from the terminal site. Therefore, impacts would be less than significant under CEQA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation is required. With the implementation of measures required under existing regulations or included as part of Alternative 3 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 3 would have 25 acres more backlands than the NEPA baseline, erosion and sedimentation, backlands are not in-water elements that would result in significant impacts under NEPA. BMPs implemented during construction would prevent erosion that could enter Harbor waters. Impacts to water quality from operation of facilities on the terminal site would be less than significant under NEPA, and similar to those described for CEQA. Although Alternative 3 would operate on greater backlands than the NEPA baseline, all backlands would be paved, which would minimize the potential for erosion. Therefore, no significant impacts would occur for Alternative 3 operations under NEPA.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Residual impacts would be less than significant.

3.14.4.3.2.4 Alternative 4 – Reduced Fill: No South Wharf Extension at Berth 100

Under this alternative, the 375 feet of wharf at the south end of Berth 100 that is an element of the proposed Project would not be constructed, but the wharf at Berth 102 would be constructed. Minor maintenance dredging may be required I the vicinity of Berth 102 to remove sediments that may have accumulated since Phase I was completed. The reduced terminal acreage (130 acres) would not require the relocation of the Catalina Express Terminal. The container terminal under Alternative 4 would include 130 acres of backlands, handle approximately 1,392,000 TEUs annually, require 208 annual ship calls, and have 2,125 feet of new wharf.

Impact WQ-1a: Wharf upgrade activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Dredging, dike placement, fill, and pile installation associated with wharf construction at Berth 100 and Berth 102 in Phases I and II of Alternative 4 would have similar effects on water quality as for the proposed Project.

In-water construction under Alternative 4 would include dredging of 41,000 cubic yards of soft sediments occurred between the pierhead line and the federal channel dredging limits. Approximately 88,000 cubic yards of rock dike would be placed along the Berth 100 and the area behind the dike filled with approximately 14,000 cubic yards of material. The dike and fill, including piles, would occupy approximately 1.34 acres. Sediments dredged from the West Basin for new wharf construction would be used as fill behind the dikes and the remaining material disposed of at the Anchorage Road soil storage site. Prior to dredging, sediment testing would be conducted prior to reuse and disposal

The dredging, dike placement, fill, and pile installations for wharf construction at Berth 100, would resuspend bottom sediments, which would generate a turbidity plume near the dredge. Because bottom sediments are primarily coarse-grained sediments that settle reasonably quickly, the turbidity plume would disperse rapidly. DREDGE model results (Appendix K) indicate that TSS concentrations drop to levels approaching measured background concentrations within a few hundred meters of the dredge. Subsequent turbidity plumes generated during maintenance dredging and pile installation for Berth 102 wharf construction would also disperse fairly rapidly (MBC, 2002). The presence of turbidity plumes would not substantially affect water quality outside the mixing zone. Thus, only a small proportion of the West Basin near the dredging site (within the mixing zone) would be affected at any time during the construction phases for Alternative 4.

Dissolved oxygen levels in Harbor waters would be reduced in the immediate vicinity of dredging, dike placement, fill, and pile installation activities due to the oxygen demand of suspended particulates. Reductions in DO levels, however, would be brief and limited to the mixing zones in the vicinities of the in-water operations. The pH of waters within the West Basin also may decrease in the immediate vicinity of dredging and in-water construction locations. Change in pH would be highly localized, and no water quality objectives would be exceeded outside the mixing zone. Contaminants, including metals and organics, could be released into the water column during the dredging and pile removal/driving operations. However, like pH and turbidity, any increase in contaminant levels in the water is expected to be localized and of short duration. Results from previous elutriate tests using West Basin sediments (AMEC, 2003; Kinnetic Laboratories/Toxscan, 2002) detected only minor releases of selected metals from sediments that did not exceed water quality criteria. Therefore, as described above for the proposed Project, the release of contaminants would not cause water quality standards or objectives to be exceeded for Alternative 4.

Nutrients released into the water column during the dredging or in-Harbor dredge-material disposal operations are unlikely to promote nuisance growths of phytoplankton, even if operations occur during warm water conditions for the reasons described above for the proposed Project (see Section 3.14.4.3.1.1). Effects on phytoplankton populations and beneficial uses of the West Basin are not expected in response to Alternative 4.

Similar to the proposed Project, disposal options for sediments dredged for Alternative 4 (that are not used as fill) could include placement at an unconfined disposal location (if determined suitable based on testing), disposal at a CDF, or disposal at the Anchorage Road soil storage site. Placement of clean materials dredged near Berths 97-109 or an underwater storage site would result in temporary and localized increases in suspended sediment concentrations and turbidity levels within the immediate vicinity of the site. Settling would result in rapid decreases in suspended solids and turbidity levels within the water column. Increases in contaminant concentrations, decreases in DO concentrations, or other changes to water quality conditions relative to water quality objectives would not occur because only sediments suitable for in-water disposal, as demonstrated by results from standardized sediment testing protocols, would be placed at this site. Placement of dredged materials at a CDF or the Anchorage Road soil storage site would not result in any disposal-related impacts to water quality within the Harbor.

Impacts to water and sediment quality from leaks or spills from equipment working in or over the water during dredging and wharf construction are addressed below under **Impact WQ-1d**.

CEQA Impact Determination

Dredging, dike placement, fill, new wharf construction during the construction phases of Alternative 4 would not result in any direct or intentional discharges of wastes to waters of West Basin. However, in-water construction activities would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators in the mixing zone defined by the Water Quality Certification. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge.

During dredge, fill, and pile-driving operations, an integrated multi-parameter monitoring program would be implemented by the Port Environmental Management Division in conjunction with both USACE and RWQCB permit requirements, wherein dredging performance would be is measured in situ. The objective of the monitoring program is adaptive management of the dredging operations, including dredging modifications, so that potential violations of water quality objectives do not occur. If standards or permit conditions are approached, the Port Environmental Management Division would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. This will include alteration of dredging methods, and/or implementation of additional BMPs such as a silt curtain. Plans and specifications for fill placement in the West Basin would include measures to prevent turbidity from leaving the fill site and entering the Main Channel, with monitoring to verify that turbidity levels just outside the containment dike during and immediately following discharges of fill remain above WQS guidelines. If monitoring shows conditions that approach the WQS, discharge shall stop until measures are implemented to reduce turbidity entering the West Basin/Main Channel, such that permit conditions are not violated. Thus, terminal construction under Alternative 4 is not expected to create pollution, contamination, a nuisance, or result in violations of water quality standards or permit conditions; therefore, impacts to water quality from in-water construction activities would not be significant under CEQA and would be similar in magnitude to those expected for the proposed Project.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 4 includes in-water construction that is not included as part of the NEPA baseline. Impacts from the in-water construction (dredging, dike placement, fill, pile driving, and new wharf construction activities) of Alternative 4 would be the same as described for the CEQA determination. DREDGE model results (Appendix K) indicate that TSS concentrations drop to levels approaching measured background concentrations within a few hundred meters of the dredge. In-water construction is not anticipated to create pollution, contamination, a nuisance, or violate any water quality standards; therefore, impacts to water quality from in-water construction activities would be less than significant under NEPA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant. The permits may contain avoidance or minimization measures, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1b: Runoff from backland development/redevelopment would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Ground disturbances and construction activities related to the new backland construction under Alternative 4 could result in temporary impacts on surface water quality if uncontrolled runoff of soils, asphalt leachate, concrete wash water, and other construction materials enter Harbor waters. Runoff from the terminal site would be controlled under a construction SWPPP prepared in accordance with NPDES General Permit Construction requirements and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to control releases of soils and contaminants and adverse impacts to receiving water quality. The SWPPP is prepared by the project proponent (or consultant) and is not issued by the RWQCB. An NOI and appropriate fee are submitted to the SWRCB in accordance with construction General Permit conditions. The project proponent must keep the SWPPP onsite at all times and implement its measures.

The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities in NPDES Permit No. CAS004001 (13 December 2001) require implementation of runoff control from all construction sites. These control measures would be installed at the construction sites prior to ground disturbance. The terminal operator or its contractors,

would prepare a pollutant control plan that includes standard Port guidance and BMPs for construction (e.g., 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]; and solid waste management [CA020]), as well as monitoring and maintenance of the control measures. All conditions of Alternative 4 permits would be implemented and monitored by the Port for compliance.

Standard BMPs, such as barriers, sedimentation basins, and site contouring, would also be used during construction activities for Alternative 4 in compliance with the state General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and the construction SWPPP to minimize runoff of soils and construction-related contaminants. As discussed in Section 3.14.4.3.1, BMPs that are typically used to treat urban runoff achieve average removal efficiencies for total suspended solids from stormwater runoff of 60 to 70 percent (USEPA 1993). While the specific BMPs required by the construction SWPPP for Alternative 4 are unknown, it is reasonable to expect that measures required by the SWPPP would achieve suspended particle removal efficiencies for runoff the Project site. Further, these BMPs would also be expected to remove similar proportions of the loadings for various trace metals and PAHs derived from construction debris or spills/leaks of petroleum products associated with the Project site soils. Stormwater monitoring, as required by the permits, would be conducted to ensure that contaminant concentrations comply with the permit limits.

As discussed in Section 3.7 and for the proposed Project (Section 3.14.4.3.1.1), historical soil contamination would not be expected to contribute to contaminant loading from runoff into the Harbor. If dewatering activities were required for Alternative 4 construction, shallow groundwater collected from the dewatering may contain unacceptable levels of contaminants, thereby affecting the ability to discharge this water into nearby drainages and Harbor waters. Any dewatering operations would be required to either discharge into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau, or comply with the NPDES permit regulations and an associated SWPPP regarding discharge into storm drains and/or directly into Harbor waters. Such permit requirements typically include onsite treatment to remove pollutants prior to discharge. Alternatively, the water could be temporarily stored onsite in holding tanks, pending offsite disposal at a disposal facility approved by the RWQCB. Standard Port BMPs (e.g., excavating, stockpiling, and disposing of chemically impacted soils [02111]; solid waste management [CA020]; contaminated soil management [CA022]) specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures would be followed for upland construction activities associated with Alternative 4 to ensure that soil or groundwater contaminants were not transported offsite by runoff.

Runoff from the upland construction areas would enter the Harbor primarily through storm drain discharges. Effects of runoff on DO, pH, nutrient, and trace contaminant levels would be minor and limited to the vicinity of the drain discharge locations because inputs would mix rapidly with receiving waters and suspended particles would settle to the bottom.

CEQA Impact Determination

Construction activities associated with Alternative 4 would expose soils and generate debris that could be transported offsite by runoff following a storm event. However, implementation of BMPs to control runoff of soils and pollutants, as required by an

NPDES-mandated construction SWPPP, would help to ensure that the quality of the runoff meets stormwater discharge permit limits and would not adversely affect the quality of receiving waters. Consequently, runoff from the Project site and impacts to water quality would be less than significant under CEQA because measures listed in Section 3.14.4.3 would be included in the SWPPP. These impacts would be similar in magnitude to those associated with the proposed Project.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although backlands under Alternative 4 would be greater than the amount of backlands under the NEPA baseline by 13 acres, Alternative 4 would implement a pollutant control plan and BMPs, which would ensure that runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards, and impacts to water quality would be less than significant under NEPA.

Mitigation Measures

No mitigation measures would be required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1c: Fill, development, and wharf extension in the West basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

CEQA Impact Determination

Dredging, dike and fill placement, and pile installation under Alternative 4 would result in temporary and localized increases in suspended sediment and turbidity levels. However, these conditions are not expected to extend outside the West Basin or extend beyond the Main Channel. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge. Dredging and fill placement operations would be conducted in compliance with proposed Project permits (e.g., USACE Section 404 and RWQCB Section 401), and the chemical and toxicological properties of the fill material would have to be tested to demonstrate suitability prior to use. An adaptive management program would be implemented under Alternative 3 during dredging and in-water construction (as described under **Impact WQ-1a** for the proposed Project), which would ensure that turbidity levels

just outside the containment dike during and immediately following discharges of fill remained below applicable Water Quality Standards.

Runoff from backland improvements on the completed fill would be subject to measures as described in the construction SWPPP that would prevent significant impacts to the receiving water quality.

As discussed above, in-water construction activities are not expected to create pollution, contamination, nuisances, or result in violations of water quality standards or permit conditions. Consequently, impacts on water quality would not be significant under CEQA.

Mitigation Measures

No mitigation is required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be similar to those described for the CEQA determination. Dredging, dike construction, fill placement, and wharf construction would result in short-term increases in suspended solids and turbidity levels within and adjacent to the fill area, but these activities are not expected to create pollution, contamination, or nuisances, or violate any water quality standards. Therefore, the impacts to water quality would not be significant under NEPA.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant. The permits may contain avoidance or minimization measures even though no mitigation is required under NEPA, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1d: Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during dredging, fill placement, and wharf construction could occur during construction under this alternative. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.7). 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]). Construction and industrial SWPPPs and standard Port BMPs listed in Section 3.14.4.3 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported offsite and enter storm drains.

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. Dredging contractors are responsible and liable for any accidental spills (including hydraulic fluid leaks and fuel spills) during dredging operations, including spills from the dredge, chase boats, the barge, and tugs. Equipment is generally available onsite to respond to such accidental spills, and the general spill response practice is to deploy floating booms (by the chase boats) made of material that would contain and absorb the spill. Vacuums/pumps may be required to assist in the cleanup depending on the size of the spill.

