

3.7 HAZARDS AND HAZARDOUS MATERIALS

3.7.1 Introduction

This section addresses Proposed Action-related public health and safety issues associated with risk of upset. Risk of upset refers to the risk associated with potential explosion, fire, or release of hazardous materials in the event of an accident or natural disaster. The primary risk of upset associated with the Proposed Action relates to the potential exposure of nearby persons.

Secondary risks of exposure could occur during vessel transport. Other risks are associated with potential exposure to contaminated materials that might be excavated during construction. Other related public health and safety issues addressed in this section include tsunamis and terrorism.

3.7.2 Environmental Setting

The following discussion describes the regulatory framework and environmental characteristics related to hazards and hazardous materials and risk of upset that could potentially affect, or could potentially be affected by, implementation of the Proposed Action.

3.7.2.1 Hazardous Materials, Hazardous Wastes

There are generally two components to determining whether a substance is classified as a hazardous material or hazardous waste: (1) Is the substance/waste a federal- or state-listed waste? and (2) Does the substance/waste exhibit characteristics of a hazardous waste (i.e., ignitability, corrosivity, reactivity, and/or toxicity)? Numerous federal, state, and local agencies regulate the storage, use, transport, generation, or handling of these materials. Hazardous wastes are regulated by the federal government through the Resource Conservation and Recovery Act (RCRA) and amendments, as well as the implementing federal regulations in 40 C.F.R. §§ 260-299. In California, the RCRA program is codified through the Health and Safety Code Sections 25100 et seq., and implemented through the CCR, Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Wastes.

Numerous facilities handle, store, or transport hazardous materials within the Port. Activities that involve hazardous liquid bulk cargoes (e.g., fuels) at the Port are governed by the POLA Risk Management Plan (RMP) (POLA, 1983). Hazardous materials, as designated under 49 C.F.R. §§ 170-179, that are shipped inside cargo containers fall under the primary jurisdiction of the federal Department of Homeland Security, USCG (33 C.F.R. § 126), while the containers are at sea and within Port waters, including mooring at waterfront facilities. Terminal cargo operations involving hazardous materials are also governed by the City of Los Angeles Fire

Department (LAFD), and in accordance with state and federal departments of transportation regulations (49 C.F.R. § 176).

Hazardous cargo handled through container terminals include, but are not limited to, items such as fireworks; industrial chemicals (gases, liquids, and solids); solvents; petroleum products; paints; cleaners; and pesticides. Hazardous materials that are transported in containers are stored in individual containers specifically manufactured for storing and transporting the material. In addition, shipping companies prepare, package, and label hazardous materials shipments in accordance with federal requirements (49 C.F.R. §§ 170-179) to facilitate surface transport of the containers.

All hazardous materials in containers are required to be properly manifested. Hazardous material manifests for inbound containerized hazardous materials are reviewed and approved by the Port Security and the City's Fire Department before they can be unloaded.

3.7.2.2 Potential Site Contamination

Potential health and safety impacts are associated with activities within the Port area that involve the transfer, handling, and storage of hazardous materials in liquid bulk form. The hazards presented by these materials during an accidental release include possible fire and explosion, and the possible release of toxic materials to the atmosphere and/or environment. To minimize or prevent the impacts of accidents on vulnerable resources in the Port area, the California Coastal Commission and the POLA have developed a RMP. The RMP is an element of the Port Master Plan. The RMP contains policies to guide future development of hazardous materials handling facilities in the Port in an effort to eliminate the danger of such accidents to vulnerable resources. This is to be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods.

Five liquid bulk terminals are located within the general vicinity of the landfill areas, of which four have bulk storage capabilities. These four facilities receive, export, and store bulk petroleum products. These products are also pumped to offsite facilities such as refineries, end users, and marine vessels. The types of petroleum products handled by these facilities include one or more of the following: gasoline, distillates, jet fuels, blend-stocks, refinery feedstocks, fuel oils, bunker oils, liquid petroleum gas, and liquid natural gas.

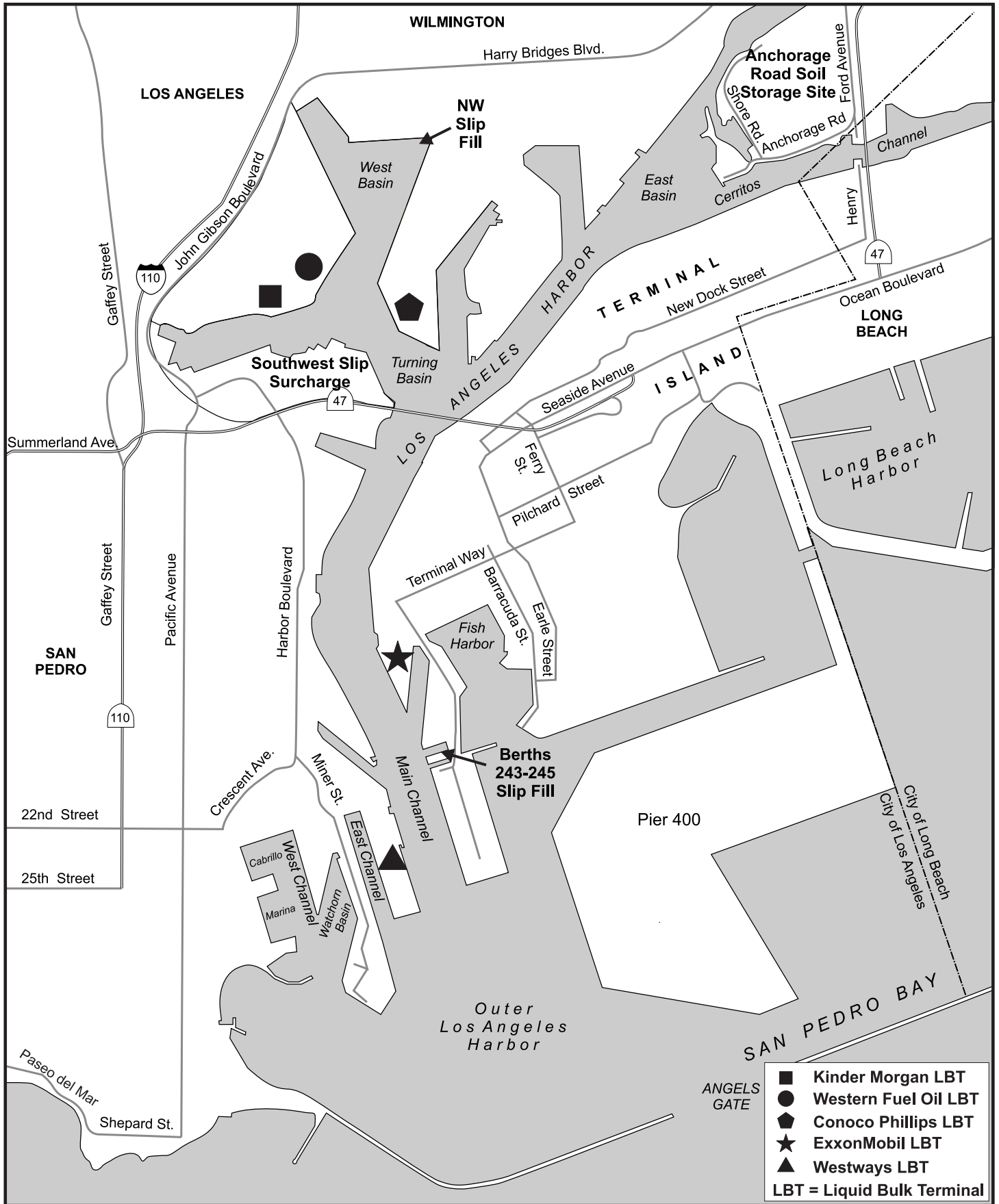
The Kinder Morgan facility at Berths 118-119 and the Western Fuel Oil facility at Berth 120 are located south-southwest of the Northwest Slip separated by the Yang Ming Line container terminal, and the ConocoPhillips facility at Berths 148-151 is located south-southeast of the Northwest Slip separated by the Omni container terminal. The Kinder Morgan and

ConocoPhillips facilities have onsite storage for petroleum products. The Western Fuel Oil facility is pipeline-connected to the Kinder Morgan facility and other facilities in the area, but does not have onsite storage. The ExxonMobil facility at Berths 237-239 is located north-northwest of Berths 243-245 separated by California Ship Services and the Southwest Marine Shipyard at Berth 240Z, and the Westway facility at Berths 70-71 is located south-southwest of Berths 243-245 separated by the Main Channel. Figure 3.7-1 shows the locations of these facilities and their berths.

Vessel transport of liquefied natural gas (LNG) or liquefied petroleum gas (LPG) is a closely controlled operation overseen by the USCG. The USCG monitors and oversees the LNG/LPG vessel navigation operations in the Harbor. A safety buffer zone is implemented during LNG vessel navigation in the Harbor, and the USCG will turn away other vessels in or approaching the safety zone. The buffer distances are 500 feet on each side of the vessel and 300 feet from the bow and stern (USACE and LAHD, 2006). When moored, the USCG ensures that a 300-foot safety zone is maintained (USACE and LAHD, 2006).