The Basin Plan (RWQCB, 1994b) 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." Small spills from in-water construction equipment could result in a temporary but visible film (sheen) on the water surface; however, the probability of an accidental spill from a vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses is low.

CEQA Impact Determination

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 dredges or barges could directly affect water quality in West Basin, resulting in a visible film on the surface of the water; however, the probability of an accidental spill from a construction vessel to the Harbor is low. In addition, if an accidental spill does occur, the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity. Because of this, significant water quality impacts under CEQA are not expected to occur as a result of accidental spills of pollutants during in-water construction.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 4 would have 13 acres more backlands than the NEPA baseline, upland construction would not result in significant impacts related to spills, which are

expected to be contained and cleaned up before any impacts to surface water quality can occur. Water quality impacts from potential accidental spills of pollutants during in-water construction activities for this alternative would be less than significant because the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1e: Operation of Alternative 4 facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Runoff

Stormwater runoff from the 130-acre terminal under Alternative 4 would be collected onsite by the storm drain system and discharged to the Harbor. The operation of the container terminal would add particulates and other debris to the site, which would affect runoff and contribute incrementally to changes in receiving water quality. The operation of marine terminals and backland container facilities on the 130 acres of land partially used for container storage purposes would add particulates and other debris to the site. Transport of these materials by runoff from the site could contribute incrementally to changes in receiving water quality. The amount of truck traffic and yard equipment operations at the terminal site would increase to handle up to 1,392,000 TEUs annually. Rail traffic would also increase at the existing Berths 121-131 on-dock rail yard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff to the storm drain system. Additionally, operations of nonelectric equipment and vehicles for the Alternative 4 terminal would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff into Harbor waters. However, the facilities associated with this alternative 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, as well as SUSMP requirements. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented under Alternative 4. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control

requirements, such as compliance with Non-Point Source Pollution Control Program requirements.

Atmospheric Deposition

For suspended zinc and copper pollutants associated with container terminal operations under Alternative 4 (tire and brake wear from equipment and trucks), direct impacts are not expected to significantly affect water quality due to the likely limited and dispersed nature of direct atmospheric deposition on Harbor waters, and because direct aerial disposition would not allow for a significant build-up of these pollutants before entering Harbor waters.

A past study (MBC, 2005) concluded that mixing with the Harbor 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 violations of receiving water quality objectives, given compliance with Non-Point Source Pollution Control Program requirements, as well as SWPPP and SUSMP requirements.

Ballast Water

The amount of vessel traffic in the West Basin would increase by 208 annual ship calls (for 2030 and beyond) compared to the CEQA and NEPA baselines as a result of the Alternative 4 operations. Discharges of polluted water or refuse directly to the Harbor are prohibited. Discharges to the Harbor of clean ballast waters are not prohibited; however, during 2006 only 13 percent of container ships discharged clean ballast waters while in port. Thus, the increased vessel traffic and terminal operations associated with Alternative 4 would not result in increased contaminated ballast water discharges from vessels.

Contaminants from Vessels

Studies by the Navy have demonstrated that TBT, copper, and zinc concentrations resulting from hull vessel leachates were in most cases below federal and state water quality criteria. In addition, vessels docking at the terminal facility, while expected to be greater than 25 m in length, are likely constructed of steel-based hulls, and are not likely to be painted with antifouling paint containing TBT. Consequently, potential impacts of slightly increased TBT would likely not be significant.

Although the Navy studies indicate that in most cases, metals (copper) leaching from vessel hulls were below federal and state water quality criteria, because portions of the Los Angeles Harbor are impaired with respect to copper, and because there are likely to be differences between the studied Navy fleet and the vessel fleet under Alternative 4, increased loadings associated with increases in vessel traffic relative to baseline conditions could exacerbate water and sediment quality conditions for copper. The propeller wash from vessel traffic within the West Basin creates turbulence sufficient to resuspend bottom sediments. However, sediment resuspension from propeller wash can occur from any shipping activities within the Port, not just those associated with Alternative 4 operations. Resuspended sediments are expected to settle quickly to the bottom, and associated contaminants are not expected to increase toxicity or bioavailability because contaminants typically have a strong attachment to sediment particles.

Accidental Spills

Other potential operational source of pollutants that could affect water quality in the West Basin include accidental spills on land that enter storm drains, as well as accidental spills or illegal discharges from vessels while in the West Basin. 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. Potential releases of pollutants from a large spill on land to Harbor waters and sediments would be minimized through existing regulatory controls and are unlikely to occur during the life of the Alternative 4 terminal. These controls ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. In addition, for the Alternative 4 terminal, the terminal operator would prepare an SPCC Plan and an OSCP, which would be 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 prespill conditions.

The increased number of ship calls associated with the Alternative 4 terminal could contribute to a comparatively higher number of spills to Harbor waters compared to baseline conditions. Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from upland terminal-related operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site. Although spill events would addressed according to procedures described in the SPCC, for oceangoing vessels that carry substantial amounts of fuel, an accidental spill could conceivably be large in the event of a catastrophic accident, which, although remote, could result in significant contamination entering the Harbor. Spill events would be addressed according to procedures described in the SPCC Plan.

Illegal Discharges from Vessels

Although illegal discharges cannot be quantified or known, it is reasonable to assume that increases in the frequency of illegal discharges to Harbor waters would be proportional to the change in numbers of ship visits. In this case, loadings from illegal discharges from the terminal operations would increase over baseline conditions. However, there is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Over several decades, there has been an improvement in water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges.

CEQA Impact Determination

Stormwater runoff from the operating Alternative 4 terminal site could contain particulate debris from operation of the Project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits and SWPPP requirements, and the discharges would be subject to treatment via SUSMP devices prior to discharge to Harbor waters. As a consequence, water quality impacts from site runoff would not be significant. However, there is

potential for an increase in accidental spills and illegal discharges due to increased vessel calls at the facility. Leaching of contaminants such as copper, from antifouling paint could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from in-water vessel spills, potential illegal discharges and pollutant leaching from vessel hull coatings would be significant under CEQA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Beyond legal requirements, there is no available mitigation to eliminate vessel spills, illegal discharges, or leaching of contaminants.

Residual Impacts

Residual impacts for upland spills and stormwater would be less than significant.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

NEPA Impact Determination

Operation of Alternative 4 terminal would occur on a slightly larger (by 13 acres) backland area compared to the NEPA baseline, but would not result in substantially greater impacts than baseline conditions because discharges of stormwater would comply with the NPDES discharge permit limits. Additionally, runoff would be subject to SWPPP BMPs and SUSMP measures, which would keep impacts related to site runoff during terminal operations below the level of significance under NEPA. However, there is potential for an increase in accidental spills and illegal discharges to Harbor waters due to increased vessel calls at the terminal (208 compared to 0 under the NEPA baseline). Leaching of contaminants such as copper, from antifouling paint, could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, impacts to water quality from vessel spills, discharges, and leaching are significant under NEPA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Beyond legal requirements, there are no available mitigations to eliminate in-water vessel spills, illegal discharges, and leaching of contaminants.

Residual Impacts

Impacts related to site runoff during terminal operation would not be significant under NEPA.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges, and leaching of contaminants.

Impact WQ-2a and 2b: Alternative 4 construction and operation would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Although Alternative 4 site is located within a 100-year flood zone, construction and operations would not substantially increase the potential for flooding onsite because site elevations would remain generally the same as the baseline conditions, even though grading and backland construction would occur, and because runoff would be directed to storm drains. During construction, an onsite storm drain system would be installed to convey runoff from the project site to the Harbor. The onsite drainage system would represent an improvement over the 2001 baseline conditions, where the majority of the project site had no onsite drainage system. Development of the backlands would increase the amount of impermeable surfaces due to paving, but this would not increase the potential for flooding because onsite storm drains would be included and would carry the runoff to the adjacent Harbor waters.

Operation of Alternative 4 would result in an increase in containers stored at the site, relative to baseline conditions, which would subject the containers to some sheet flow or ponding of water in the event that a 50- or 100-year storm event occurs that generates rainfall that cannot be accommodated by the capacity of the onsite drainage system. Although Alternative 4 operations would not increase the risk of flooding at the site, it would result in increased risks to people and property due to an increase in employees and containers at the site, compared to baseline conditions. However, because the project site is relatively flat, is located along the waters edge (which would allow excess runoff to flow offsite), and would be graded to direct runoff to the drainage system, floodwater on the Project site from a 50- or 100-year storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers onsite. In addition, there are no biological resources onsite that could be subjected to flooding.

CEQA Impact Determination

Construction and operations for Alternative 4 would not substantially increase the potential for flooding or harming people, property, or sensitive biological resources because they would not substantially increase impermeable surfaces, alter site topography, or reduce the capacity of the stormwater conveyance system. Therefore, flooding impacts would be less than significant under CEQA and similar to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 4 would construct and operate a larger terminal than the NEPA baseline, substantial increases in flood risk by Alternative 4 construction or operation would not occur and flooding impacts would be less than significant under NEPA and comparable to the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-3a and 3b: Construction and operations activities would not result in a permanent adverse change in movement of surface water in the Harbor.

Circulation patterns in the Inner Harbor would not change as a result of the dredging activities for Alternative 4. Circulation in the Inner Harbor areas would not change as a result of Alternative 4 because tidal influences in the West Basin would not be reflected, substantially restricted, or enhanced by the Alternative 4 in-water structures.

CEQA Impact Determination

Construction and operation of Alternative 4 would not result in a permanent adverse change because the terminal or related activities would not impose barriers to water movement in the West Basin and the Harbor. Therefore, surface water flow impacts would be less than significant under CEQA and comparable to the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 4 would not result in permanent adverse changes because the terminal and related activities would not impose barriers to water movement in the West Basin and the Harbor. Therefore, surface water flow impacts would be less than significant under NEPA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-4a and 4b: Construction and operations activities have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

Construction activities related to the backlands (130 acres) would disturb soils and temporarily increase potentials for wind and water erosion. Erosion of soils could result in temporary impacts on the water quality of surface runoff and receiving waters, the same as for the proposed Project. However, the potential for erosion of soils from construction areas would be controlled by use of standard BMPs, 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), and others as required by the construction and industrial SWPPPs for Alternative 4. All applicable permits would be obtained and the conditions in those permits would be implemented and monitored by the Port. This would minimize the potential for soil runoff and deposition in the Harbor.

Runoff from upland construction areas would enter the Harbor primarily through storm drains. The small amount of soils that would not be removed by BMPs and could reach the Harbor via storm drains would be rapidly dispersed by mixing with Harbor waters in the immediate vicinity of the drain discharge. Runoff of soils from onshore construction activities is not expected to affect the sedimentation rate or quality of harbor sediment.

Operation of facilities for Alternative 4 would not disturb or expose soils to processes that would not promote erosion; therefore, operations would not accelerate erosion or increase potentials for offsite transport and accumulation of soils.

CEQA Impact Determination

Construction of backlands and other terminal improvements for Alternative 4 would not accelerate natural processes of wind and water erosion because backlands are paved and Project BMPs would control runoff of soils. Although Alternative 4 would operate on a larger area than the CEQA baseline conditions, the terminal site would be completely paved, which would prevent erosion from occurring during terminal operations. As described above under **Impact WQ-1e**, BMPs would be implemented and site runoff would be subject to treatment via SUSMP devices, which would prevent or minimize water quality impacts from sediment runoff from the terminal site. Therefore, impacts would be less than significant under CEQA, and they would be comparable to those for the proposed Project.

Mitigation Measures

No mitigation is required. With the implementation of measures required under existing regulations or included as part of Alternative 4 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 4 would have 13 acres more backlands than the NEPA baseline, erosion and sedimentation, backlands are not in-water elements that would result in significant impacts under NEPA. BMPs implemented during construction would prevent erosion that could enter harbor waters. Impacts to water quality from operation of facilities on the terminal site would be less than significant under NEPA, and similar to those described for CEQA. Although Alternative 4 would operate on greater backlands than the NEPA baseline, all backlands would be paved, which would minimize the potential for erosion. Therefore, no significant impacts would occur for Alternative 4 operations under NEPA.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Residual impacts would be less than significant.

3.14.4.3.2.5 Alternative 5 – Reduced Construction and Operation: Phase I Construction Only

Under Alternative 5, the Phase I container terminal that was completed in 2003 (as allowed by the ASJ) and that is currently operational would continue to operate at levels similar to today. The Phase I construction included 72 acres of backlands, dredging, dike placement, fill, and a new 1,200-foot wharf. Construction impacts under Phase I would apply to this alternative. The total acreage of backlands under this alternative would be 72 acres. Alternative 5 would accommodate a total of 630,000 TEUs annually and require 104 annual ship calls.

Impact WQ-1a: Wharf upgrade activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Under Phase I construction, dredging of 41,000 cubic yards of soft sediments occurred between the pierhead line and the federal channel dredging limits. Approximately 88,000 cubic yards of rock dike was placed along the Berth 100 and the area behind the dike filled with approximately 14,000 cubic yards of material. The dike and fill, including piles, would occupy approximately 1.3 acres. Sediments dredged from the West Basin for new wharf construction was used as fill behind the dike and the remaining material disposed at the Anchorage Road soil storage site. Prior to dredging, sediment testing was conducted prior to reuse and disposal.

The in-water construction at Berth 100 under Phase I resuspended bottom sediments, which generated a turbidity plume near the dredge. Because bottom sediments are primarily coarse-grained, suspended sediments settled reasonably quickly, the turbidity plume dispersed rapidly. DREDGE model results (Appendix K) indicate that TSS concentrations drop to levels approaching measured background concentrations within a few hundred meters of the dredge. The presence of turbidity plumes would not substantially affect water quality outside the mixing zone. Thus, only a small proportion of the West Basin near the dredging site (within the mixing zone) was affected during Phase I, as applied to Alternative 5.

Dredging using a clamshell was monitored between July and August 2002 for a period of 5 weeks at Berth 100 at the entrance to the West Basin (MBC, 2002). Results indicated that turbidity (TSS) at Station C (the designated USACE compliance station), 300 feet downcoast of dredging operations, averaged 36.3 mg/L during dredging surveys and 20.5 mg/L during the pre- and post-dredge surveys. There was an average of a 23.5 percent change in light transmission between Station C and Station D, the control station, during dredge operations, and a 7.8 percent difference during nondredge operations. Dissolved oxygen and hydrogen ion concentrations means were both slightly higher during dredge operations than during nondredge operations. In general, the results showed that the plume persisted during dredging operations (although typically well below the 40 percent decrease threshold in the regulations) and transmissivity returned to normal background (60 to 70 percent) within 1 week of dredging cessation (MBC, 2002).

DO levels in Harbor waters were reduced in the immediate vicinity of dredging, dike placement, fill, and pile installation activities during Phase I construction due to the oxygen demand of suspended particulates. Reductions in DO levels, however, were brief and limited to the mixing zones in the vicinities of the in-water operations. The pH of waters in the West Basin also decreased in the immediate vicinity of dredging and in-water construction locations, but the change in pH was highly localized, and no water quality objectives were exceeded outside the mixing zone. Contaminants, including metals and organics, were released into the water column during the dredging and pile removal/driving operations under Phase I. However, like pH and turbidity, the increases in resuspended contaminant levels in the water was localized and of short duration. Results from previous elutriate tests using West Basin sediments (AMEC, 2003; Kinnetic Laboratories/Toxscan, 2002) detected only minor releases of selected metals from sediments that did not exceed water quality criteria. Therefore, as described above for the proposed Project, the release of contaminants did not cause water quality standards or objectives to be exceeded, as applied to Alternative 5.

Nutrients released into the water column during the dredging or in-Harbor dredge-material disposal operations are unlikely to promote nuisance growths of phytoplankton, even if operations occur during warm water conditions for the reasons described above for the proposed Project (see Section 3.14.4.3.1.1). Effects on phytoplankton populations and beneficial uses of the West Basin were not affected during Phase I, as applied to Alternative 5.

Similar to the proposed Project, disposal of sediments dredged (that were not used for fill) under Phase I, as applied to Alternative 5, was at the Anchorage Road soil storage site. Placement of clean materials dredged near Berths 97-109 resulted in temporary and localized increases in suspended sediment concentrations and turbidity levels in the immediate vicinity of the site. However, settling resulted in rapid decreases in suspended solids and turbidity levels within the water column. Increases in contaminant concentrations, decreases in DO concentrations, or other changes to water quality conditions relative to water quality objectives did not occur because only sediments suitable for in-water disposal, as demonstrated by results from standardized sediment testing protocols, were placed at this site. Placement of dredged materials at the Anchorage Road soil storage site did not result in any disposal-related impacts to water quality in the Harbor.

Impacts to water and sediment quality from leaks or spills from equipment working in or over the water during dredging and wharf construction are addressed below under **Impact WQ-1d**.

CEQA Impact Determination

Dredging, dike placement, fill, new wharf construction during the Phase I construction, as applied to Alternative 5, were not expected to create pollution, contamination, nuisance, or violations of water quality standards specified in the permits. The monitoring and reporting program, consistent with the adaptive management of dredging (discussed under **Impact WQ-1d** for the proposed Project), which was implemented during Phase I in-water construction, reported no violations (MBC, 2002). Therefore, water quality impacts under Alternative 5 would be less than significant under CEQA.

Mitigation Measures

Mitigation measures are not required. During Phase I construction, monitoring measures were implemented during dredging, and there were no reported violations (MBC, 2002).

Residual Impacts

Residual impacts were less than significant.

NEPA Impact Determination

Alternative 5 includes in-water construction that is not included as part of the NEPA baseline. Dredging, dike placement, fill, new wharf construction during the Phase I construction, as applied to Alternative 5, were not expected to create pollution, contamination, a nuisance, or the potential for violations of water quality standards specified in the permits. The monitoring and reporting program, consistent with the adaptive management of dredging (discussed under **Impact WQ-1d** for the proposed Project), which was implemented during Phase I in-water construction, reported no violations (MBC, 2002). Therefore, water quality impacts under Alternative 5 would be less than significant under NEPA.

Mitigation Measures

Mitigation measures are not required. During Phase I construction, monitoring measures were implemented during dredging, and there were no reported violations (MBC, 2002).

Residual Impacts

Residual impacts were less than significant.

Impact WQ-1b: Runoff from backland development/redevelopment would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Ground disturbances and construction activities related to the new backland construction under Phase I construction, as applied to Alternative 5, could have resulted in temporary impacts on surface water quality if uncontrolled runoff of soils, asphalt leachate, concrete wash water, and other construction materials entered Harbor waters. Runoff from the terminal site was controlled and subject to an SWPPP prepared in accordance with NPDES General Permit Construction requirements, which included BMPs that were implemented prior to start of any construction activities. This construction SWPPP specified BMPs to control releases of soils and contaminants and adverse impacts to receiving water quality.

The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities in NPDES Permit No. CAS004001 (13 December 2001) require implementation of runoff control from all construction sites. These control measures are implemented at the construction sites prior to ground disturbance. The terminal operator or its contractors, are required to prepare a pollutant control plan that includes standard Port guidance and BMPs for construction (e.g., 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]; and solid waste management [CA020]), as well as monitoring and maintenance of the control measures. These requirements were adhered to for Phase I construction, monitored by the Port, and apply to Alternative 5.

Standard BMPs, such as barriers, sedimentation basins, and site contouring, were used during construction activities for Phase I in compliance with the state General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and the construction SWPPP to minimize runoff of soils and construction-related contaminants. As discussed in Section 3.14.4.3.1, BMPs that are typically used to treat urban runoff achieve average removal efficiencies for total suspended solids from stormwater runoff of 60 to 70 percent (USEPA 1993). Further, these BMPs are also expected to remove similar proportions of the loadings for various trace metals and PAHs derived from construction debris or spills/leaks of petroleum products associated with the Project site soils. Stormwater monitoring, as required by the permits, is conducted to ensure that contaminant concentrations comply with the permit limits.

As discussed in Section 3.7 and for the proposed Project (Section 3.14.4.3.1.1), historical soil contamination would not be expected to contribute to contaminant loading from runoff into the Harbor. Dewatering activities was required for Phase I construction, and the water was discharged into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau. Such permit requirements typically include onsite treatment to remove pollutants prior to discharge. Standard Port BMPs (e.g., excavating, stockpiling, and disposing of chemically impacted soils [02111]; solid waste management [CA020]; contaminated soil management [CA022]) specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures were followed for upland construction activities associated with Phase I construction, as applied to Alternative 5, to ensure that soil or groundwater contaminants were not transported offsite by runoff.

Runoff from the upland areas of the Project site enter the Harbor primarily through storm drain discharges. Effects of runoff on DO, pH, nutrient, and trace contaminant levels were minor and limited to the vicinity of the drain discharge locations because inputs mixed rapidly with receiving waters and suspended particles settled to the bottom.

CEQA Impact Determination

Construction activities associated with Alternative 5 exposed soils and generated debris that could have been transported offsite by runoff following a storm event. However, implementation of BMPs to control runoff of soils and pollutants, as required by an NPDES-mandated construction SWPPP, helped to ensure that the quality of the runoff met stormwater discharge permit limits and did not adversely affect the quality of receiving waters. Consequently, runoff from the terminal site and impacts to water quality were less than significant under CEQA because measures listed in Section 3.14.4.3 were included in the SWPPP. These impacts would be similar in magnitude to those associated with the proposed Project.

Mitigation Measures

No mitigation measures are applicable to Phase I construction. Implementation of measures required under existing regulations kept impacts below significance.

Residual Impacts

Residual impacts were less than significant.

NEPA Impact Determination

Although backlands under Alternative 5 would be less than the NEPA baseline (by 45 acres), Phase I construction, as applied to Alternative 5, implemented a pollutant control plan and BMPs that ensured that runoff from upland construction activities did not create pollution, contamination, a nuisance, or violate any water quality standards; consequently, impacts to water quality from construction of Alternative 5 were less than significant under NEPA.

Mitigation Measures

No mitigation measures are applicable to Phase I construction. Implementation of measures required under existing regulations kept impacts below significance.

Residual Impacts

Residual impacts were less than significant.

Impact WQ-1c: Fill, development, and wharf extension in the West basin could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

CEQA Impact Determination

Dredging, dike and fill placement, and pile installation under Phase I, as applied to Alternative 5, resulted in temporary and localized increases in suspended sediment and turbidity levels. However, these conditions did not extend outside the West Basin or the Main Channel. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge. Dredging and fill placement operations were conducted in compliance with required permits (e.g., USACE Section 404 and RWQCB Section 401), and the chemical and toxicological properties of the fill material were tested to demonstrate suitability. The plans and specifications for fill placement in the West Basin under Phase I, as applied to this Alternative, included specific measures to minimize turbidity from leaving the fill site, and included monitoring to verify that turbidity levels just outside the containment dike during and immediately following discharges of fill remained below applicable Water Quality Standards. Dredging, dike placement, fill, new wharf construction during the Phase I construction, as applied to Alternative 5, were not expected to create pollution, contamination, a nuisance, or a potential for violations of water quality standards specified in the permits. The monitoring and reporting program, consistent with the adaptive management of dredging (discussed under **Impact WQ-1d** for the proposed Project), which was implemented during in-water construction, reported no violations (MBC, 2002). Therefore, water quality impacts under Alternative 5 would be less than significant under CEQA.

Runoff from backland improvements was governed by a construction SWPPP that prevented adverse impacts to the receiving water quality.

Mitigation Measures

Mitigation measures are not required. During Phase I construction, monitoring measures were implemented during dredging, and there were no reported violations (MBC, 2002).

Residual Impacts

Residual impacts were less than significant.

NEPA Impact Determination

Impacts under NEPA are similar to those described for the CEQA determination. Dredging, dike construction, fill placement, and wharf construction in Phase I, as applied to Alternative 5, resulted in short-term increases in suspended solids and turbidity levels within and adjacent to the fill area (within the mixing zone). However, dredging, dike placement, fill, new wharf construction during the Phase I construction, as applied to Alternative 5, were not expected to create pollution, contamination, a nuisance, or a potential for violations of water quality standards specified in the permits. The monitoring and reporting program, consistent with the adaptive management of dredging (discussed under **Impact WQ-1d** for the proposed Project), which was implemented during in-water construction, reported no violations (MBC, 2002). Therefore, water quality impacts under Alternative 5 would be less than significant under NEPA.

Mitigation Measures

Mitigation measures are not required. During Phase I construction, monitoring measures were implemented during dredging occurred and there were no reported violations (MBC, 2002).

Residual Impacts

Residual impacts were less than significant.

Impact WQ-1d: Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during dredging, fill placement, and wharf construction could have occurred during Phase I construction, as applied to this alternative. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.7). Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained within the work area and cleaned up immediately (Port of Los Angeles Spill Prevention and Control procedures [CA012]). Construction and industrial SWPPPs and standard Port BMPs listed in Section 3.14.4.3 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) reduce the potential for materials from onshore construction activities to be transported offsite and enter storm drains.

Accidents or spills from in-water construction equipment could have resulted 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. Dredging contractors are responsible and liable for any accidental spills (such as hydraulic fluid

leaks and fuel spills) during dredging operations, including spills from the dredge, chase boats, the barge, and tugs. Equipment is generally available onsite to respond to such accidental spills, and the general spill response practice is to deploy floating booms (by the chase boats) made of material that would contain and absorb the spill. Vacuums/ pumps may be required to assist in the cleanup depending on the size of the spill.

The Basin Plan (RWQCB, 1994b) 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." Small spills from in-water construction equipment could have resulted in a temporary but visible film (sheen) on the water surface; however, the probability of an accidental spill from a vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses is low.

CEQA Impact Determination

Spills or leaks that occur on land would have been contained and cleaned up before any impacts to surface water quality could occur. Spills from dredges or barges could have directly affected water quality in West Basin, resulting in a visible film on the surface of the water; however, the probability of an accidental spill from a construction vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses was low. Accidental spills during construction are addressed by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) to prevent an accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity. There were no reported in-water spills of pollutants during construction. Because of this, significant water quality impacts under CEQA did not occur from accidental spills of pollutants during in-water construction.

Mitigation Measures

During Phase I in-water construction, spill control measures included in the Phase I Contract Specifications, which are hereby incorporated by reference, as required by existing regulations, were implemented. The Monitoring Report reported no violations (MBC, 2002).