Hazardous materials that could be transferred, handled, stored, and transported within the Port include the following USDOT categories (49 C.F.R § 173):

- Corrosive materials—a liquid or solid that causes full thickness destruction of human skin at the site of contact within a specified period of time, or a liquid that has a severe corrosion rate on steel or aluminum (49 C.F.R. §§ 173.136).
- Flammable liquids—a liquid having a flash point of not more than 60.5°C (141°F), or any material in a liquid phase with a flash point at or above 37.8°C (100°F) that is intentionally heated and offered for transportation or transported at or above its flash point in bulk packaging (49 C.F.R. §§ 173.120).
- Flammable gas—any material that is a gas at 20°C (68°F) or less and 101.3 kilopascals (kPa) (14.7 pounds per square inch absolute [psia]) of pressure (material that has a boiling point of 20°C [68°F] or less at 101.3 kPa [14.7 psia]), which is ignitable at 101.3 kPa (14.7 psia) when in a mixture of 13 percent or less by volume with air; or has a flammable range at 101.3 kPa (14.7 psia) with air of at least 12 percent regardless of the lower limit (49 C.F.R. §§ 173.115).
- Explosive materials—any substance or article (including a device) that is designed to function by explosion (i.e., an extremely rapid release of gas and heat), or that by chemical reaction within itself, is able to function in a similar manner even if not designed to function by explosion.
- Oxidizing materials—materials that could, generally by yielding oxygen, cause or enhance the combustion of other materials (49 C.F.R. §§ 173.127).



- Kinder Morgan LBT
- Western Fuel Oil LBT
- ⬠ Conoco Phillips LBT
- ★ ExxonMobil LBT
- ▲ Westways LBT
- LBT = Liquid Bulk Terminal

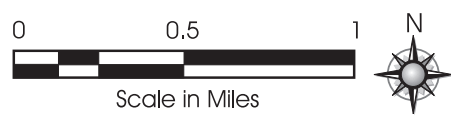


Figure 3.7-1
**Liquid Bulk Facilities
 Near Project Disposal Sites**

- Poisonous material—a material, other than a gas, that is known to be so toxic to humans as to afford a hazard to health during transportation, or that, in the absence of adequate data on human toxicity, is presumed to be toxic to humans because of its oral, dermal, or inhalation toxicity in laboratory animals (49 C.F.R. §§ 173.132).
- Radioactive materials—those materials that undergo spontaneous emission of radiation from decaying atomic nuclei, including any material having a specific activity greater than 70 Becquerel (Bq) per gram (0.002 microcurie per gram). Specific activity of a radionuclide means the activity of the radionuclide per unit mass of that nuclide. The specific activity of a material in which the radionuclide is essentially uniformly distributed is the activity per unit mass of the material (49 C.F.R. §§ 173.403).
- Water-reactive materials—those materials that react violently or dangerously upon exposure to water or moisture. These include materials that are liable to become spontaneously flammable or to give off flammable or toxic gas at a rate greater than 1 liter per kilogram of the material per hour when in contact with water (49 C.F.R. §§ 173.124).

3.7.2.3 Public Emergency Services

This section presents an overview of the public services available to provide emergency response at the Port.

Fire Protection

The LAFD provides emergency response and fire protection services to the POLA. Numerous fire stations with both land-based and water-based response capabilities are strategically located throughout the Port. LAFD Stations identified within approximately one mile of the project area include (from north to south): Fire Station 49, located at 400 Yacht Street, Berth 194, in Wilmington; Fire Station 40, located at 330 Ferry Street, Terminal Island; Fire Station 112, located at 444 South Harbor Boulevard, San Pedro; Fire Station 111, located at 954 S. Seaside Avenue, Berth 260, San Pedro; Fire Station 48, located at 1601 S. Grand Avenue, San Pedro; and Fire Station 110, located at 2945 Miner Street, Berth 44-A, San Pedro (City of Los Angeles, 1998).

Police Protection

The City of Los Angeles Police Department (LAPD), the Los Angeles Harbor Department Police (Port Police), and the U.S. Coast Guard (USCG) collectively provide security to the Port. The project site is located in the LAPD South Bureau, Harbor Division Area, which includes a 27.5-square-mile area including Harbor City, Harbor Gateway, San Pedro, Wilmington, and Terminal Island. The LAPD Harbor Community Police Station is located at 221 North Bayview Avenue in Wilmington at the entrance of the POLA.

The Port Police are responsible for enforcing all the laws and ordinances within the jurisdiction of the POLA, including its commercial operations, docks and marinas, recreational, residential and neighboring areas. The Port Police offices are located in the POLA Administration Building at 425 South Palos Verdes Street in San Pedro. The Port Police maintains 24-hour land and water patrols.

The primary responsibility of the USCG is to ensure the safety of vessel traffic in the channels of the Port and in coastal waters. The 11th USCG District would provide USCG support to the Port area. The USCG, in cooperation with the Marine Exchange, also operates VTIS. This voluntary service is intended to enhance vessel safety in the main approaches to the Port (USCG, 2004).

Vessel Traffic

Construction of the Channel Deepening Project began in 2000 and continued through the baseline year of 2004. Although the baseline year for analyzing impacts of the Proposed Action is 2004, vessel traffic and vessel accident data is presented here to provide a background for recent accident trends. A total of 2,715 vessels visited (i.e., container cargo, break-bulk, dry-bulk, and liquid-bulk) the Port in 2004, and vessel traffic to the Port has remained relatively constant over the past few years (Table 3.7-1). The number of vessels passing through the breakwaters (entering and leaving) can be estimated by doubling the number of visits listed in the table.

Table 3.7-1 Vessel Calls (Visits) at the Port of Los Angeles

Year	Vessel Calls
2004	2,715
2003	2,660
2002	2,526
2001	2,899
2000	3,060

Source: LAHD and USACE, 2008

Although marine safety is thoroughly regulated and managed within the Port, various undesirable events can occur during marine navigation. Marine vessel accidents include vessel collisions (between two moving vessels), “allisions” (between a moving vessel and a stationary object, including another vessel), and vessel groundings. The number of vessel allisions, collisions, and groundings (ACGs) in POLA and POLB has remained fairly constant between 2000 and 2004 (see Table 3.7-2) at approximately 7 incidents per year. Each of these accidents was subject to USCG marine casualty investigation, and the subsequent actions taken were targeted at preventing future occurrences. It should be noted that, during this time, there has been a large amount of construction and channel deepening within the ports.

While there is no reliable data on the level of recreational boating incidents in the ports over this time period, the level of commercial traffic transits has remained fairly constant (± 2 percent).

Table 3.7-2 Vessel Accidents, Ports of Long Beach and Los Angeles (1996 -2004)

Year	ACG INCIDENTS			Total
	Allisions	Collisions	Groundings	
2000	3	2	1	6
2001	4	1	0	5
2002	6	5	0	11
2003	4	2	2	8
2004	6	4	2	12

Source: Harbor Safety Committee 2007; U.S. Naval Academy 1999

Note: These commercial vessel accidents meet a reportable level defined in 46 C.F.R. 4.05, but do not include commercial fishing vessel or recreational boating incidents.

3.7.2.4 POLA Risk Management Plan

Amendment 3 of the Port Master Plan serves as the Port Risk Management Plan (RMP). The RMP contains policies to prevent or minimize risks associated with hazardous cargo transportation, storage, and handling in the Port. Siting is the main method of controlling risks, and the RMP is used in siting new hazardous cargo facilities or relocating existing facilities. The RMP also defines vulnerable resources that could be exposed to hazardous risks. Specific policies of the RMP are intended to minimize overlap between hazardous footprints (of facilities that store or handle hazardous cargo) and vulnerable resources.

Vulnerable resources include substantial residential, recreational, or visitor populations, as well as high-density working populations. Vulnerable resources also include critical impact facilities or facilities that are considered of major economic importance. Hazardous footprints define the zone or zones around a hazardous cargo facility for which radiant heat, hazardous gas or vapor, blast overpressure, or flying debris could result in injury or property damage.

For siting or relocating existing hazards cargo facilities, the RMP requires the following:

- Identification of existing hazardous cargo facilities
- Review of hazards individually based on the types of cargo
- Development of hazard footprints for each hazard
- Identification of vulnerable resources

The RMP also includes measures related to vessel traffic and piloting, LAFD requirements, Spill Prevention Plans, and the Port and Tanker Safety Act.

3.7.2.5 Homeland Security

Terrorism Risk

Prior to the events of September 11th, 2001, the prospect of a terrorist attack on a U.S. port facility, commercial vessel, cruise ship, or ferry boat in a U.S. port would have been considered highly speculative under CEQA and NEPA and dropped from further analysis. The climate of the world today has added an additional unknown factor for consideration: terrorism. Potential impacts due to terrorism are characteristic of the entire Los Angeles/Long Beach (LA/LB) metropolitan area. Terrorism risk can be based on simple population-based metrics (i.e., population density) or event-based models (i.e., specific attack scenarios). Willis et. al. (2005) evaluated the relative merits and deficiencies of these two approaches to estimating terrorism risk, and outlined hybrid approaches of these methods (USACE and LAHD, 2007). Overall, the results of the terrorism risk analysis characterized the LA/LB metropolitan area as one of the highest-risk regions in the country. Using population metrics, the LA/LB region was ranked either first or second in the country, while the event-based model dropped the LA/LB region to the fifth ranked metropolitan area, mainly due to the relative lack of attractive, high profile targets (i.e., national landmarks or high profile, densely populated buildings). Using various approaches and metrics, the LA/LB region represented between 4 and 11 percent of the United States terrorism risk.

Historical experience provides little guidance in estimating the probability of a terrorist attack on a container vessel or onshore terminal facility, much less dredging vessels and associated barges for transport of dredged materials. The perceived threat of a terrorist attack is a primary concern of the local population. Sinking a ship in order to block a strategic lane of commerce actually presents a relatively low risk, in large part because the targeting of such attacks is inconsistent with the primary motivation for most terrorist groups (i.e., achieving maximum public attention through inflicted loss of life). Sinking of a ship would likely cause greater environmental damage due to spilled fuel, but this is generally not a goal of terrorist groups.

However, at the national level, potential terrorist targets are plentiful, including those having national significance, those with a large concentration of the public (e.g., major sporting events, mass transit, skyscrapers, etc.), or critical infrastructure facilities. Currently, the United States has over 500 chemical facilities operating near large populations. U.S. waterways also transport over 100,000 annual shipments of hazardous marine cargo, including liquid petroleum gasoline (LPG), ammonia, and other volatile chemicals. All of these substances pose hazards that far exceed those associated with the various disposal sites that would be generated by the Proposed Action.

Intermodal cargo containers could also be used to transport a harmful device into the San Pedro Bay Ports intended to cause harm to the Ports. This could include a weapon of mass destruction (WMD), or a conventional explosive. The likelihood of such an attack would be based on the desire to cause harm to the Port. Additionally, the use of cargo containers to smuggle weapons of mass destruction through the San Pedro Bay Ports intended to harm another location, such as a highly populated and/or economically important region, is another possible use of a container by a terrorist organization. The consequences associated with the smuggling of WMD would be substantial in terms of impacts to the environment and public health and safety.

Unlike vessels carrying hazardous or highly flammable materials, such as bulk liquid carriers, an attack on a container ship would likely be economic in nature and designed to disrupt port operations. Container ships are not attractive targets in terms of loss of life or producing large fires and explosions. However, a catastrophic attack on a vessel within Port waters could block key channels and disrupt commerce, thus resulting in potential economic losses.

Currently, San Pedro Bay (POLA/POLB) handles approximately 37 percent of the national cargo container throughput. Nationally, cargo throughput is expected to double by 2020, while San Pedro Bay throughput is expected to more than triple during the same period (USACE and LAHD, 2007). As a result, under current growth projections, San Pedro Bay would be expected to handle 63 percent of the national cargo throughput volume by 2020 and then decline to 56 percent of the national total by 2030. As such, the San Pedro Bay Ports already represent a substantial fraction of national container terminal throughput, and by default, is an attractive economic terrorist target.

Application of Risk Principles

Terrorism risk can be generally defined by the combined factors of threat, vulnerability and consequence. In this context, terrorism risk represents the expected consequences of terrorist actions taking into account the likelihood that these actions will be attempted, and the likelihood that they will be successful. Of the three elements of risk, the threat of a terrorist action cannot be directly affected by activities within the Port. The vulnerability of the Port and of individual cargo terminals can be reduced by implementing security measures. The expected consequences of a terrorist action can also be affected by certain measures such as emergency response preparations.

Security Measures at the Port of Los Angeles

Numerous security measures have been implemented in the Port in the wake of the terrorist attacks of September 11, 2001. Federal, state, and local agencies, as well as private industry, have implemented and coordinated many security operations and physical security

enhancements. The result is a layered approach to Port security that includes the security program of the LAHD and individual LAHD terminals.

Security Regulations

The Maritime Transportation Security Act (MTSA) of 2003 resulted in maritime security regulations in 33 C.F.R. Parts 101-106. These regulations apply to cargo terminals within POLA including the Berths 136-147 terminal. 33 C.F.R. Part 105 requires that cargo terminals meet minimum security standards for physical security, access control, cargo handling security, and interaction with berthed vessels. These regulations require that terminal operators submit a Facility Security Plan (FSP) to the Coast Guard Captain of the Port for review and approval prior to conducting cargo operations. The requirements for submission of the security plans became effective on December 31, 2003. Operational compliance was required by July 1, 2004.

The International Ship and Port Facility Security (ISPS) Code was adopted by the International Maritime Organization (IMO) in 2003. This code requires both ships and ports to conduct vulnerability assessments and to develop security plans with the purpose of: preventing and suppressing terrorism against ships; improving security aboard ships and ashore; and reducing risk to passengers, crew, and port personnel on board ships and in port areas, for vessels and cargo. The ISPS Code applies to all cargo vessels 300 gross tons or larger and ports servicing those regulated vessels and is very similar to the MTSA regulations.

The USCG is responsible for enforcement of the MTSA and ISPS Code regulations discussed above. Due to the parallel nature of the MTSA and ISPS requirements, compliance with the MTSA is tantamount to compliance with the ISPS. If either the terminal or a vessel berthed at the terminal is found to be not in compliance with these security regulations, the USCG may not permit cargo operations, and the terminal and/or vessel operators may be subject to fines. In accordance with its responsibilities for land-based security under 33 C.F.R. Part 105, the USCG may impose additional control measures related to security.

In July 2005 the POLA Tariff was modified to require that all POLA terminals subject to MTSA regulations to fully comply with these regulations, and to provide POLA with a copy of their approved FSP.

Vessel Security Measures

All cargo vessels 300 gross tons or larger that are flagged by IMO signatory nations adhere to the ISPS Code standards discussed above. These requirements include:

- Ships must develop security plans that address monitoring and controlling access; monitoring the activities of people, cargo, and stores; and ensuring the security and availability of communications.
- Ships must have a Ship Security Officer (SSO).
- Ships must be provided with a ship security alert system. These systems transmit ship-to-shore security alerts to a competent authority designated by the Flag State Administration, which may communicate the company name, identify the ship, establish its location, and indicate that the ship's security is under threat or has been compromised. For the west coast, this signal is received by the Coast Guard's Pacific Area Command Center in Alameda, California.
- International port facilities that ships visit must have a security plan, including focused security for areas having direct contact with ships.
- Ships may have certain equipment onboard to help maintain or enhance the physical security of the ship.
- Monitor and control access.
- Monitor the activities of people and cargo.
- Ensure the security and availability of communications.
- Complete a Declaration of Security signed by the FSO and SSO, which ensures that areas of security overlapping between the ship and facility are adequately addressed.
- Vessels flagged by nations which are not IMO signatory are subject to special USCG vessel security boarding prior to entering port.

Security Credentialing

The Transportation Worker Identification Credential (TWIC) program is a TSA and USCG initiative that will include issuance of a tamper-resistant biometric credential to maritime workers requiring unescorted access to secure areas of port facilities and vessels regulated under the MTSR. The TWIC program will minimize the potential for unauthorized handling of containers that contain hazardous materials and provide additional shoreside security at the terminal. In order to obtain a TWIC, an individual must successfully pass a security threat assessment conducted by TSA. This assessment will include a criminal history check and a citizenship or immigration status check of all applicants. POLA is currently involved in initial implementation of the TWIC program including a series of field tests at selected POLA terminals.

Cargo Security Measures

U.S. Customs and Border Protection (CBP) is the federal agency with responsibility for the security of cargo being shipped into the United States. CBP is the lead agency for screening and

scanning cargo that is shipped through the Port. While neither the individual berths within the POLA nor the LAHD have responsibilities related to security scanning or screening of cargo entering the port, the Port Police may inspect cargo if there is probable cause on a case-by-case basis.

CBP conducts several initiatives related to security of the supply chain. Through the Container Security Initiative (CSI) program, CBP inspectors pre-screen U.S.-bound marine containers at foreign ports prior to loading aboard vessels bound for U.S. ports. The Customs Trade Partnership Against Terrorism offers importers expedited processing of their cargo if they comply with CBP measures for securing their entire supply chain. Details of CBP cargo security programs can be found at the CBP internet website <http://cbp.gov/>.

POLA Security Initiatives

The LAHD (POLA) is not subject to the international or Federal security regulations discussed above; however, all container terminal tenants at the POLA are subject to these regulations. POLA has a number of security initiatives underway. These initiatives include significant expansion of the Los Angeles Port Police that will result in additional police vehicles on the streets and police boats on the water. The initiatives in this area include:

- Expanding Port Police enhancement of its communications capabilities
- Establishing a 24-hour two-vessel presence.
- Establishing a vehicle and cargo inspection team.
- Establishing a Port Police substation in Wilmington.
- Enhancing recruiting and retention of Port Police personnel.
- Expanding Port Police communications capabilities to include addition of dedicated tactical frequencies.
- Enhancing security at Port owned facilities.

In the area of homeland security, the Port will continue to embrace technology, while focusing its efforts on those areas of particular interest to the Port. Current POLA homeland security initiatives include:

- Upgrading security at the World Cruise Center.
- Expanding the Port's waterside camera system.
- Establish restricted areas for non-commercial vehicles and vessels.
- Installing additional shore-side cameras at critical locations.
- Working with TSA to implement the TWIC program.

- Promoting increased scanning at overseas ports.
- Updating long range security plans for the Port.
- Developing a security awareness training program.
- Enhancing outreach to constituents.

3.7.3 Applicable Regulations

Regulations applicable to the Proposed Action are designed to regulate hazardous materials and hazardous wastes, as well as to manage sites contaminated by hazardous wastes. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. The Proposed Action will be subject to numerous federal, state, and local laws and regulations including, but not limited to, those described below.

3.7.3.1 List of Regulations and Laws

Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901-6987)

The goal of RCRA, a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments (HSWA) of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 C.F.R. §§ 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and disposed of hazardous waste.

Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5)

This statute is the basic hazardous waste law for California. The Hazardous Waste Control implements the federal RCRA cradle-to-grave waste management system in California. California hazardous waste regulations can be found in Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Wastes. The program is administered by the Department of Toxic Substances Control.

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001 et seq.)

Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), EPCRA was enacted by Congress as the national legislation on community safety. This law was

designated to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Division 20, Chapter 6.95)

This state right-to-know law requires businesses to develop a Hazardous Material Management Plan or a “business plan” for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In addition, the business plan includes an inventory of all hazardous materials stored or handled at the facility above these thresholds. This law is designed to reduce the occurrence and severity of hazardous materials releases. The Hazardous Materials Management Plan or business plan must be submitted to the Certified Unified Program Agency (CUPA), which is, in this case, the LAFD. The state has integrated the federal EPCRA reporting requirements into this law; and, once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

Los Angeles Municipal Code (Fire Protection – Chapter 5, Section 57, Divisions 4 and 5)

These portions of the municipal fire code regulate the construction of buildings and other structures used to store flammable hazardous materials, and the storage of these same materials. These sections ensure that the business is properly equipped and operates in a safe manner and in accordance with all applicable laws and regulations. These permits are issued by the LAFD.

Los Angeles Municipal Code (Public Property – Chapter 6, Article 4)

This portion of the municipal code regulates the discharge of materials into the sanitary sewer and storm drains. The code requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA, commonly known as Superfund, establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. The law authorizes two kinds of response actions: (1) Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and (2) Long-term remedial response actions, that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These long-term actions can be conducted only at sites listed on EPA's National Priorities List (NPL).

3.7.3.2 Other Requirements

In addition, various plans are applicable to Proposed Action operations, including the POLA RMP (part of the Port Master Plan) (see Section 3.7.2.4). The RMP is utilized in siting new hazardous cargo facilities or relocating such facilities within the Port. Hazardous cargo facilities are those that handle enough hazardous materials that could result in a potential catastrophic loss.

California regulates the management of hazardous wastes through Health and Safety Code Section 25100 et seq., and through CCR, Title 22, and Division 4.5, Environmental Health Standards for the Management of Hazardous Wastes, as well as CCR Title 26, Toxics.

The Safety Element of the City of Los Angeles General Plan addresses the issue of protection of its people from unreasonable risks associated with natural disasters (e.g., fires, floods, and earthquakes). The Safety Element provides a contextual framework for understanding the relationship between hazard mitigation, response to a natural disaster and initial recovery from a natural disaster.

The transport of hazardous materials in containers on the street and highway system is regulated by California Department of Transportation (Caltrans) procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. Compliance with other federal, state, and local laws and regulations (e.g., driver training and licensing and Caltrans packaging requirements) govern transport of cargo on the street and highway system and during rail transport. The shippers package the hazardous materials in the containers and provide labeling in compliance with Caltrans requirements.

Numerous facilities handle, store, or transport hazardous materials in the POLA. Activities that involve hazardous liquid bulk cargoes (e.g., fuels) at the Port are governed by the POLA RMP

(POLA, 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.

Hazardous materials inside cargo containers fall under the primary jurisdiction of the federal Department of Homeland Security and USCG (33 C.F.R. Part 126) while the containers are at sea, in Port waters, and at waterfront facilities.

Vessel Traffic Service is jointly operated and managed by the Marine Exchange of Southern California (a nonprofit corporation) and the USCG Captain of the Port (COTP). Vessel Traffic Service is a cooperative effort of the State of California, USCG, Marine Exchange of Southern California, Ports of Los Angeles and Long Beach, and is under the authority of California Government Code, Section 8670.21, Harbors and Navigation Code, Sections 445-449.5 and the Port tariffs of Los Angeles and Long Beach.

Terminal cargo operations involving hazardous materials are governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 C.F.R. Part 176). Regulated hazardous materials in the Port could include maritime-use compounds such as chlorinated solvents, petroleum products, compressed gases, paints, cleaners, and pesticides.

3.7.4 Methodology

Risk Probability and Criticality

To evaluate impacts on human health and/or the environment, the risk of upset impact analysis assessed potential impacts from releases, accidents, and/or explosions. The Proposed Action was evaluated to determine whether construction or operations would potentially conflict or interfere with existing contingency or emergency response plans. This analysis considered whether a new or greatly revised contingency or emergency plan would be required to incorporate the provisions of the Proposed Action. Impacts from human health hazards and risk of upset are evaluated through qualitative assessment of the potential for the Proposed Action to result in potential release or exposure to hazardous materials or explosion. Specific attention is paid to "vulnerable" resources that are most at risk of upset, and whether the Proposed Action is consistent with the Port RMP, emergency and evacuation plans, and other applicable regulations.

CEQA, NEPA and associated implementing regulations require identifying adverse changes in the physical conditions within the area affected by the Proposed Action, including the probability of spills or releases. Potential impacts associated with risk of upset have been addressed qualitatively by evaluating the severity of hazards to humans or severity of property damage as a result of the potential release or exposure to hazardous materials or explosion. This approach

also considers the consistency of the Proposed Action with the RMP, and other applicable plans and regulations. Potential impacts related to construction of the Proposed Action, and onsite terminal operations are also addressed qualitatively.

Risk of Upset Due to Terrorism

Analysis of risk of upset is based primarily on potential frequencies of occurrence for various events and upset conditions as established by historical data. The climate of the world today has added an additional unknown factor for consideration: terrorism. Terrorism risk can be based on simple population-based metrics (i.e., population density) or event-based models (i.e., specific attack scenarios). As discussed in Section 3.7.2.5, the LA/LB metropolitan area is one of the highest-risk regions in the country. Using population metrics, the LA/LB region was ranked either first or second in the country, while the event-based model dropped the LA/LB region to the fifth ranked metropolitan area, mainly due to the relative lack of attractive, high profile targets (i.e., national landmarks or high profile, densely populated buildings). Using various approaches and metrics, the LA/LB region represented between 4 and 11 percent of the United States terrorism risk. Therefore, terrorism can be viewed as a potential trigger that could initiate events such as hazardous materials release and/or explosion.

CEQA/NEPA Baseline

The CEQA and NEPA Baseline for the Proposed Action comprises ~~the approximately 63 acres of open water areas at Berths 243-245, the Northwest Slip, and the CSWH; approximately 1,330 acres of open water at ocean disposal sites LA-2, as well as and LA-3; and approximately 31 acres of land area at the ARSSS, which is currently used for soil storage.~~ Additionally, due to the mobility of spilled/released hazardous substances, the immediate area surrounding the disposal sites (up to 0.25 mile) are also included.

3.7.5 Thresholds of Significance

The following significance criterion is based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles, 2006). A significant impact on risk of upset would occur if:

- HAZ-1** The Proposed Action would not comply with applicable regulations and policies guiding development within the Port.
- HAZ-2** The Proposed Action would increase the probable frequency and severity of consequences to people from exposure to a health hazard.

- HAZ-3** The Proposed Action would substantially increase the probable frequency and severity of consequences to people or property from exposure to the health hazard as a result of a potential accidental release or explosion of a hazardous material.
- HAZ-4** Construction or operation activities would substantially interfere with emergency response plans or emergency evacuation plans, thereby increasing risk of injury or death.
- HAZ-5** The Proposed Action would increase the frequency or severity of an accidental release or explosion of hazardous materials, thereby increasing risk of injury or death.
- HAZ-6** The Proposed Action would result in an increased probability of an accidental spill as a result of a tsunami.
- HAZ-7** The Proposed Action would result in a measurable increase in the probability of a terrorist attack, which would result in adverse consequences to the Proposed Action area and nearby areas.

In assessing potential impacts under threshold HAZ-1, compliance with existing regulations is determined. The evaluation of impacts under threshold HAZ-2 focuses on the potential for the Proposed Action to increase the frequency or severity of exposure to health hazards during construction. The evaluation of impacts under thresholds HAZ-3 and HAZ-5 focuses on potential hazards during operation of the Proposed Action, and utilizes the LACFD Risk Criticality Matrix, described below. The LACFD Risk Criticality Matrix encompasses the Federal Emergency Management Agency (FEMA) accident frequencies, which also are described below. The evaluation under threshold HAZ-4 focuses on the potential for the Proposed Action to adversely affect or impede emergency evacuation or response. The evaluation of impacts under thresholds HAZ-6 and HAZ-7 focus on the Proposed Action's potential to increase the probability of an accidental spill related to a tsunami and a terrorist attack.

3.7.6 Impact Analysis and Mitigation Measures

3.7.6.1 Alternative 1: Port Development and Environmental Enhancement

Alternative 1, Port Development and Environmental Enhancement, would consist of disposing dredged material at the following disposal sites: Berths 243-245; Northwest Slip; CSWH Expansion Area; ~~Elgrass Habitat Area~~; and LA-2.

A Confined Disposal Facility (CDF) would be created at the Berths 243-245 disposal site and would be covered with clean dredge material placed as surcharge to an elevation of

approximately +30 feet MLLW, which would remain in place until a future geotechnical investigation/monitoring determines the fill has been consolidated. In the future if the Port decides to remove the surcharge material, an appropriate CEQA document would be prepared to analyze potential impacts of surcharge removal. Potential environmental impacts of future development of the new 5-acre land area at the Northwest Slip have been addressed in the approved Berth 136-147 Container Terminal Project EIS/EIR, which is summarized in Section 3.14.

Impact HAZ-1: Alternative 1 would comply with applicable regulations and policies guiding development within the Port.

POLA maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the POLA RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. Two primary categories of vulnerable resources are people and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. The second subgroup is comprised of high density working populations. Facilities that are vulnerable resources are critical impact facilities or facilities of major economic importance. The determination of a vulnerable resource is made by the Port and LAFD on a case-by-case basis. However, within the Port setting, residences and recreational users are considered vulnerable resources (Cham, 2004).