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

The terminal under Alternative 5 would have 45 acres less backlands than the NEPA baseline and, as such, the potential for spill during upland construction was less than the potential for spills of the NEPA baseline. Because of this, accidental spill impacts under Alternative 5 are considered to be less than significant under NEPA. Also, Alternative 5 includes in-water construction that is not included in the NEPA baseline; there were no reported in-water spills of pollutants during Phase I construction. Impacts from potential accidental spills of pollutants during in-water construction activities for this alternative would be less than significant because the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and

absorb the spill and use pumps to assist the cleanup) would have prevented the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity, and because there were no reported in-water spills of pollutants during construction.

Mitigation Measures

During Phase I in-water construction, spill control measures included in the Phase I Contract Specifications, which are hereby incorporated by reference, as required by existing regulations, were implemented during in-water construction. The Monitoring Report reported no violations (MBC, 2002).

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1e: Operation of Alternative 5 facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Runoff

Stormwater runoff from the 72-acre terminal under Alternative 5 would be collected onsite by the storm drain system and discharged to the Harbor. The operation of the container terminal would add particulates and other debris to the site, which would affect runoff and contribute incrementally to changes in receiving water quality. The amount of truck traffic and yard equipment operations at the terminal site would increase to handle up to 630,000 TEUs annually. Rail traffic would also increase at the existing Berths 121-131 on-dock rail yard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff to the storm drain system. Additionally, operations of nonelectric equipment and vehicles for the Alternative 5 terminal would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff into Harbor waters. However, the facilities associated with this alternative 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, as well as SUSMP requirements. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented under Alternative 5. Tenants are required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements, such as compliance with Non-Point Source Pollution Control Program requirements.

Atmospheric Deposition

For suspended zinc and copper pollutants associated with container terminal operations under Alternative 5 (tire and brake wear from equipment and trucks), direct impacts are not expected to significantly affect water quality due to the likely limited and dispersed nature of direct atmospheric deposition on Harbor waters, and

because direct aerial disposition would not allow for a significant build-up of these pollutants before entering Harbor waters.

A past study (MBC, 2005)concluded that mixing with the Harbor receiving waters would rapidly dilute the pollutants so that the receiving water standards would not be violated. It is reasonable to expect that these findings would also apply to stormwater runoff from the proposed Project site, and runoff would not cause violations of receiving water quality objectives, given compliance with Non-Point Source Pollution Control Program requirements, as well as SWPPP and SUSMP requirements.

Ballast Water

The amount of vessel traffic in the West Basin would increase by 104 annual ship calls (for 2030 and beyond) compared to the CEQA and NEPA baselines as a result of the Alternative 5 operations. Discharges of polluted water or refuse directly to the Harbor are prohibited. Discharges to the Harbor of clean ballast waters are not prohibited; however, during 2006 only 13 percent of container ships discharged clean ballast waters while in port. Thus, the increased vessel traffic and terminal operations associated with Alternative 5 would not result in increased contaminated ballast water discharges from vessels.

Contaminants from Vessels

Studies by the US Navy have demonstrated that TBT, copper, and zinc concentrations resulting from hull vessel leachates were in most cases below federal and state water quality criteria. In addition, vessels docking at the terminal facility, while expected to be greater than 25 m in length, are likely constructed of steel-based hulls, and are not likely to be painted with antifouling paint containing TBT. Consequently, potential impacts of slightly increased TBT would likely not be significant.

Although the Navy studies indicate that in most cases, metals (copper) leaching from vessel hulls were below federal and state water quality criteria, because portions of the Los Angeles Harbor are impaired with respect to copper, and because there are likely to be differences between the studied Navy fleet and the vessel fleet under Alternative 5, increased loadings associated with increases in vessel traffic relative to baseline conditions could exacerbate water and sediment quality conditions for copper. The propeller wash from vessel traffic within the West Basin creates turbulence sufficient to resuspend bottom sediments. However, sediment resuspension from propeller wash can occur from any shipping activities within the Port, not just those associated with Alternative 5 operations. Resuspended sediments are expected to settle quickly to the bottom, and associated contaminants are not expected to increase toxicity or bioavailability because contaminants typically have a strong attachment to sediment particles.

Accidental Spills

Other potential operational source of pollutants that could affect water quality in the West Basin include accidental spills on land that enter storm drains, as well as accidental spills or illegal discharges from vessels while in the West Basin. 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. Potential releases of

pollutants from a large spill on land to Harbor waters and sediments would be minimized through existing regulatory controls and are unlikely to occur during the life of the Alternative 5 terminal. These controls ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. In addition, for the Alternative 5 terminal, the terminal operator would prepare an SPCC Plan and an Oil Spill Contingency Plan (OSCP), which would be 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 prespill conditions.

The increased number of ship calls associated with the Alternative 5 terminal could contribute to a comparatively higher number of spills to Harbor waters compared to baseline conditions. Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from upland terminal-related operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site. Although spill events would be addressed according to procedures described in the SPCC, for oceangoing vessels that carry substantial amounts of fuel, an accidental spill could conceivably be large in the event of a catastrophic accident, which although remote, could result in significant contamination entering the Harbor. Spill events would be addressed according to procedures described in the SPCC Plan.

Illegal Discharges from Vessels

Although illegal discharges cannot be quantified or known, it is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits. In this case, loadings from illegal discharges from the terminal operations would increase over baseline conditions. However, there is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Over several decades, there has been an improvement in water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges.

CEQA Impact Determination

Stormwater runoff from the operating Alternative 5 terminal site could contain particulate debris from operation of the Project facilities, including aerially deposited pollutants. Discharges of stormwater would comply with the NPDES discharge permit limits, SWPPP requirements, and would be subject to treatment via SUSMP devices prior to discharge to Harbor waters. As a consequence, water quality impacts from site runoff would not be significant. However, there is potential for an increase in accidental spills and illegal discharges due to increased vessel calls at the facility. Leaching of contaminants such as copper, from antifouling paint could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from in-water vessel spills, potential illegal discharges and pollutant leaching from vessel hulls is significant under CEQA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 5 (as described above), the impacts are less than significant.

Beyond legal requirements, there are no available mitigations to eliminate vessel spills, illegal discharges, or leaching of contaminants.

Residual Impacts

Residual impacts for upland spills and stormwater would be less than significant.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

NEPA Impact Determination

Operation of Alternative 5 terminal would occur on a smaller (by 45 acres) backland area than the NEPA baseline, and would not result in greater impacts than baseline conditions because discharges of stormwater would comply with the NPDES discharge permit limits. Additionally, runoff would be subject to SWPPP BMPs and SUSMP measures, which would keep impacts related to site runoff during terminal operations below the level of significance under NEPA. There is approximately the same potential for accidental spills on the backlands due to the similar number of TEUs managed on the site.

Alternative 5 would have a greater potential than the NEPA baseline to result in in-water spills and illegal discharges related to increased vessel calls at the terminal (104 compared to 0 under the NEPA baseline). Leaching of contaminants such as copper, from antifouling paint, could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, impacts to water quality from vessel spills, potential illegal discharges and pollutant leaching from vessel hull coatings are significant under NEPA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 5 (as described above), the impacts are less than significant.

Beyond legal requirements, there are no available mitigations to eliminate in-water vessel spills and leaching of contaminants.

Residual Impacts

Residual impacts would be less than significant for upland impacts under NEPA.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

Impact WQ-2a and 2b: Alternative 5 construction and operation would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Although the Alternative 5 site is located within a 100-year flood zone, construction and operations would not substantially increase the potential for flooding onsite because site elevations would remain generally the same as the baseline conditions, even with grading

and backland construction, occurred because runoff would be directed to storm drains. During construction, an onsite storm drain system was installed to convey runoff from the Project site to the Harbor. The onsite drainage system represents an improvement over the 2001 baseline conditions, where the majority of the Project site had no onsite drainage system. Development of the backlands would increase the amount of impermeable surfaces due to paving, but this would not increase the potential for flooding because onsite storm drains would be included and would carry the runoff to the adjacent Harbor waters.

Operation of Alternative 5 would result in an increase in containers stored at the site, compared to baseline conditions, which would subject the containers to some sheet flow or ponding of water in the event that a 50- or 100-year storm event occurs that generates rainfall that cannot be accommodated by the capacity of the onsite drainage system. Although Alternative 5 operations would not increase the risk of flooding at the site, it would result in increased risks to people and property due to an increase in employees and containers at the site, compared to CEQA baseline conditions, but would slightly decrease risks relative to the NEPA baseline (due to fewer TEUs managed onsite). However, because the project site is relatively flat, is located along the edge of the water (which would allow excess runoff to flow offsite), and would be graded to direct runoff to the drainage system, floodwater on the project site from a 50- or 100-year storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property in stored containers onsite. In addition, there are no biological resources onsite that could be subjected to flooding.

CEQA Impact Determination

Construction and operations for Alternative 5 would not substantially increase the potential for flooding or harming people, property, or sensitive biological resources because they would not substantially increase impermeable surfaces, alter site topography, or reduce the capacity of the stormwater conveyance system. Therefore, flooding impacts would be less than significant under CEQA and less than those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Because the potential for flooding-related risks under Alternative 5 would be slightly below that of the NEPA baseline due to a smaller site size and fewer TEUs managed onsite, Alternative 5 flooding impacts are less than significant under NEPA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-3a and 3b: Construction and operations activities would not result in a permanent adverse change in movement of surface water in the Harbor.

Circulation patterns in the Inner Harbor would not change as a result of the dredging activities that occurred during Phase I construction, as applied to Alternative 5. Circulation in the Inner Harbor areas did not change as a result of Phase I improvements (as applied to Alternative 5) because tidal influences in the West Basin were not reflected, substantially restricted, or enhanced by the Alternative 5 in-water structures.

CEQA Impact Determination

Construction and operation of Alternative 5 would not result in a permanent adverse change because the terminal improvements (under Phase I as applied to this alternative) did not impose substantial barriers to water movement in the West Basin and the Harbor. In addition, terminal operation under this alternative would not physically impede or block water circulation in the Harbor. Therefore, surface water flow impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 5 would not result in permanent adverse changes because improvements constructed during Phase I (as applied to this alternative) did not impose substantial barriers to water movement in the West Basin and the Harbor, and neither would future terminal operations. Therefore, surface water flow impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-4a and 4b: Construction and operations activities have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

Construction activities related to the backlands (72 acres) under Phase I disturbed soils and temporarily increased the potential for wind and water erosion. Erosion of soils could have resulted in temporary impacts on the water quality of surface runoff and receiving waters, the same as for the proposed Project. However, the potential for erosion of soils from construction areas was controlled during Phase I construction through the use of standard BMPs, 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), and others as required by the construction and industrial SWPPPs for Alternative 5. All applicable permits were obtained and the conditions in those permits were implemented and monitored by the Port. This minimized the potential for soil runoff and deposition in the Harbor.

Runoff from onshore upland construction areas enters the Harbor primarily through storm drains. The small amount of soils that were not be removed by BMPs and reached the Harbor via storm drains was rapidly dispersed by mixing with Harbor waters in the immediate vicinity of the drain discharge. Runoff of soils from onshore construction activities did not substantially affect the sedimentation rate or quality of Harbor sediment.

Operation of facilities for Alternative 5 would not disturb or expose soils to processes that would not promote erosion; therefore, operations would not accelerate erosion or increase potentials for offsite transport and accumulation of soils.

CEQA Impact Determination

Construction of backlands and other terminal improvements for Alternative 5 did not accelerate natural processes of wind and water erosion because Project BMPs controlled runoff of soils. Operation of the facilities would not increase exposures of soils to natural erosion processes because backlands are paved and runoff is subject to regulations. Although Alternative 5 would operate on a larger area than the CEQA baseline conditions, the terminal site would be completely paved, which would prevent erosion from occurring during terminal operations. As described under **Impact WQ-1e**, BMPs would be implemented and site runoff would be subject to treatment via SUSMP devices, which would prevent or minimize water quality impacts from sediment runoff from the terminal site. Therefore, impacts would be less than significant under CEQA, and they would be comparable to those for the proposed Project.

Mitigation Measures

No mitigation measures are applicable to Phase I construction.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Because Alternative 5 would have 45 acres less backlands than the NEPA baseline, erosion and sedimentation from the backlands would not result in significant impacts under NEPA. Moreover, BMPs implemented during Phase I construction prevented substantial erosion from entering Harbor waters. Therefore, impacts to water quality from operation of facilities on the Project site would be less than significant under NEPA, and similar to those described for CEQA.

Mitigation Measures

No mitigation measures are applicable to Phase I construction.

Residual Impacts

No residual impacts would occur.

3.14.4.3.2.6 Alternative 6: Omni Cargo Terminal

This alternative would construct an omni cargo terminal at the Project site, which would entail physical land improvements and wharf construction as required for the proposed Project. Under this alternative, however, the 142 acres of backlands would be developed, but the backlands would be constructed to match the needs of an omni terminal. Like the proposed Project, construction of this alternative would involve construction of 2,500 linear feet of wharf, two bridges over the Southwest Slip, and 2.54 acres of fill into waters of the U.S. The Catalina Express Terminal would be temporarily relocated under this alternative. The total acreage of backlands under this alternative would be 142 acres. Alternative 6 would accommodate a total of 506,467 TEUs annually, handle 17,987 autos (annual TEUs), manage 5,159,570 tons of annual break-bulk commodities, and require 364 annual ship calls.

Impact WQ-1a: Wharf demolition and construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Dredging, dike placement, fill, and/or pile installation associated with wharf construction at Berth 100, Berth 102, and the Berth 100 southern extension in Phases I, II, and III of Alternative 6, as well as pile driving for the removal/relocation of the existing floating docks (as part of the Catalina Express Terminal relocation in Phase II), would have the same effects on water quality as for the proposed Project.

Dredging of 41,000 cubic yards of soft sediments would occur between the pierhead line and the federal channel dredging limits for Berth 100 construction (Berth 100 construction occurred in Phase I and is being reanalyzed as part of this alternative). Approximately 204,000 cubic yards of rock dike would be placed along the Berth 100 (and the southern extension) and the area behind the dikes filled with approximately 38,000 cubic yards of material. The dike and fill, including piles, would occupy a total of approximately 2.54 acres. Sediments dredged from the West Basin for new wharf construction or the CDP would be used as fill behind the dikes and the remaining material disposed at the upland Anchorage Road soil storage site. Prior to dredging, sediment testing would be conducted and the Port would work with

Dredging of bottom sediments, dike placement, fill, and pile installations for wharf construction at Berth 100 and its southern extension and minor pile driving for relocation of the Catalina Express Terminal docks under Alternative 6 would resuspend bottom sediments, which would generate a turbidity plume near the dredge. Because bottom sediments are primarily coarse-grained, suspended sediments would settle and the turbidity plume would disperse fairly rapidly. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge. The permits would include water quality standards that must be met at various distances from the dredging activities. Removal of contaminated sediments through dredging could cause short-term impacts as described below but would be a beneficial impact in the long term.

Turbidity plumes would not persist after in-water construction activities are completed. The presence of turbidity plumes are not expected to substantially affect water quality outside the mixing zone. Thus, only a small proportion of the West Basin near the dredging site would be affected at any time during the construction phase for Alternative 6.

Dissolved oxygen levels in Harbor waters would be reduced in the immediate vicinity of dredging, dike placement, fill, and pile installation activities due to the oxygen demand of suspended particulates. Reductions in DO levels, however, would be brief and limited to the mixing zones in the vicinities of the in-water operations. The pH of waters within the West Basin also may decrease in the immediate vicinity of dredging and in-water construction locations. Change in pH would be highly localized, and no water quality objectives would be exceeded outside the mixing zone. Contaminants, including metals and organics, could be released into the water column during the dredging and pile removal/driving operations. However, like pH and turbidity, any increase in contaminant levels in the water is expected to be localized and of short duration. Results from previous elutriate tests using West Basin sediments (AMEC 2003; Kinnetic Laboratories/ Toxscan 2002) detected only minor releases of selected metals from sediments that did not exceed water quality criteria. Therefore, as described above for the proposed Project, the release of contaminants would not cause water quality standards or objectives to be exceeded for Alternative 6.

Nutrients released into the water column during the dredging or in-Harbor disposal operations are unlikely to promote nuisance growths of phytoplankton, even if operations occur during warm water conditions for the reasons described above for the proposed Project (see Section 3.14.4.3.1.1). Effects on phytoplankton populations and beneficial uses of the West Basin are not expected in response to Alternative 6.

Similar to the proposed Project, disposal options for sediments dredged for Alternative 6 could include placement at an unconfined disposal location (if determined suitable based on testing), disposal at a CDF, or disposal at the Anchorage Road soil storage site. Placement of clean materials dredged near Berths 97-109 would result in temporary and localized increases in suspended sediment concentrations and turbidity levels in the immediate vicinity of the site. Settling would result in rapid decreases in suspended solids and turbidity levels within the water column. Increases in contaminant concentrations, decreases in DO concentrations, or other changes to water quality conditions relative to water quality objectives would not occur because only sediments suitable for in-water disposal, as demonstrated by results from standardized sediment testing protocols, would be placed at this site. Placement of dredged materials at a CDF or the Anchorage Road soil storage site would not result in any disposal-related impacts to water quality in the Harbor.

Impacts to water and sediment quality from leaks or spills from equipment working in or over the water during dredging and wharf construction are addressed below under **Impact WQ-1d**.

CEQA Impact Determination

Dredging, dike placement, fill, and new wharf construction during the construction phases of Alternative 6, including the relocation of the Catalina Express Terminal docks, would not result in any direct or intentional discharges of wastes to waters of West Basin. However, in-water construction activities would disturb and resuspend bottom sediments, which would result in temporary and localized changes to some water quality indicators in the mixing zone defined by the Water Quality Certification. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge.

During dredge, fill, and pile-driving operations, an integrated multi-parameter monitoring program would be implemented by the Port Environmental Management Division in conjunction with USACE and RWQCB permit requirements, wherein dredging performance would be is measured in situ. The objective of the monitoring program is adaptive management of the dredging operations, including dredging modifications, so that potential violations of water quality objectives do not occur. If standards or permit conditions are approached, the Port Environmental Management Division would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. This will include alteration of dredging methods, and/or implementation of additional BMPs such as a silt curtain. Plans and specifications for fill placement in the West Basin would include measures to prevent turbidity from leaving the fill site and entering the Main Channel, with monitoring to verify that turbidity levels just outside the containment dike during and immediately following discharges of fill remain below WQS. If monitoring shows conditions that approach the WQS, discharge shall stop until measures are implemented to reduce turbidity entering the West Basin/Main Channel, such that permit conditions are not violated. Thus, terminal construction under Alternative 6 is not expected to create pollution, contamination, a nuisance, or result in violations of water quality standards or permit conditions; therefore, impacts to water quality from in-water construction activities would not be significant under CEQA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 6 includes in-water construction that is not included as part of the NEPA baseline. Impacts from the in-water construction (dredging, dike placement, fill, pile driving, and new wharf construction activities) of Alternative 6 would be the same as described for the CEQA determination and they are not anticipated to create pollution, contamination, a nuisance, or violate any water quality standards. Therefore, impacts to water quality from in-water construction activities would be less than significant under NEPA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of the Project (as described above), the impacts are less than significant. The permits may contain avoidance or minimization measures, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1b: Runoff from backland development/redevelopment would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Ground disturbances and construction activities related to the new backland construction in Phases I, II, and III could result in temporary impacts on surface water quality if uncontrolled runoff of soils, asphalt leachate, concrete wash water, and other construction materials enter Harbor waters. Runoff from the terminal site would be controlled under a construction SWPPP prepared in accordance with NPDES General Permit Construction requirements and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to control releases of soils and contaminants and adverse impacts to receiving water quality. The SWPPP is prepared by the project proponent (or consultant) and is not issued by the RWQCB. An NOI and appropriate fee is submitted to the SWRCB in accordance with construction General Permit conditions. The project proponent must keep the SWPPP onsite at all times and implement its measures.

The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities in NPDES Permit No. CAS004001 (13 December 2001) requires implementation of runoff control from all construction sites. These control measures would be installed at the construction sites prior to ground disturbance. The terminal operator or its contractors, would prepare a pollutant control plan that includes standard Port guidance and BMPs for construction (e.g., 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]; and solid waste management [CA020]), as well as monitoring and maintenance of the control measures. All conditions of Alternative 6 permits would be implemented and monitored by the Port for compliance.

Standard BMPs, such as barriers, sedimentation basins, and site contouring, would also be used during construction activities for Alternative 6 in compliance with the state General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and the construction SWPPP to minimize runoff of soils and construction-related contaminants. As discussed in Section 3.14.4.3.1, BMPs that are typically used to treat urban runoff achieve average removal efficiencies for total suspended solids from stormwater runoff of 60 to 70 percent (USEPA 1993). While the specific BMPs required by the construction SWPPP for Alternative 6 are unknown, it is reasonable to expect that measures required by the SWPPP would achieve suspended particle removal efficiencies for runoff the Project site. Further, these BMPs would also be expected to remove similar proportions of the loadings for various trace metals and PAHs derived from construction debris or spills/leaks of petroleum products associated with the Project site soils. Stormwater monitoring, as required by the permits, would be conducted to ensure that contaminant concentrations comply with the permit limits.

As discussed in Section 3.7 and for the proposed Project (Section 3.14.4.3.1.1), historical soil contamination would not be expected to contribute to contaminant loading from runoff into the Harbor. If dewatering activities were required for Alternative 6 construction, shallow groundwater collected from the dewatering may contain unacceptable levels of contaminants, thereby affecting the ability to discharge this water into nearby drainages and Harbor waters. Any dewatering operations would be required to either discharge into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau, or comply with the NPDES permit regulations and an associated

SWPPP regarding discharge into storm drains and/or directly into Harbor waters. Such permit requirements typically include onsite treatment to remove pollutants prior to discharge. Alternatively, the water could be temporarily stored onsite in holding tanks, pending offsite disposal at a disposal facility approved by the RWQCB. Standard Port BMPs (e.g., excavating, stockpiling, and disposing of chemically impacted soils [02111]; solid waste management [CA020]; contaminated soil management [CA022]) specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures would be followed for upland construction activities associated with Alternative 6 to ensure that soil or groundwater contaminants were not transported offsite by runoff.

Runoff from the upland construction areas would enter the Harbor primarily through storm drain discharges. Effects of runoff on DO, pH, nutrient, and trace contaminant levels would be minor and limited to the vicinity of the drain discharge locations because inputs would mix rapidly with receiving waters and suspended particles would settle to the bottom.

CEQA Impact Determination

Construction activities associated with Alternative 6 would expose soils and generate debris that could be transported offsite by runoff following a storm event. However, implementation of BMPs to control runoff of soils and pollutants, as required by an NPDES-mandated construction SWPPP, would help to ensure that the quality of the runoff meets stormwater discharge permit limits and would not adversely affect the quality of receiving waters. Consequently, runoff from the project site and impacts to water quality would be less than significant under CEQA because measures listed in Section 3.14.4.3 would be included in the SWPPP. These impacts would be similar in magnitude to those associated with the proposed Project.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although backlands under Alternative 6 would be greater than the amount of backlands under the NEPA baseline by 25 acres, Alternative 6 would implement a pollutant control plan and BMPs, which would ensure that runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards, and impacts to water quality would be less than significant under NEPA.

Mitigation Measures

No mitigation measures would be required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1c: Fill, development, and wharf extension in the West Basin could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

CEQA Impact Determination

Dredging, dike and fill placement, and pile installation under Alternative 6, including pile driving to anchor the relocated docks for the Catalina Express Terminal, would result in temporary and localized increases in suspended sediment and turbidity levels. However, these conditions are not expected to extend outside the West Basin or extend beyond the Main Channel. DREDGE model results (Appendix K) indicate that TSS concentrations would drop to levels approaching measured background concentrations within a few hundred meters of the dredge. Dredging and fill placement operations would be conducted in compliance with proposed Project permits (e.g., USACE Section 404 and RWQCB Section 401), and the chemical and toxicological properties of the fill material would have to be tested to demonstrate suitability prior to use. An adaptive management program would be implemented under Alternative 6 during dredging and in-water construction (as described under **Impact WQ-1a** for the proposed Project), which would ensure that turbidity levels just outside the containment dike during and immediately following discharges of fill remain in compliance with applicable Water Quality Standards.

Runoff from backland improvements on the completed fill would be subject to measures as described in the construction SWPPP that would prevent significant impacts to the receiving water quality. As discussed above, in-water construction activities are not expected to create pollution, contamination, nuisances, or violations of water quality standards or permit conditions. Consequently, impacts on water quality would not be significant under CEQA.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be similar to those described for the CEQA determination. Dredging, dike construction, fill placement, and wharf construction would result in short-term increases in suspended solids and turbidity levels in and adjacent to the fill area, but these activities are not expected to create pollution, contamination, or nuisances. Therefore, the impacts to water quality would not be significant under NEPA.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant. The permits may contain avoidance or minimization measures even though no mitigation is required under NEPA, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1d: Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during dredging, fill placement, and wharf construction could occur during construction under this alternative. Based on the history for this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.7). 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]). Construction and industrial SWPPPs and standard Port BMPs listed in Section 3.14.4.3 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported offsite and enter storm drains.

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. Dredging contractors are responsible and liable for any accidental spills (including hydraulic fluid leaks and fuel spills) during dredging operations, including spills from the dredge, chase boats, the barge, and tugs. Equipment is generally available onsite to respond to such accidental spills, and the general spill response practice is to deploy floating booms (by the chase boats) made of material that would contain and absorb the spill. Vacuums/pumps may be required to assist in the cleanup depending on the size of the spill.

The Basin Plan (RWQCB, 1994b) 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." Small spills from in-water construction equipment could result in a temporary but visible film (sheen) on the water surface; however, the probability of an accidental spill from a vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses is low.