Alternative 1 would result in creation of a CDF at the Berths 243-245 disposal site that would be capped with clean sediments as well as an additional layer of clean surcharge to promote densification of deposited dredge material. This alternative would also create a new 5-acre landfill at the Northwest Slip. Additionally, up to 50 acres of shallow water habitat at the CSWH Expansion Area and up to 40 acres of eelgrass habitat would be created. The Port does not consider undeveloped landfill or marine habitat areas to be vulnerable resources. Furthermore, placement of dredge material underwater at LA-2 would not create a vulnerable resource. As such, Alternative 1 would not conflict with the RMP.

Construction activities would be conducted using BMPs in accordance with City guidelines, as detailed in the *Development Best Management Practices Handbook* (City of Los Angeles, 2002). Applicable BMPs include, but are not limited to: vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management.

Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Access to all disposal sites and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided.

Impact Determination

Alternative 1 would not conflict with the Port RMP. In addition, code-required, fire-protection features and other firefighting design elements would be included and approved by the LAFD during the design process, as appropriate. Alternative 1 would comply with applicable regulations and policies guiding development within the Port. No impact would occur.

Mitigation Measures. Under Alternative 1, no potentially significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 1 are required. Therefore, no residual impacts would occur.

Impact HAZ-2: **Alternative 1 would not increase the probable frequency and severity of consequences to people from exposure to a health hazard.**

As noted in Section 3.7.5, the evaluation of impacts for HAZ-2 focuses on the potential to increase the frequency or severity of exposure to health hazards during construction. Construction activities would include the dredging, transport and disposal of materials at Berths 243-245, the Northwest Slip, CSWH Expansion Area, ~~the Elgrass Habitat Area~~, and LA-2. Approximately 0.080 mcy of dredged material is contaminated and would be transported to the Berths 243-245 disposal site for containment and capping, which would expose people, specifically onsite workers who are in the closest contact to the soil and/or dredged sediment, to an existing source of contaminated material during construction. ~~thereby temporarily increasing the probable frequency of exposure to a health hazard.~~ However, these materials would ultimately be contained and capped at the Berths 243-245 disposal site as part of Alternative 1, This would minimize the potential for exposure to contaminants.

The contaminated sediments at Berths 243-245 are similar to the sediments within the Main Channel and berths that remain to be dredged (Kinnetic Labs & Fugro, 2007), where the contaminant levels were found to be well below State of California Title 22 Total Threshold Limit Concentrations (TTLC) (Kinnetic Labs & Fugro, 2007). As such, these sediments are not considered a hazardous waste under state or federal regulatory standards (Kinnetic Labs & Fugro, 2007).

Furthermore, the Port conducted environmental analyses of the ARSSS, to (1) assess the presence of contaminants in soil, sediment, and air samples from the site and (2) evaluate potential health effects of these contaminants to surrounding receptors by comparing concentrations to regulatory standards through use of a health risk assessment (HRA) (Tetra Tech, 2006). Sampling results showed that contaminant concentrations are sufficiently low and, in most cases, comparable to those found at residential sites based on the facts that a majority of the contaminants are below the residential Preliminary Remediation Goals (PRGs), California Human Health Screening Levels (CHHSLs), or regional background concentrations; with the exception of polycyclic aromatic hydrocarbons (PAHs). Although most of the samples (18/20) had benzo(a)pyrene toxicity equivalent [B(a)P TE] values greater than the residential PRG and CHHSL, only less than one sixth (1/6) of the sample population exceeded the Southern California background concentrations of 0.24 mg/kg for B(a)P. Therefore, it is unlikely that the soil and dredged sediment at the ARSSS, and similarly at Berths 243-245, will cause any adverse health effects to onsite workers, who represent the most potentially at risk group, because workers are in closest contact to the soil and/or dredged sediment. Additionally, as noted above, none of the contaminant concentrations in the soils and sediments exceeded the federal and state regulated hazardous waste levels.

The HRA was based upon air samples collected at the site to determine health impacts for the detected pollutants of endosulfan, PAHs and VOCs, regardless of whether they were detected in the soil/sediment samples. The HRA was conducted in accordance with SCAQMD risk assessment methodologies to determine cancer risk and chronic and acute non-cancer effects to the surrounding population. The HRA predicted that these effects from the facility would be below all SCAQMD significance thresholds. The findings of subsequent sampling and analysis in 2008 were consistent with these results (Tetra Tech, 2008).

During construction, hazardous materials shipped to and within the POLA could be released if a ship carrying hazardous materials became involved in an accident with a dredge or during dredging activities and would pose a threat to the public. However, hazardous materials shipped, transported, handled, or otherwise stored must be in compliance with the RMP, USCG regulations, fire department requirements, and state and federal departments of transportation regulations (Title 49 C.F.R.). Furthermore, construction activities would be conducted using BMPs in accordance with City of Los Angeles guidelines, as detailed in the *Development of Best Management Practices Handbook* (City of Los Angeles, 2002). As such, compliance with hazardous materials transportation regulations and City of Los Angeles BMPs would limit the potential for exposure and impacts would be less than significant. Potential health risk impacts are addressed in the evaluation of air quality impacts (see Section 3.2.6).

Shipping containers loaded with hazardous materials could also become involved in accidents during construction at any of the dredge or fill locations included in this alternative, resulting in an increase in the probable frequency to expose people to a health hazard. As discussed in the Channel Deepening Project SEIS/SEIR 2000, Section 3.9.1, it is estimated that five to ten percent of containers contain hazardous materials. Historically there have been several small releases of hazardous materials from containers, but none have been considered serious or have affected members of the public. Additionally, because of the regulations governing the storage of hazardous materials in containers, including the types of materials, size of packages, and the separation of the containers that contain hazardous materials, an accident involving a fire or explosion would be expected to cause localized impacts only and not impact members of the public. While a release of toxic material could impact a slightly larger area, packaging constraints would continue to limit the potential adverse impacts to a relatively small area.

As discussed in Section 3.9 of this SEIS/SEIR, Marine Vessel Transport, compliance with all applicable vessel safety rules and regulations, including the COTP Public Notice No. 02-001, which establishes procedures to facilitate the safe transit of vessels operating in the vicinity of the Channel Deepening Project, would ensure that constraints to vessel movements and/or vessel collisions or groundings would be negligible. COTP Public Notice No. 02-001 regulations will be applied to all dredging activities associated with the Proposed Action. Additionally, as discussed in Section 3.9 of this SEIS/SEIR, barge trips required to transport rock material from Santa Catalina Island and barge trips to and from LA-2 would increase traffic within the approach corridors to the Precautionary Area; however, the additional 1,311,489 barge trips that would occur over the 15-a 20-month (approximately 2.6 trips per day) construction period (approximately 2.2 trips per day) and would not result in a significant represent a substantial contribution to vessel congestion within these approach corridors and would therefore not result in a significant increase to the risk of collisions with vessels carrying hazardous materials.

Impact Determination

Alternative 1 would increase the potential to expose people to existing sources of contaminated materials and could increase the potential for hazardous materials shipped to and within the POLA to be involved in an accident with a dredge, dredging activities, and/or with the new fill locations, or otherwise be released, posing a threat to the public. However, compliance with hazardous materials transportation regulations and City of Los Angeles BMPs would limit the potential for exposure to a health hazard. Additionally, contaminant concentrations in sediments are below federal and State regulated hazardous waste levels. Furthermore, as determined in the Channel Deepening Project SEIS/SEIR 2000, the potential for accidents involving containers carrying hazardous materials is extremely low and the potential that members of the public

would be injured is even lower. As such, Alternative 1 would not substantially increase the probable frequency or severity of consequences to people from exposure to health hazards. Impacts would be less than significant

Mitigation Measures. Under Alternative 1, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 1 are required. Therefore, no residual impacts would occur.

Impact HAZ-3: Alternative 1 would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards as a result of a potential accidental release or explosion of a hazardous material.

As noted in Section 3.7.5, the evaluation of impacts for HAZ-3 focuses on operational impacts. Alternative 1 would create a new CDF at Berths 243-245, a new 5-acre land area at the Northwest Slip, and new shallow water habitat at the CSWH Expansion Area. ~~and an Eelgrass Habitat Area.~~ The CDF at Berths 243-245 would be located approximately 1,600 feet south-southeast of the ExxonMobil Oil liquid bulk terminal (Berths 237-239), separated by the Southwest Marine Shipyard, and approximately 1,250 feet north-northeast of the Westway liquid bulk terminal (Berths 70-71), separated by the Main Channel. The new landfill at the Northwest Slip would be located along Berths 134-135. The Northwest Slip would be approximately 3,600 feet northwest of the ConocoPhillips liquid bulk terminal (Berths 148-151) and would be separated by the West Basin and the Trans Pacific Container Service Corp. container terminal and the Omni container terminal. It would also be located approximately 3,000 feet north of the Kinder Morgan/GATX liquid bulk terminal and the Western Fuel oil (Berths 118-120) separated by the Yang Ming Line Container Terminal. The CSWH Expansion Area ~~and the Eelgrass Habitat Area~~ would be located generally underwater (except for the dike) and approximately 3,300 feet south of the Westway liquid bulk terminal (Berths 70-71) in the outer harbor area.