CEQA Impact Determination

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 dredges or barges could directly affect water quality in West Basin, resulting in a visible film on the surface of the water; however, the probability of an accidental spill from a construction vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses is low. In addition, if an accidental spill does occur, the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity. Because of this, significant water quality impacts under CEQA are not expected to occur as a result of accidental spills of pollutants during in-water construction

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 6 would have 25 acres more backlands than the NEPA baseline, upland construction would not result in significant impacts related to spills, which are expected to be contained and cleaned up before any impacts to surface water quality can occur. Water quality impacts from potential accidental spills of pollutants during in-water construction activities for this alternative would be less than significant because the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1e: Operation of Alternative 6 facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Runoff

Stormwater runoff from the 142-acre terminal under Alternative 6 would be collected onsite by the storm drain system and discharged to the Harbor. The operation of the container terminal would add particulates and other debris to the site, which would affect runoff and contribute incrementally to changes in receiving water quality. The operation of marine terminals and backland container facilities on the 142 acres on land partially used for container storage purposes would add particulates and other debris to the site. Transport of these materials by runoff from the site could contribute incrementally to changes in receiving water quality. The amount of truck traffic and yard equipment operations at the terminal site would increase to handle the annual container, auto, and break-bulk throughput. Rail traffic would also increase at the existing Berths 121-131 on-dock rail yard. This would increase the amount of particulates and chemical pollutants from normal wear of tires/train wheels and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and subsequently be transported by stormwater runoff to the storm drain system. Additionally, operations of nonelectric equipment and vehicles for the Alternative 6 terminal would generate air emissions containing particulate pollutants. A portion of these particulates would be deposited on the site and subject to subsequent transport by storm runoff into Harbor waters. However, the facilities associated with this alternative 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, as well as SUSMP requirements. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented under Alternative 6. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

Atmospheric Deposition

For suspended zinc and copper pollutants associated with container terminal operations under Alternative 6 (tire and brake wear from equipment and trucks), direct impacts are not expected to significantly affect water quality due to the likely limited and dispersed nature of direct atmospheric deposition on Harbor waters, and because direct aerial disposition would not allow for a significant build-up of these pollutants before entering Harbor waters.

A past study (MBC, 2005) concluded that mixing with the Harbor 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 violations of receiving water quality objectives, given compliance with Non-Point Source Pollution Control Program requirements, as well as SWPPP and SUSMP requirements.

Ballast Water

The amount of vessel traffic in the West Basin would increase by 364 annual ship calls (for 2030 and beyond) compared to the CEQA and NEPA baselines as a result of the Alternative 6 operations. Discharges of polluted water or refuse directly to the Harbor are prohibited. Discharges to the Harbor of clean ballast waters are not prohibited; however, during 2006 only 13 percent of container ships discharged clean ballast waters while in port. Thus, the increased vessel traffic and terminal operations associated with Alternative 6 would not result in water quality violations related to increased ballast water discharges from vessels.

Contaminants from Vessels

Studies by the US Navy have demonstrated that TBT, copper, and zinc concentrations resulting from hull vessel leachates were in most cases below federal and state water quality criteria. In addition, vessels docking at the terminal facility, while expected to be greater than 25 m in length, are likely constructed of steel-based hulls, and are not likely to be painted with antifouling paint containing TBT. Consequently, potential impacts of slightly increased TBT would likely not be significant.

Although the Navy studies indicate that in most cases, metals (copper) leaching from vessel hulls were below federal and state water quality criteria, because portions of the Los Angeles Harbor are impaired with respect to copper, and because there are likely to be differences between the studied Navy fleet and the vessel fleet under Alternative 6, increased loadings associated with increases in vessel traffic relative to baseline conditions could exacerbate water and sediment quality conditions for copper. The propeller wash from vessel traffic within the West Basin creates turbulence sufficient to resuspend bottom sediments. However, sediment resuspension from propeller wash can occur from any shipping activities within the Port, not just those associated with Alternative 6 operations. Resuspended sediments are expected to settle quickly to the bottom, and associated contaminants are not expected to increase toxicity or bioavailability because contaminants typically have a strong attachment to sediment particles.

Accidental Spills

Other potential operational source of pollutants that could affect water quality in the West Basin include accidental spills on land that enter storm drains, as well as accidental spills or illegal discharges from vessels while in the West Basin. 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. Because Alternative 6 would handle a substantial number of automobiles, there is a potential for land spills of auto-related fluids from the vehicles. However, these and potential releases of pollutants from a large spill on land to Harbor waters and sediments would be minimized through existing regulatory controls and are unlikely to occur during the life of the Alternative 6 terminal. These controls ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. In addition, for the Alternative 6 terminal, the terminal operator would prepare an SPCC Plan and an Oil Spill Contingency Plan (OSCP), which would be 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 prespill conditions.

The increased number of ship calls associated with the Alternative 6 terminal could contribute to a comparatively higher number of spills to Harbor waters compared to baseline conditions. Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from upland terminal-related operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the ships. Although spill events would be addressed according to procedures described in the SPCC, for oceangoing vessels that carry substantial amounts of fuel, an accidental spill could conceivably be large in the event of a catastrophic accident, which although remote, could result in significant contamination entering the Harbor. Spill events would be addressed according to procedures described in the SPCC Plan.

Illegal Discharges from Vessels

Although illegal discharges to Harbor waters cannot be quantified or known, it is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits. In this case, loadings from illegal discharges from the terminal operations would increase over baseline conditions. However, there is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Over several decades, there has been an improvement in water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges.

CEQA Impact Determination

Stormwater runoff from the Alternative 6 terminal site could contain particulate debris from operation of the Project facilities, including aerially deposited pollutants, and auto-related fluids from incidental spills. Water quality impact from site runoff are not anticipated because discharges of stormwater would comply with the NPDES discharge permit limits, SWPPP requirements, and would be subject to treatment via SUSMP devices prior to discharge to Harbor waters. As a consequence, water quality impacts from site runoff would not be significant. However, there is potential for an increase in accidental spills and illegal discharges to Harbor waters due to increased vessel calls at the facility. Leaching of contaminants such as copper, from antifouling paint could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, the impact to water quality from in-water vessel spills, potential illegal discharges and pollutant leaching from vessel hull coatings would be significant under CEQA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Beyond legal requirements, there is no available mitigation to eliminate vessel spills, illegal discharges, or leaching of contaminants.

Residual Impacts

Residual impacts for upland spills and stormwater would be less than significant.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges, and leaching of contaminants.

NEPA Impact Determination

Operation of Alternative 6 terminal would occur on a slightly larger (by 25 acres) backland area compared to the NEPA baseline, but would not result in substantially greater impacts than baseline conditions because discharges of stormwater would comply with the NPDES discharge permit limits. Additionally, runoff would be subject to SWPPP BMPs and SUSMP measures, which would keep impacts related to site runoff during terminal operations below the level of significance under NEPA. However, there is potential for an increase in accidental spills and illegal discharges to Harbor waters due to increased vessel calls at the terminal (364 compared to 0 under the NEPA baseline). Leaching of contaminants such as copper, from antifouling paint, could also cause increased loading in the Harbor, which is listed as impaired with respect to copper. Therefore, impacts to water quality from vessel spills, discharges and leaching are significant under NEPA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant. Beyond legal requirements, there are no available mitigations to eliminate in-water vessel spills and leaching of contaminants.

Residual Impacts

Impacts related to site runoff during terminal operation would not be significant under NEPA.

There would be a significant unavoidable impact from in-water vessel spills, illegal discharges and leaching of contaminants.

Impact WQ-2a and 2b: Alternative 6 construction and operation would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Although the omni cargo terminal under Alternative 6 would be located within a 100-year flood zone, construction and operations would not substantially increase the potential for flooding onsite because site elevations would remain generally the same as the baseline conditions, even if grading and backland construction were to occur, because runoff would be directed to storm drains. During construction, an onsite storm drain system would be installed to convey runoff from the project site to the Harbor. The onsite drainage system would represent an improvement over the 2001 baseline conditions, where the majority of the project site had not onsite drainage system. Development of the backlands would increase the amount of impermeable surfaces due to paving, but this would not increase the potential for flooding because onsite storm drains would be included and would carry the runoff to the adjacent Harbor waters.

Operation of Alternative 6 would result in an increase in containers stored at the site, relative to baseline conditions, which would subject the containers to some sheet flow or

ponding of water in the event of a 50- or 100-year storm that generates rainfall that cannot be accommodated by the capacity of the onsite drainage system. Although Alternative 6 operations would not increase the risk of flooding at the site, it would result in increased risks to people and property due to an increase in employees and containers at the site, compared to baseline conditions. However, because the project site is relatively flat, is located along the edge of the water (which would allow excess runoff to flow offsite), and would be graded to direct runoff to the drainage system, floodwater on the project site from a 50- or 100-year storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers onsite. In addition, there are no biological resources onsite that could be subjected to flooding.

CEQA Impact Determination

Construction and operations for Alternative 6 would not substantially increase potentials for flooding or harming people, property, or sensitive biological resources because they would not substantially increase impermeable surfaces, alter site topography, or reduce the capacity of the stormwater conveyance system. Therefore, flooding impacts would be less than significant under CEQA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 6 would construct and operate a larger terminal than the NEPA baseline, substantial increases in flood risks by Alternative 6 construction or operations would not occur and impacts would be less than significant under NEPA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-3a and 3b: Construction and operations activities would not result in a permanent adverse change in movement of surface water in the Harbor.

Circulation patterns in the Inner Harbor would not change as a result of the dredging activities for Alternative 6. Circulation in the Inner Harbor areas would not change as a result of Alternative 6 because tidal influences in the West Basin would not be reflected, substantially restricted, or enhanced by Alternative 6 structures. Therefore, Alternative 6 would not change the patterns or intensity of water movements in the Harbor.

CEQA Impact Determination

Construction and operation of Alternative 6 would not result in a permanent adverse change because the terminal and related activities would not impose barriers to water movement and tidal influences in the West Basin and the Harbor. Therefore, surface water flow impacts would be less than significant under CEQA and comparable to the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 6 would not result in permanent adverse changes because the terminal and these activities would not impose barriers to water movement or tidal influences in the West Basin or the Harbor. Therefore, surface water flow impacts would be less than significant under NEPA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-4a and 4b: Construction and operations activities have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

Construction activities related to the backlands (142 acres) would disturb soils and temporarily increase potentials for wind and water erosion. Erosion of soils could result in temporary impacts on the water quality of surface runoff and receiving waters, the same as for the proposed Project. However, the potential for erosion of soils from construction areas would be controlled by use of standard BMPs, 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), and others as required by the construction and industrial SWPPPs for Alternative 6. All applicable permits would be obtained and the conditions in those permits would be implemented and monitored by the Port. This would minimize the potential for soil runoff and deposition in the Harbor.

Runoff from upland construction areas would enter the Harbor primarily through storm drains. The small amount of soils that would not be removed by BMPs and could reach the Harbor via storm drains would be rapidly dispersed by mixing with Harbor waters in the immediate vicinity of the drain discharge. Runoff of soils from onshore construction activities is not expected to affect the sedimentation rate or quality of Harbor sediment.

Operation of facilities for Alternative 6 would not disturb or expose soils to processes that would not promote erosion; therefore, operations would not accelerate erosion or increase potentials for offsite transport and accumulation of soils.

CEQA Impact Determination

Construction of backlands and other terminal improvements for Alternative 6 would not accelerate natural processes of wind and water erosion because Project BMPs would control runoff of soils. Although Alternative 6 would operate on a larger area than the CEQA baseline conditions, the terminal site would be completely paved, which would prevent erosion from occurring during terminal operations. As described above under **Impact WQ-1e**, BMPs would be implemented and site runoff would be subject to treatment via SUSMP devices, which would prevent or minimize water quality impacts from sediment runoff from the terminal site. Therefore, impacts would be less than significant under CEQA, and they would be comparable to those for the proposed Project.

Mitigation Measures

No mitigation is required. With the implementation of measures required under existing regulations or included as part of Alternative 6 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 6 would have 25 acres more backlands than the NEPA baseline, erosion and sedimentation, backlands are not in-water elements that would result in significant impacts under NEPA. BMPs implemented during construction would prevent erosion that could enter Harbor waters. Impacts to water quality from operation of facilities on the terminal site would be less than significant under NEPA, and similar to those described for CEQA. Although Alternative 6 would operate on greater backlands than the NEPA baseline, all backlands would be paved, which would minimize the potential for erosion. Therefore, no significant impacts would occur for Alternative 6 operations under NEPA.

Mitigation Measures

No mitigation measures would be required.

Residual Impacts

Residual impacts would be less than significant.

3.14.4.3.2.7 Alternative 7 – Nonshipping Use

Alternative 7 would utilize the terminal site constructed as part of Phase I for commercial and industrial uses and would increase the backland area to 117 acres. Because of this, the Phase I construction activities are included under Alternative 7 although the in-water Phase I elements would not be used (Phase I dike, fill, and the wharf would be abandoned).

Alternative 7 would convert the site from shipping and containerized storage to a regional center developed with retail, office park, and light industrial uses on 117 acres. The existing A-frame cranes would be removed and the bridge across the Southwest Slip would be abandoned. In addition, the 1.3 acres of fill added to waters of the U.S. during construction of the Phase I terminal under the proposed Project (as allowed under the ASJ and under USACE permit) would remain in place under Alternative 7. Under Alternative 7, a public dock would be constructed, which would require a USACE permit, but would be developed only to support small watercraft. The Catalina Express Terminal would not be relocated under this alternative. Alternative 7 includes a CEQA action to increase backlands to 117 acres.

Impact WQ-1a: In-water construction activities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

As mentioned above, Phase I construction is applied to this alternative. Alternative 7 would construct a public dock to allow access to the Regional Center by recreational water craft. Construction of the public docks could require the placement of small amounts of dike and fill to support the public docks and related improvements. Limited pile driving may be required to secure the public docks to the shoreside in the vicinity of Berths 100-102.

Phase I in-water construction and the limited in-water construction required to anchor the public docks would resuspend bottom sediments, which would generate a turbidity plume near the construction. Because bottom sediments are primarily coarse-grained, suspended sediments would settle and the turbidity plume would disperse fairly rapidly. Turbidity plumes would not persist after construction is completed. The presence of turbidity plumes would not substantially affect water quality outside the mixing zone. Thus, only a small proportion of the West Basin near the work area would be affected at any time during the construction phase for Alternative 7. DREDGE model results of dredging for wharf construction (Appendix K) indicate that TSS concentrations drop to levels approaching measured background concentrations within a few hundred meters of the dredge.

Dissolved oxygen levels in Harbor waters would be reduced in the immediate vicinity of in-water construction activities due to the oxygen demand of suspended particulates. Reductions in DO levels, however, would be brief and limited to the mixing zones in the vicinities of the in-water operations. The pH of waters within the West Basin also may decrease in the immediate vicinity of in-water construction locations. Change in pH would be highly localized, and no water quality objectives would be exceeded outside the mixing zone. Contaminants, including metals and organics, could be released into the water column during the in-water construction. However, like pH and turbidity, any increase in contaminant levels in the water is expected to be localized and of short duration. Results from previous elutriate tests using West Basin sediments (AMEC, 2003; Kinnetic Laboratories/Toxscan, 2002) detected only minor releases of selected metals from sediments that did not exceed water quality criteria. Therefore, as described above for the proposed Project, the release of contaminants would not cause water quality standards or objectives to be exceeded for Alternative 7.

Nutrients released into the water column during the in-water construction are unlikely to promote nuisance growths of phytoplankton, even if operations occur during warm water conditions for the reasons described above for the proposed Project (see

Section 3.14.4.3.1.1). Effects on phytoplankton populations and beneficial uses of the West Basin are not expected in response to Alternative 7.

CEQA Impact Determination

Although Phase I would be applied to Alternative 7, no significant in-water impacts to water quality would occur for the same reasons described under the proposed Project. During Phase I construction, a monitoring and reporting program was implemented during in-water construction under Phase I. The Monitoring Report reported no violations (MBC, 2002). In addition, the small amount of dike and fill placement and possible pile driving during the construction phases of Alternative 7 would not create substantial pollution, contamination, or nuisances for the same reasons. Therefore, impacts to water quality from construction of Alternative 7 would not be significant under CEQA and would be lower in magnitude to those expected for the proposed Project.

Mitigation Measures

Mitigation measures are not required. During Phase I construction, monitoring measures were implemented during dredging and there were no reported violations (MBC, 2002).

With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts from in-water construction for the public docks are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 7 includes in-water construction that is not included as part of the NEPA baseline. Impacts from the in-water construction phases of Alternative 7 would be the same as described for the CEQA determination. Therefore, impacts to water quality from in-water construction activities under Alternative 7 would not be significant under NEPA.

Mitigation Measures

Mitigation measures are not required. During Phase I construction, monitoring measures were implemented for dredging, and there were no reported violations (MBC, 2002). With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts from in-water construction for the public docks are less than significant. In addition, the permits may contain avoidance or minimization measures even though no mitigation is required under NEPA, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1b: Runoff from backland development/redevelopment would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Ground disturbances and construction activities related to construction of the Regional Center could result in temporary impacts on surface water quality if uncontrolled runoff of soils, asphalt leachate, and other construction materials enter Harbor waters. Runoff from the terminal site would be controlled under a construction SWPPP prepared in accordance with the construction requirements in the NPDES General Permit and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to control releases of soils and contaminants and adverse impacts to receiving water quality. The SWPPP is prepared by the project proponent (or consultant) and is not issued by the RWQCB. An NOI and appropriate fee is submitted to the SWRCB in accordance with construction General Permit conditions. The project proponent must keep the SWPPP onsite at all times and implement its measures.

The WDRs for stormwater runoff in the County of Los Angeles and incorporated cities in NPDES Permit No. CAS004001 (13 December 2001) requires implementation of runoff control from all construction sites. These control measures would be installed at the construction sites prior to ground disturbance. The developer or its contractors would prepare a pollutant control plan that includes standard Port guidance and BMPs for construction (e.g., 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]; and solid waste management [CA020]), as well as monitoring and maintenance of the control measures. All conditions of Alternative 7 permits would be implemented and monitored by the Port for compliance.

Standard BMPs, such as barriers, sedimentation basins, and site contouring, would also be used during construction activities for Alternative 7 in compliance with the state General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and the construction SWPPP to minimize runoff of soils and construction-related contaminants. As discussed in Section 3.14.4.3.1, BMPs that are typically used to treat urban runoff achieve average removal efficiencies for total suspended solids from stormwater runoff of 60 to 70 percent (USEPA, 1993). While the specific BMPs required by the construction SWPPP for Alternative 7 are unknown, it is reasonable to expect that measures required by the SWPPP would achieve suspended particle removal efficiencies for runoff the Project site. Further, these BMPs would also be expected to remove similar proportions of the loadings for various trace metals and PAHs derived from construction debris, from spills/leaks of petroleum products, or associated with the Project site soils. Stormwater monitoring, as required by the permits, would be conducted to ensure that contaminant concentrations comply with the permit limits.

As discussed in Section 3.7 and for the proposed Project (Section 3.14.4.3.1.1), historical soil contamination would not be expected to contribute to contaminant loading from runoff into the Harbor. If dewatering activities were required for Alternative 7 construction, shallow groundwater collected from the dewatering may contain unacceptable levels of contaminants, thereby affecting the ability to discharge this water into nearby drainages and Harbor waters. Any dewatering operations would be required to either discharge into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau, or comply with the NPDES permit regulations and an associated

SWPPP regarding discharge into storm drains and/or directly into Harbor waters. Such permit requirements typically include onsite treatment to remove pollutants prior to discharge. Alternatively, the water could be temporarily stored onsite in holding tanks, pending offsite disposal at a disposal facility approved by the RWQCB. Standard Port BMPs (e.g., excavating, stockpiling, and disposing of chemically impacted soils [02111]; solid waste management [CA020]; contaminated soil management [CA022]) specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. These procedures would be followed for upland construction activities associated with Alternative 7 to ensure that soil or groundwater contaminants were not transported offsite by runoff.

Runoff from the upland construction areas would enter the Harbor primarily through storm drain discharges. Effects of runoff on DO, pH, nutrient, and trace contaminant levels would be minor and limited to the vicinity of the drain discharge locations because inputs would mix rapidly with receiving waters and suspended particles would settle to the bottom.

CEQA Impact Determination

Construction activities associated with Alternative 7 would expose soils and generate debris that could be transported offsite by runoff following a storm event. However, implementation of BMPs to control runoff of soils and pollutants, as required by an NPDES-mandated construction SWPPP, would help to ensure that the quality of the runoff meets stormwater discharge permit limits and would not adversely affect the quality of receiving waters. Consequently, runoff from the terminal site and impacts to water quality would be less than significant under CEQA because measures listed in Section 3.14.4.3 would be included in the SWPPP. These impacts would be similar in magnitude to those associated with the proposed Project.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 7 would be construction on a site of the same size as the NEPA baseline, and would implement a pollutant control plan and BMPs, which would ensure that runoff from upland construction activities would not create pollution, contamination, a nuisance, or violate any water quality standards. As a consequence, impacts to water quality would be less than significant under NEPA.

Mitigation Measures

No mitigation measures would be required. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1c: Fill, development, and wharf creation in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

CEQA Impact Determination

In-water construction under Alternative 7 would result in temporary and localized increases in suspended sediment and turbidity levels within the mixing zone. However, these conditions are not expected to extend outside the West Basin or extend beyond the Main Channel, as described under **Impact WQ-1a**. In-water construction activities are not expected to create pollution, contamination, nuisances, or violations of water quality standards or permit conditions, as demonstrated by the DREDGE model and monitoring results of past in-water construction for Phase I (MBC, 2002). Consequently, impacts on water quality would not be significant under CEQA.

Mitigation Measures

No mitigation is required. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be similar to those described for the CEQA determination. In-water construction would result in short-term increases in suspended solids and turbidity levels in and adjacent to the fill area, but these activities are not expected to create pollution, contamination, nuisances, or permit violations. Consequently, impacts on water quality would be less than significant under NEPA.

Mitigation Measures

No mitigation measures are required. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant. The permits may contain avoidance or minimization measures even though no mitigation is required under NEPA, which would be complied with during in-water construction.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1d: Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during in-water construction could occur under this alternative. Based on the history for

this type of work in the Harbor, accidental leaks and spills of large volumes of hazardous materials or wastes containing contaminants during onshore construction activities have a very low probability of occurring because large volumes of these materials typically are not used or stored at construction sites (see Section 3.7). 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]). Construction and industrial SWPPPs and standard Port BMPs listed in Section 3.14.4.3 (e.g., use of drip pans, contained refueling areas, regular inspections of equipment and vehicles, and immediate repairs of leaks) would reduce potentials for materials from onshore construction activities to be transported offsite and enter storm drains.

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. Dredging contractors are responsible and liable for any accidental spills (including hydraulic fluid leaks and fuel spills) during dredging operations, including spills from the dredge, chase boats, the barge, and tugs. Equipment is generally available onsite to respond to such accidental spills, and the general spill response practice is to deploy floating booms (by the chase boats) made of material that would contain and absorb the spill. Vacuums/pumps may be required to assist in the cleanup depending on the size of the spill.

The Basin Plan (RWQCB 1994b) 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." Small spills from in-water construction equipment could result in a temporary but visible film (sheen) on the water surface; however, the probability of an accidental spill from a vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses is low.

CEQA Impact Determination

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 barges could directly affect water quality in West Basin, resulting in a visible film on the surface of the water; however, the probability of an accidental spill from a construction vessel to the Harbor that would cause a nuisance or adversely affect beneficial uses is low. In addition, if an accidental spill does occur, spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity. Because of this, significant water quality impacts under CEQA are not expected to occur as a result of accidental spills of pollutants during in-water construction.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Although Alternative 7 would have the same site area as the NEPA baseline, upland construction would not result in significant impacts related to spills, which are expected to be contained and cleaned up before any impacts to surface water quality can occur. Water quality impacts from potential accidental spills of pollutants during in-water construction activities for this alternative would be less than significant because the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would likely prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, given the industrialized use of the West Basin and in-water vicinity.

Mitigation Measures

Mitigation measures are not required. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-1e: Operation of Alternative 7 facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.

Runoff

Stormwater runoff from the 117-acre development under Alternative 7 would be collected onsite by the storm drain system and discharged to the Harbor. The operation of the Regional Center could add particulates and other debris to the site, which would affect runoff and contribute incrementally to changes in receiving water quality. The amount of auto traffic at the Regional Center site would increase to handle the anticipated retail, commercial, and industrial activities. Particulates that settle on the site would be subject to subsequent transport by storm runoff into Harbor waters. However, the Regional Center would comply with SUSMP requirements. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented under Alternative 7. Tenants would be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

Atmospheric Deposition

For suspended zinc and copper pollutants associated with Regional Center operations under Alternative 7 (tire and brake wear from autos), direct impacts are not expected to significantly affect water quality due to the likely limited and dispersed nature of

direct atmospheric deposition on Harbor waters and because direct aerial disposition would not allow for a significant build-up of these pollutants before entering Harbor waters.

A past study (MBC, 2005) concluded that mixing with the Harbor 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 site, and runoff would not cause violations of receiving water quality objectives, assuming that constituents in the stormwater were in compliance with the permit limits.

Ballast Water from Small Watercraft

The Regional Center would include public docks to support small watercraft access to the Regional Center. The small watercraft that visit the regional center would not be expected to utilize ballast water from foreign waters. Thus, the increased in small watercraft vessel traffic in the Inner Harbor under Alternative 7 would not result in water quality violations related to increased ballast water discharges from vessels.

Contaminants from Small Watercraft

Studies by the US Navy have demonstrated that TBT, copper, and zinc concentrations resulting from hull vessel leachates were in most cases below federal and state water quality criteria. These studies were based on large vessels. The small watercraft that frequent the Regional Center are expected to be predominantly local vessels that currently reside in the Harbor. Because of this, leaching of contaminants (TBT and/or copper) is not expected to be substantially different from baseline conditions.

Accidental Spills

Other potential operational source of pollutants that could affect water quality in the West Basin include accidental spills on land that enter storm drains and accidental spills or illegal discharges from vessels while in the West Basin. 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. Because Alternative 7 would accommodate only small recreational watercraft (at the public docks) and small watercraft vessels do not contain substantial amounts of fuel, substantial levels of contamination from accidental spills into Harbor waters are not anticipated.

Although illegal discharges to Harbor waters cannot be quantified or known, the small watercraft that may visit the Regional Center are generally not associated with discharges that can result in substantial contamination of Harbor waters.