Operation of the CDF at Berths 243-245 would consist of permanent disposal of contaminated sediments. The slips at Berths 243-245 currently contain contaminated sediments from past shipyard operations (Weston, 2005), including concentrations of mercury, lead, zinc, polychlorinated biphenyls (PCBs), tributyltin (TBT) and polynuclear aromatic hydrocarbons (PAHs) (Weston, 2005). Additionally, similar contaminants have been identified in the sediments within the Main Channel and berths that remain to be dredged (Kinnetic Labs & Fugro, 2007). As part of Alternative 1, these materials would be capped with clean sediments as well as an additional layer of clean surcharge to promote densification of deposited dredge material. The beneficial reuse of the material “as is” at a port fill site is in line with the Los

Angeles Contaminated Sediment Long Term Management Strategy, and complies with the requirements of the Marine Protection, Research and Sanctuaries Act (MPRSA) to maximize beneficial reuse of dredged materials and minimize discharges of dredged materials to the aquatic or ocean environment. Additionally, the levels of contaminants in these sediments are well below State of California Title 22 Total Threshold Limit Concentrations (TTLC), and these sediments are therefore not considered a hazardous waste under state or federal regulatory standards (Kinnetic Labs & Fugro, 2007).

Operation of the new land area at the Northwest Slip would consist strictly of new land (without any development). The CSWH Expansion Area and the ~~Eelgrass Habitat Area~~ would be operated as shallow water habitat and would not involve the use of hazardous materials. Upon completion of project construction, LA-2 would continue to be available to be used for disposal of non-contaminated materials. Therefore, Alternative 1 would not increase the probable frequency and severity of risk of upset to the liquid bulk facilities. No transport of hazardous materials would occur during operation of Alternative 1.

Impact Determination

Operation of the CDF, new land area, marine habitat areas, and LA-2 under Alternative 1 would result in no potential for accidental release or explosion of a hazardous material, as no vulnerable resources would be located near existing hazardous materials (i.e., liquid bulk terminals) and no transport of hazardous materials would be associated with operations. No impacts would occur.

Mitigation Measures. Under Alternative 1, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 1 are required. Therefore, no residual impacts would occur.

Impact HAZ-4: **Construction or operation activities would not substantially interfere with emergency response plans or emergency evacuation plans, and would not increase the risk of injury or death.**

Emergency response and evacuation planning is a shared responsibility among the LAPD, LAFD, Port Police, and USCG.

For those disposal sites where no new land would be created (CSWH Expansion Area ~~Eelgrass Habitat Area~~, and LA-2), minimal construction equipment would be required (dredge, barge, tug boat, slurry pipeline, and pump), which would not result in substantial obstructions or impediments to emergency vehicles or personnel. As such, emergency access to these sites

would not be adversely impacted during construction. For those disposal sites where new land is created or containment structures are required, construction equipment would be located at designated staging areas adjacent to the construction areas, thereby minimizing interference with emergency access.

Impact Determination

Implementation of Alternative 1 would not interfere with emergency access, as construction equipment would be located at designated staging areas adjacent to construction areas. Therefore impacts would be less than significant.

Mitigation Measures. Under Alternative 1, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 1 are required. Therefore, no residual impacts would occur.

Impact HAZ-5: **Alternative 1 would not increase the frequency or severity of an accidental release or explosion of hazardous materials, and would not increase the risk of injury or death.**

As evaluated under HAZ-3 above, Alternative 1 would not increase the probable frequency and severity of risk of upset to the liquid bulk facilities. Therefore the risk of injury or death would not increase.

Impact Determination

Alternative 1 would not result in increased frequency or severity of an accidental release or explosion and would not increase the risk of injury or death. No impacts would occur.

Mitigation Measures. Under Alternative 1, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 1 are required. Therefore, no residual impacts would occur.

Impact HAZ-6: **Tsunami-induced flooding would result in fuel releases from demolition/construction equipment, which in turn would result in risks to persons and/or the environment.**

The potential exists for a large tsunami to impact the Port. Such an event would likely result in a release of fuel from construction equipment associated with the Proposed Action, as well as from containers of petroleum products and hazardous substances used during construction. The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The

average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (USACE AND LAHD, 2007). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which for the recent Berth 136-147 Container Terminal Project predicted tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at Berths 136-147 (which are located in the same area as the Northwest Slip disposal site), under both earthquake and landslide scenarios (USACE AND LAHD, 2007). Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicted tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at Berths 136-147. Because elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW at Berths 136-147, localized tsunami-induced flooding were determined not to occur.

While the above analysis considered a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than one percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicted tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at Berths 136-147. Because the elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW at Berths 136-147, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible, which would result in substantial infrastructure damage and/or injury to personnel if complete site inundation occurred. Similarly, infrastructure damage and/or injury to personnel located on the existing land areas or wharfs adjacent to the Berths 243-245 disposal site and the Northwest Slip would occur as a result of localized tsunami-induced flooding. The likelihood of a large tsunami is very low during construction of the Proposed Action and the overall probability of this worst-case scenario is less than one in a 100,000-year period.

Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction associated with the Proposed Action. However, if a tsunami and seiche were to occur during construction, an accidental spill of fuel could occur. The volume of spilled fuel would be expected to be relatively low. While there would be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks. The most likely scenario in such an event would be infiltration of water into the tank and fuel combustion chambers with very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered “slight.” In light of such a low probability and acceptable risk of a large tsunami, impacts would be less than significant as they pertain to fuel spills.

Mitigation Measures. Under Alternative 1, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 1 are required. Therefore, no residual impacts would occur.

Impact HAZ-7: **Alternative 1 would not result in a measurable increase in the probability of a terrorist attack, which would result in adverse consequences to the Proposed Action and nearby areas.**

Risk of Terrorist Actions During Construction

The probability of a terrorist attack is not likely to appreciably change over the existing baseline (as described in section 3.7.2.5, the LA/LB region represents between 4 and 11 percent of the United States terrorism risk) during construction, as activities associated with dredging and placement of dredge material would introduce few, if any new likely “targets” for a terrorist attack. Furthermore, vessels used for dredging are not considered to be likely targets due to the minimal loss of life or news coverage that would be generated by such an attack, which is what terrorists generally seek. It is possible, however, that the increase in construction vessel traffic within the Port could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter any potential increase in unauthorized access to the Port.

Consequences of Terrorist Attack

The Port would be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.5 would apply to Alternative 1 during this period. Within the Port, a terrorist action could block key waterways and result in economic disruption.

Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality. The consequences associated with the smuggling of weapons of mass destruction (WMD) would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by dredging, transport, or disposal of sediments. Furthermore, the likelihood of such an event would not be impacted by project-related activities, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the Proposed Action, to thwart it. Cargo containers represent only one of many potential methods to smuggle WMD, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

Impact Determination

The risk of a terrorist attack is considered part of the baseline for Alternative 1. Terrorism risk associated with container terminals currently exists, and is not influenced by Alternative 1 as there would be no increase in throughput (shipping traffic) as a result of this alternative. Therefore, there would be no change in the relative importance of the Port as a terrorist target. There would be no increase in the volume of container vessel traffic within the Port; therefore, there would be no change in the probability or consequences of a terrorist attack on the Port. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Port. Therefore, Alternative 1 would have no impact on the likelihood or severity of a potential terrorist attack on the Port.

Mitigation Measures. Under Alternative 1, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 1 are required. Therefore, no residual impacts would occur.

3.7.6.2 Alternative 2: Environmental Enhancement and Ocean Disposal

Alternative 2, Environmental Enhancement and Ocean Disposal, consists of placing dredge material at the following locations: CSWH Expansion Area, ~~Eelgrass Habitat Area~~, Anchorage Road Soil Storage Site (ARSSS), LA-2, and ~~LA-32~~. No new land area would be created under this alternative.

Implementation of Alternative 2 would result in the same type and extent of development at the CSWH Expansion Area and ~~the Eelgrass Habitat Area~~ LA-2 disposal locations as described for

Alternative 1 and would therefore result in identical less than significant impacts at these locations. ~~as described for Alternative 1.~~ Therefore, the impact discussion for Alternative 2 is focused on the disposal sites that were not included or addressed for Alternative 1, the ARSSS and LA-32.

Impact HAZ-1: Alternative 2 would comply with applicable regulations and policies guiding development within the Port.

Alternative 2 would result in disposal of dredged material at the upland ARSSS and offshore at LA-32, which are not considered by the Port to be vulnerable resources. As such, disposal at this location would not conflict with the RMP.

As discussed for Alternative 1, construction activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles, 2002). Proposed Action plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Access to all disposal sites and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided. Code-required features and other firefighting design elements would be included and approved by the LAFD.

Impact Determination

Alternative 2 would not conflict with the Port RMP. In addition, code-required, fire-protection features and other firefighting design elements would be included and approved by the LAFD during the design process, as appropriate. Alternative 2 would comply with applicable regulations and policies guiding development within the Port. No impact would occur.

Mitigation Measures. Under Alternative 2, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 2 are required. Therefore, no residual impacts would occur.

Impact HAZ-2: Alternative 2 would not increase the probable frequency and severity of consequences to people from exposure to a health hazard.

As noted in Section 3.7.5, the evaluation of impacts for HAZ-2 focuses on the potential to increase the frequency or severity of exposure to health hazards during construction. Construction activities would include the transport and disposal of materials at the ARSSS and LA-32. Approximately 0.080 mcy of dredged material is contaminated and would be transported by barge and then by truck to the ARSSS, which could expose people to an existing source of

contaminated material during construction, thereby increasing the probable frequency of exposure to a health hazard. No contaminated materials would be disposed at LA-3.