CEQA Impact Determination

Stormwater runoff from the Alternative 7 site could contain particulate debris from operation of the Project facilities and auto-related fluids from incidental spills. Water quality impacts from site runoff are not anticipated because discharges of stormwater would comply with the NPDES discharge permit limits. The potential for incidental spills and illegal discharges to cause substantial water quality impacts to Harbor waters is minimal because the only vessels that would be accommodated would be small watercraft that are likely already present in the Harbor. Similarly, leaching of contaminants such as copper or TBT from antifouling paint is not expected to be

substantial because only small watercraft (that likely are current Harbor users) would be accommodated under Alternative 7. Therefore, the impact to water quality from in-water vessel spills, discharges, and leaching is expected to be less than significant under CEQA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant under CEQA

NEPA Impact Determination

Operation of Alternative 7 would occur on a site with the same surface area as would occur under the NEPA baseline, and would not result in greater impacts than baseline conditions. The potential for incidental spills and illegal discharges to cause substantial water quality impacts to Harbor waters is minimal because the only vessels that would be accommodated would be small watercraft that are likely already present in the Harbor and that do not carry substantial amounts of fuel. Similarly, leaching of contaminants such as copper or TBT from antifouling paint is not expected to be substantial because only small watercraft that likely are current Harbor users would be accommodated under Alternative 7. Therefore, the impact to water quality from in-water vessel spills, discharges and leaching is expected to be less than significant under NEPA.

Mitigation Measures

Mitigation measures are not required for impact of upland spill and stormwater. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-2a and 2b: Alternative 7 construction and operation would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.

Although the Regional Center under Alternative 7 would be located within a 100-year flood zone, construction and operations would not substantially increase the potential for flooding onsite because site elevations would remain generally the same as the baseline conditions, even though grading and backland construction would occur, and because runoff would be directed to storm drains. During construction, an onsite storm drain system would be installed to convey runoff from the Project site to the Harbor. The onsite drainage system would represent an improvement over the 2001 baseline conditions, where the majority of the Project site had no onsite drainage system. Development of the site would increase the amount of impermeable surfaces due to paving, but this would not increase the potential for flooding because onsite storm drains would be included and would carry the runoff to the adjacent Harbor waters.

Operation of Alternative 7 would result in an increase in site development, business activity, and commerce-related property at the site, relative to baseline conditions, which would subject the developments and related property to some sheet flow or ponding of water if a 50- or 100-year storm event occurs and generates rainfall that cannot be accommodated by the capacity of the onsite drainage system.

Although Alternative 7 operations would not increase the flooding potential at the site, it would result in slightly increased risks to people and property due to an increase in employees, development, and property at the site, compared to baseline conditions. However, because the project site is relatively flat, is located along the waters edge (which would allow excess runoff to flow offsite), and would be graded to direct runoff to the drainage system, floodwater on the project site from a 50- or 100-year storm event is not expected to be deep enough to cause employees to be harmed or to cause substantial damage to property within stored containers onsite. In addition, there are no biological resources onsite that could be subjected to flooding.

CEQA Impact Determination

Construction and operations for Alternative 7 would not substantially increase the potential for flooding to harm people, property, or sensitive biological resources because they would not substantially increase impermeable surfaces, alter site topography, or reduce the capacity of the stormwater conveyance system. Therefore, impacts would be less than significant under CEQA and comparable to those for the proposed Project.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 7 would construct and operate a Regional Center on 117 acres, which is the same site size included in the NEPA baseline. However, Alternative 7 would not substantially increase the potential for flooding to harm people, property, or sensitive biological resources because it would not substantially increase impermeable surfaces, alter site topography, or reduce the capacity of the stormwater conveyance system. The in-water activities under Alternative 7 would not result in increases in the potential for flooding of the site. No impact under NEPA would occur.

Mitigation Measures

No mitigation would be required.

Residual Impacts

No residual impacts would occur.

Impact WQ-3a and 3b: Construction and operations activities would not result in a permanent adverse change in movement of surface water in the Harbor.

Circulation patterns in the Inner Harbor would not change as a result of the in-water activities under Alternative 7. Circulation in the Inner Harbor areas would not change as a result of Alternative 7 because tidal influences in the West Basin would not be reflected, substantially restricted, or enhanced by Alternative 7 structures. Therefore, Alternative 7 would not change the patterns or intensity of water movements in the Harbor.

CEQA Impact Determination

Construction and operation of Alternative 7 would not result in a permanent adverse change because the terminal or related activities would not impose barriers to water movement and tidal influences in the West Basin and the Harbor. Therefore, surface water flow impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 7 would not result in permanent adverse changes because these activities would not impose barriers to water movement or tidal influences in the West Basin and the Harbor. Therefore, surface water flow impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation would be required.

Residual Impacts

Residual impacts would be less than significant.

Impact WQ-4a and 4b: Construction and operations activities have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.

Construction activities related to the development of the site would disturb soils and temporarily increase potentials for wind and water erosion. Erosion of soils could result in temporary impacts on the water quality of surface runoff and receiving waters, the same as for the proposed Project. However, the potential for erosion of soils from construction areas would be controlled by use of standard BMPs, 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), and others as required by the construction and industrial SWPPPs for Alternative 7. All applicable permits would be obtained and the conditions in those

permits would be implemented and monitored by the Port. This would minimize the potential for soil runoff and deposition in the Harbor.

Runoff from upland construction areas would enter the Harbor primarily through storm drains. The small amount of soils that would not be removed by BMPs and could reach the Harbor via storm drains would be rapidly dispersed by mixing with Harbor waters in the immediate vicinity of the drain discharge. Runoff of soils from onshore construction activities is not expected to affect the sedimentation rate or quality of Harbor sediment.

Operation of facilities for Alternative 7 would not disturb or expose soils to processes that would not promote erosion; therefore, operations would not accelerate erosion or increase potentials for offsite transport and accumulation of soils.

CEQA Impact Determination

Construction of Regional Center site under Alternative 7 would not accelerate natural processes of wind and water erosion because Project BMPs would control runoff of soils. Operation of the facilities would not increase exposures of soils to natural erosion processes because backlands are paved and runoff is subject to following regulations. Stormwater runoff from the Project site would be regulated by a NPDES permit, BMPs would be implemented to prevent offsite transport of soils, and stormwater quality would be monitored to ensure compliance with permit limits. Consequently, discharges would have short-term, localized effects on receiving water quality, but these changes would not create pollution, contamination, a nuisance, or violate any water quality standards. Therefore, impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required. With the implementation of measures required under existing regulations or included as part of Alternative 7 (as described above), the impacts are less than significant.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

Alternative 7 would have the same site area as the NEPA baseline, and as such, runoff quantities would be the same. Erosion and sedimentation from the site are not in-water elements that would result in significant impacts under NEPA. BMPs implemented during construction would prevent erosion that could enter Harbor waters. Impacts to water quality from operation of facilities on the Project site would be less than significant under NEPA. All backlands would be paved, which would minimize the potential for erosion. Therefore, no significant impacts would occur for Alternative 7 under NEPA.

Mitigation Measures

No mitigation measures would be required.

Residual Impacts

No residual impacts would occur.

3.14.4.3.3 Summary of Impact Determinations

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 Section 3.14.4.3.1 and Section 3.14.4.3.2. 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, Sediments and Oceanography Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography				
Proposed Project	**WQ-1a**: Wharf construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1b: Runoff from backland development would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1c: Fill, and wharf development, in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1d: Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Proposed Project (continued)	**WQ-2a:** Proposed Project construction would not result in increased flooding, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-3a: Construction activities would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-4a: Construction activities have the potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1e: Operation of proposed Project facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges and leaching: **Significant** impact NEPA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges and leaching: **Significant** impact	Mitigation not required for upland activities. Mitigation not available for spills, illegal discharges or leaching impacts. Mitigation not available	CEQA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation** NEPA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation**

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Proposed Project (continued)	**WQ-2b:** Operation of proposed Project facilities would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-3b: Operations would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-4b: Operations have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 1 No Project	Phase I construction is applied to Alternative 1. No further dredging, filling, or wharf construction would occur in Harbor waters, and no new developments would occur on the Phase I backlands under this alternative.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 1 (continued)	Therefore, no construction impacts would occur in association with the No Project Alternative. There are less than significant impacts under CEQA for **WQ-1a, WQ-1b, WQ-1c, WQ-1 d, WQ-2a, WQ-3a,** and **WQ-4a.**	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	Operations under the No Project alternative would involve container storage on backlands only. Therefore, there would be less than significant impact under CEQA for **WQ-1e, WQ-2b, WQ-3b** and **WQ-5b.**	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant NEPA: Not applicable
Alternative 2 No Federal Action	Phase I construction is applied to Alternative 2. No further dredging, filling, or wharf construction would occur in Harbor waters, but backlands would be increased. A Port action but no federal action would occur under the No Federal Action Alternative. There are less than significant impacts under CEQA or NEPA for **WQ-1a, WQ-1b, WQ-1c, WQ-1 d, WQ-2a, WQ-3a,** and **WQ-4a.**	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 2 No Federal Action (continued)	Operations under the No Federal Action Alternative would involve storage on backlands only, and Port or Federal action would occur. Therefore, there would be less than significant impacts under CEQA or NEPA for **WQ-1e, WQ-2b, WQ-3b** and **WQ-5b.**	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 3	**WQ-1a:** Wharf construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1b: Runoff from backland development would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1c: Fill and wharf development in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 3 (continued)	**WQ-1d:** Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1e: Operation of Alternative 3 facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges, and leaching: **Significant** impact NEPA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges, and leaching: **Significant** impact	Mitigation not required. Mitigation not available Mitigation not required Mitigation not available	CEQA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation** NEPA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation**
	WQ-2a/2b: Project construction and operations would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-3a/3b: Project construction and operations would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 3 (continued)	**WQ-4a/4b:** Project construction and operations have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 4	**WQ-1a:** Wharf construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1b: Runoff from backland development would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1c: Fill and wharf development in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 4 (continued)	**WQ-1d:** Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1e: Operation of Project facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges, and leaching: **Significant** impact NEPA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges, and leaching: **Significant** impact	Mitigation not required for upland activities. Mitigation not available for spills, illegal discharges, or leaching impacts. Mitigation not required for upland activities Mitigation not available	CEQA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation** NEPA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation**
	WQ-2a/2b: Project construction and operations would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-3a/3b: Project construction and operations would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 4 (continued)	**WQ-4a/4b:** Project construction and operations have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 5	**WQ-1a:** Wharf construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1b: Runoff from backland development would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1c: Fill and wharf extension in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 5 (continued)	**WQ-1d:** Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1e: Operation of Project facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges, and leaching: **Significant** impact NEPA: Upland Stormwater Discharges: Less than significant impact In-water vessel spill, illegal discharges, and leaching: **Significant** impact	Mitigation not required for upland activities. Mitigation not available for spills, illegal discharges, or leaching impacts. Mitigation not required for upland activities. Mitigation not available for spills, illegal discharges, or leaching impacts.	CEQA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation** NEPA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation**
	WQ-2a/2b: Project construction and operations would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-3a/3b: Project construction and operations would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 5 (continued)	**WQ-4a/4b:** Project construction and operations have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 6	**WQ-1a:** Wharf construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1b: Runoff from backland development would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1c: Fill and wharf development in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 6 (continued)	**WQ-1d:** Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1e: Operation of Project facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges, and leaching: **Significant** impact NEPA: Upland Stormwater Discharges: Less than significant impact In-water vessel spills, illegal discharges, and leaching: **Significant** impact	Mitigation not required for upland activities. Mitigation not available for spills, illegal discharges, or leaching impacts. Mitigation not required for upland activities Mitigation not available	CEQA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation** NEPA: Upland: Less than significant impact **In-water: Significant and unavoidable impact after mitigation**
	WQ-2a/2b: Project construction and operations would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-3a/3b: Project construction and operations would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 6 (continued)	**WQ-4a/4b:** Project construction and operations have the potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 7	**WQ-1a:** In-water construction activities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1b: Runoff from the regional Center site would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1c: Dike, fill, and dock related improvements in the West Basin would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 7 (continued)	**WQ-1d:** Accidents during construction would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-1e: Operation of Project facilities would not create pollution, contamination, or a nuisance as defined in Section 13050 of the CWC or cause regulatory standards to be violated in Harbor waters.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-2a/2b: Project construction and operations would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	WQ-3a/3b: Project construction and operations would not result in a permanent adverse change in movement of surface water in the Harbor.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.14 Water Quality, Sediments, and Oceanography (continued)				
Alternative 7 (continued)	**WQ-4a/4b:** Project construction and operations have the potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled onsite.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Note: *Unless otherwise noted, all impact descriptions for each of the Alternatives are the same as those described for the Proposed Project.				

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3.14.4.4 Mitigation Monitoring

No mitigation measures are required or are available. However, as a lease condition, the tenant will be required to submit to the Port an annual compliance/performance audit in conformance with the Port standard compliance plan audit procedures. This audit will identify compliance with regulations and BMPs recommended and implemented to ensure minimizing of spills that might affect water quality, or soil and groundwater.

3.14.5 Significant Unavoidable Impacts

Impact WQ-1e remains significant and unavoidable for the proposed Project and Alternatives 3 through 6.

There will be a significant unavoidable impact from potential in-water vessel spills, illegal discharges, and leaching of contaminants.