The Port has conducted environmental analyses of the ARSSS to (1) assess the presence of contaminants in soil, sediment, and air samples from the site and (2) evaluate potential health effects of these contaminants to surrounding receptors by comparing concentrations to regulatory standards through use of a health risk assessment (HRA) (Tetra Tech, 2006).

Sampling results showed that contaminant concentrations are sufficiently low and, in most cases, comparable to those found at residential sites based on the facts that a majority of the contaminants are below the residential Preliminary Remediation Goals (PRGs), California Human Health Screening Levels (CHHSLs), or regional background concentrations; with the exception of PAHs. Although most of the samples (18/20) had benzo(a)pyrene toxicity equivalent [B(a)P TE] values greater than the residential PRG and CHHSL, only less than one sixth (1/6) of the sample population exceeded the Southern California background concentrations of 0.24 mg/kg for B(a)P. Therefore, it is unlikely that the soil and dredged sediment at the ARSSS will cause any adverse health effects to onsite workers, who represent the most potentially at risk group, because workers are in closest contact to the soil and/or dredged sediment. Additionally, none of the contaminant concentrations in the soils and sediments exceeded the federal and state regulated hazardous waste levels.

The HRA was based upon air samples collected at the site to determine health impacts for the detected pollutants of endosulfan, PAHs and VOCs, regardless of whether they were detected in the soil/sediment samples. The HRA was conducted in accordance with SCAQMD risk assessment methodologies to determine cancer risk and chronic and acute non-cancer effects to the surrounding population. The HRA predicted that these effects from the facility would be below all SCAQMD significance thresholds. A subsequent sampling and analysis effort in 2008 were consistent with these results (Tetra Tech, 2008).

The air sampling program at the ARSSS identified levels of PM10 that exceeded the SCAQMD Rule 403 PM10 criterion of 50 $\mu\text{g}/\text{m}^3$. Ergo, the environmental assessment made the following recommendations, which have been adopted into this Final SEIS/SEIR under MM AQ-2.6:

1. To further reduce the risk of chemical exposure to nearby receptors, the Port should develop and implement more effective dust control measures at the ARSSS; particularly for future dredge disposal operations when the site is subject to the most vehicle traffic.

2. The Port should monitor for airborne pollutants and dust during periods of dredged material disposal operations to assess the effectiveness of dust control measures and whether additional remedies will be needed for the protection of the environment and public health.

Additionally, as discussed for Alternative 1, hazardous materials shipped within the POLA could become involved in an accident with a dredge or during dredging activities, or otherwise be released, and would pose a threat to the public. As discussed in Section 3.9 of this SEIS/SEIR, barge trips required to transport rock material from Santa Catalina Island and barge trips to and from LA-32 would increase traffic within the approach corridors to the Precautionary Area; however, the additional 1,019,230 barge trips that would occur over the 17-a 9.5-month (approximately 2.6 trips per day) construction period (approximately 3.6 trips per day) and would not result in a significant represent a substantial contribution to vessel congestion within these approach corridors. Therefore, the risk of conflict with vessels carrying hazardous materials would be comparable to that of Alternative 1. Additionally, hazardous materials shipped, transported, handled, or otherwise stored must be in compliance with the RMP, USCG regulations, fire department requirements, and state and federal departments of transportation regulations (Title 49 C.F.R.). Furthermore, construction activities would be conducted using BMPs in accordance with City of Los Angeles guidelines, as detailed in the *Development of Best Management Practices Handbook* (City of Los Angeles, 2002). As such, compliance with hazardous materials transportation regulations and City of Los Angeles BMPs would limit the potential for exposure. Potential health risk impacts are addressed in the evaluation of air quality impacts (see Section 3.2.6).

Shipping containers loaded with hazardous materials could also become involved in accidents during construction at any of the dredge or fill locations included in this alternative, resulting in an increase in the probable frequency to expose people to a health hazard. As determined in the Channel Deepening Project SEIS/SEIR 2000, the potential for accidents involving containers carrying hazardous materials is extremely low and the potential that members of the public would be injured is even lower. As discussed in Section 3.9 of this SEIS/SEIR, Marine Vessel Transport, compliance with all applicable vessel safety rules and regulations, including the COTP Public Notice No. 02-001, which establishes procedures to facilitate the safe transit of vessels operating in the vicinity of the Channel Deepening Project, would ensure that constraints to vessel movements and/or vessel collisions or groundings would be negligible. COTP Public Notice No. 02-001 regulations will be applied to all dredging activities associated with the Proposed Action. Additionally, as discussed in Section 3.9 of this SEIS/SEIR, barge trips required to transport rock material from Santa Catalina Island and barge trips to and from LA-32 would increase traffic within the approach corridors to the Precautionary Area; however, the

additional barge trips that would occur over the construction period would not result in a significant contribution to vessel congestion within the approach corridors and would therefore not result in a significant increase to the risk of collisions with vessels carrying hazardous materials.

Impact Determination

Alternative 2 would increase traffic within the approach corridors to the Precautionary Area by approximately 2-4 3.6 trips per day, which would not result in a significant contribution to vessel congestion within the approach corridors and therefore would not substantially increase the risk of conflict with vessels carrying hazardous materials. Alternative 2 would increase the potential to expose people to existing sources of contaminated materials associated with the placement of contaminated materials at the ARSSS, and could increase the potential for hazardous materials shipped within the POLA to be involved in an accident or otherwise be released, posing a threat to the public. Compliance with hazardous materials transportation regulations, COPT Public Notice No. 02-001, and City of Los Angeles BMPs, however, would limit the potential for exposure to a health hazard. In addition, the contaminant concentrations detected in sediments are below federal and State regulated hazardous waste levels. Furthermore, as determined in the Channel Deepening Project SEIS/SEIR 2000, the potential for accidents involving containers carrying hazardous materials is extremely low and the potential that members of the public would be injured is even lower. As such, Alternative 2 would not substantially increase the probable frequency or severity of consequences to people from exposure to health hazards. Impacts would be less than significant.

Mitigation Measures. Under Alternative 2, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 2 are required. Therefore, no residual impacts would occur.

Impact HAZ-3: **Alternative 2 would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards as a result of a potential accidental release or explosion of a hazardous material.**

As noted in Section 3.7.5, the evaluation of impacts for HAZ-3 focuses on operational impacts. No new land areas would be created as part of Alternative 2, and operation of the LA-32 disposal site would not require the use of hazardous materials. Contaminated materials would be temporarily exposed during disposal of contaminated sediments at the ARSSS; however, long term operation of the ARSSS would not increase the probable frequency or severity of consequences of a potential release or explosion of hazardous materials, because the levels of

contaminants in these sediments are well below State of California Title 22 Total Threshold Limit Concentrations (TTLC), and these sediments are therefore not considered a hazardous waste under state or federal regulatory standards (Kinnetic Labs & Fugro, 2007). As such, Alternative 2 would not increase the probable frequency and severity of risk of upset involving hazardous materials.

Impact Determination

Operation of LA-32 and the ARSSS would not result in increased potential for accidental release or explosion of a hazardous material, as no vulnerable resources would be located near existing hazardous materials (i.e., liquid bulk terminals) and no transport of hazardous materials would be associated with operations. No impacts would occur.

Mitigation Measures. Under Alternative 2, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 2 are required. Therefore, no residual impacts would occur.

Impact HAZ-4: **Construction or operation activities would not substantially interfere with emergency response plans or emergency evacuation plans, and would not increase the risk of injury or death.**

Emergency response and evacuation planning is a shared responsibility among the LAPD, LAFD, Port Police, and USCG. Disposal of dredge material at the ARSSS and LA-32 would consist of transport and placement of dredge materials at these locations. As such, minimal construction equipment would be required (dredge, barge, tug boat, dump truck, slurry pipeline, and pump), which would not result in substantial obstructions or impediments to emergency vehicles or personnel. Emergency access to these sites would not be adversely impacted during construction.

Impact Determination

Implementation of Alternative 2 would not interfere with emergency access at any of the proposed disposal sites. Impacts would be less than significant.

Mitigation Measures. Under Alternative 2, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 2 are required. Therefore, no residual impacts would occur.

Impact HAZ-5: **Alternative 2 would not increase the frequency or severity of an accidental release or explosion of hazardous materials, and would not increase the risk of injury or death.**

As evaluated under HAZ-3 above, Alternative 2 would not increase the probable frequency and severity of risk of upset to the liquid bulk facilities. Therefore, the risk of injury or death would not increase.

Impact Determination

Disposal of dredge material at the ARSSS and LA-32 would not result in increased frequency or severity of an accidental release or explosion and would not increase the risk of injury or death. No impacts would occur.

Mitigation Measures. Under Alternative 2, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 2 are required. Therefore, no residual impacts would occur.

Impact HAZ-6: **Tsunami-induced flooding would result in fuel releases from demolition/construction equipment, which in turn would result in risks to persons and/or the environment.**

As described above for Alternative 1, the potential exists for a large tsunami to impact the Port, which would likely lead to a release of spill from construction equipment associated with the Proposed Action, as well as from containers of petroleum products and hazardous substances used during construction. However, the likelihood of a large tsunami is very low during construction of the Proposed Action and the overall probability of this worst-case scenario is less than one in a 100,000-year period. The ~~increased duration of construction activities at LA-2 under Alternative 2 and the disposal of contaminated~~ materials at the ARSSS and LA-3 would not substantially increase the likelihood or severity of a tsunami-induced fuel spill.

Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction associated with the Alternative 2. However, if a tsunami and seiche were to occur during construction, an accidental spill of petroleum products and/or hazardous substances could occur. The volume of spilled fuel would be expected to be relatively low. While there would be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks. The most likely scenario in such an event would be infiltration of water into the tank and fuel combustion chambers with very

little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered “slight.” In light of such a low probability and acceptable risk of a large tsunami, impacts would be less than significant as they pertain to fuel spills.

Mitigation Measures. Under Alternative 2, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 2 are required. Therefore, no residual impacts would occur.

Impact HAZ-7: **Alternative 2 would not result in a measurable increase in the probability of a terrorist attack, which would result in adverse consequences to the Proposed Action and nearby areas.**

Risk of Terrorist Actions during Construction

The probability of a terrorist attack is not likely to appreciably change over the existing baseline (as described in section 3.7.2.5, the LA/LB region represents between 4 and 11 percent of the United States terrorism risk) during construction, as activities associated with dredging and placement of dredge material would introduce few, if any, new likely “targets” for a terrorist attack. Furthermore, the vessels used for dredging are not considered to be likely targets due to the minimal loss of life or news coverage that would be generated by such an attack, which is what terrorists generally seek. It is possible, however, that the increase in construction vessel traffic within the Port could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter any potential increase in unauthorized access to the Port.

Consequences of Terrorist Attack

The Port would be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.5 would apply to Alternative 2 during this period. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality. The consequences associated with the smuggling of WMD ~~destruction~~ would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the Proposed Action, ~~or the increased duration of construction activities at LA-2 under Alternative 2 and the disposal of contaminated materials at the ARSSS and LA-3~~ would not substantially increase the likelihood or consequences of a terrorist attack. Furthermore, the likelihood of such an event would not be

impacted by project-related activities, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the project, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

Impact Determination

The risk of a terrorist attack is considered part of the baseline for Alternative 2. Terrorism risk associated with container terminals currently exists, and is not influenced by Alternative 2 as there would be no increase in throughput as a result of this alternative. Therefore, there would be no change in the relative importance of the Port as a terrorist target. There would be no increase in the volume of container vessels visiting the Port; therefore, there would be no change in the probability or consequences of a terrorist attack on the Port. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Port. Therefore, Alternative 2 would have no impact on the likelihood or severity of a potential terrorist attack on the Port.

Mitigation Measures. Under Alternative 2, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 2 are required. Therefore, no residual impacts would occur.

3.7.6.3 Alternative 3: No Action Alternative

Under the No Action Alternative, no construction activities related to the Proposed Action would occur. No new landfills or new shallow water areas would be created. Since all approved disposal sites have been completed, no further dredging would take place and the Channel Deepening Project would not be completed. Existing environmental conditions at the Proposed Action disposal sites would continue to exist. Approximately 1.025 mcy of material within the federally-authorized channel and 0.675 mcy of berth dredging would remain to be dredged and disposed. In addition the 0.815 mcy of surcharge on the Southwest Slip Area would remain to be removed and disposed. Additionally, the 0.080 mcy of contaminated dredge material would remain within the Main Channel of the Port.

Impact HAZ-1: Alternative 3 would comply with applicable regulations and policies guiding development within the Port.

Under the No Action Alternative, no construction activities related to the Proposed Action would occur. As a result, no conflicts with applicable regulations and policies for development within the Port would occur.

Impact Determination

Alternative 3 would not conflict with applicable regulations and policies guiding development within the Port. No impacts would occur.

Mitigation Measures. Under Alternative 3, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 3 are required. Therefore, no residual impacts would occur.

Impact HAZ-2: **Alternative 3 would not increase the probable frequency and severity of consequences to people from exposure to a health hazard.**

Under the No Action Alternative, no construction activities related to the Proposed Action would occur. As a result, Alternative 3 would not increase the probable frequency and severity of consequences to people from exposure to a health hazard during construction.

Impact Determination

Alternative 3 would not increase the probable frequency and severity of consequences to people from exposure to a health hazard during construction. Therefore, no impacts would occur.

Mitigation Measures. Under Alternative 3, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 3 are required. Therefore, no residual impacts would occur.

Impact HAZ-3: **Alternative 3 would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards as a result of a potential accidental release or explosion of a hazardous material.**

Under the No Action Alternative, no operational activities related to the Proposed Action would occur. As a result, Alternative 3 would not substantially increase the probable frequency and severity of consequences to people from exposure to a health hazard as a result of an accidental release or explosion of a hazardous material during operations.

Impact Determination

Alternative 3 would not substantially increase the frequency or severity of consequences to people from exposure to a health hazard as a result of an accidental release or explosion of a hazardous material during operations. No impacts would occur.

Mitigation Measures. Under Alternative 3, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 3 are required. Therefore, no residual impacts would occur.

Impact HAZ-4: **Construction or operation activities would not substantially interfere with emergency response plans or emergency evacuation plans, and would not increase the risk of injury or death.**

Under the No Action Alternative, no construction or operational activities related to the Proposed Action would occur. As a result, Alternative 3 would not interfere with emergency response plans or emergency evacuation plans.

Impact Determination

Alternative 3 would result in no impact to emergency response plans and emergency evacuation plans.

Mitigation Measures. Under Alternative 3, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for implementation of Alternative 3 are required. Therefore, no residual impacts would occur.

Impact HAZ-5: **Alternative 3 would not increase the frequency or severity of an accidental release or explosion of hazardous materials, and would not increase the risk of injury or death.**

As evaluated under HAZ-3 above, under the No Action Alternative, no operational activities related to the Proposed Action would occur. As a result, Alternative 3 would result in no increase in the frequency or severity of an accidental release or explosion of hazardous materials.

Impact Determination

Alternative 3 would result in no increase in the frequency or severity of an accidental release or explosion of hazardous materials. No impact would occur.

Mitigation Measures. Under Alternative 3, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for Alternative 3 are required. Therefore, no residual impacts would occur.

Impact HAZ-6: **Tsunami-induced flooding would result in fuel releases from demolition/construction equipment, which in turn would result in risks to persons and/or the environment.**

As described above for Alternative 1, the potential exists for a large tsunami to impact the Port; however, no construction equipment or hazardous materials would be associated with Alternative 3. As a result, Alternative 3 would not result in fuel releases from demolition/construction equipment and therefore would not result in risks to persons and/or the environment associated with such a fuel release.

Impact Determination

Since Alternative 3 would not result in tsunami-induced fuel releases from demolition/construction equipment, no impacts would occur.

Mitigation Measures. Under Alternative 3, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for Alternative 3 are required. Therefore, no residual impacts would occur.

Impact HAZ-7: **Alternative 3 would not result in a measurable increase in the probability of a terrorist attack, which would result in adverse consequences to the Proposed Action and nearby areas.**

Under the No Action Alternative, no operational activities related to the Proposed Action would occur. As a result, Alternative 3 would result in no increase in the probability of a terrorist attack.

Impact Determination

Alternative 3 would result in no measurable increase in the probability of a terrorist attack. No impacts would occur.

Mitigation Measures. Under Alternative 3, no significant adverse impacts would occur; therefore, no mitigation measures are required.

Residual Impacts. No mitigation measures for Alternative 3 are required. Therefore, no residual impacts would occur.

3.7.7 Impact Summary

This section summarizes the conclusions of the impact analysis presented above in Section 3.7.6. Table 3.7-3 lists each impact identified for each alternative of the Proposed Action, along with the significance of each impact.

Construction activities associated with both Alternative 1 and Alternative 2 would have less than significant impacts with regard to increases in the frequency and severity of consequences to people from exposure to a health hazard (Impact HAZ-2), interference with emergency response (Impact HAZ-4), or accidental spills as a result of a tsunami (Impact HAZ-6). Alternative 1 and Alternative 2 would result in no impacts with regard to compliance with regulations and policies guiding Port development (Impact HAZ-1), the frequency and severity of consequences of accidental releases or explosions of hazardous material (HAZ-3), the frequency or severity of an accidental release or explosion of hazardous materials (HAZ-5), or the probability or severity of a terrorist attack (HAZ-7). Alternative 3 would result in no impacts with regard to hazards and hazardous materials.

Table 3.7-3 Impact Summary

Impact	Alternative 1	Alternative 2	Alternative 3
HAZ-1. Applicable regulations and policies guiding development within the Port would be complied with.	NI	NI	NI
HAZ-2. The probable frequency and severity of consequences to people from exposure to a health hazard would not be increased.	LTS	LTS	NI
HAZ-3. The probable frequency and severity of consequences to people or property from exposure to health hazards as a result of a potential accidental release or explosion of a hazardous material would not be increased.	NI	NI	NI
HAZ-4. Construction or operation activities would not substantially interfere with emergency response plans or emergency evacuation plans, and would not increase the risk of injury or death.	LTS	LTS	NI
HAZ-5. The frequency or severity of an accidental release or explosion of hazardous materials and related risk of injury or death would not be increased.	NI	NI	NI
HAZ-6. Tsunami-induced flooding would result in fuel releases from demolition/construction equipment, which in turn would result in risks to persons and/or the environment.	LTS	LTS	NI
HAZ-7. A measurable increase in the probability of a terrorist attack which would result in adverse consequences would not occur.	NI	NI	NI

S&U = Significant and Unavoidable

SM = Significant but Mitigated

LTS = Less than Significant

NI = No Impact

3.7.8 Mitigation Measures

No significant impacts related to hazards or hazardous materials would occur; therefore, no mitigation measures are required.

3.7.9 Significant Unavoidable Adverse Impacts

No significant unavoidable impacts would occur.

3.7.10 Mitigation Measure Monitoring

Since no mitigation measures are required for hazards and hazardous materials, a mitigation monitoring plan is not required.